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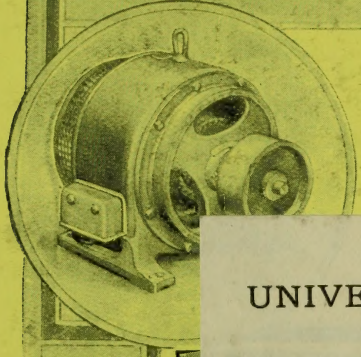

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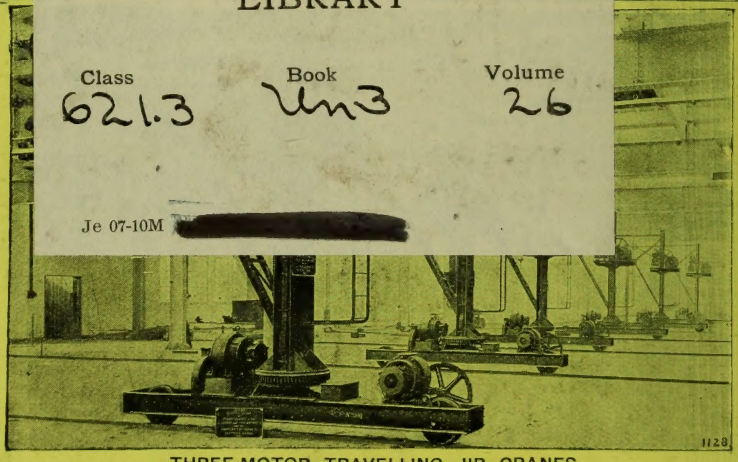

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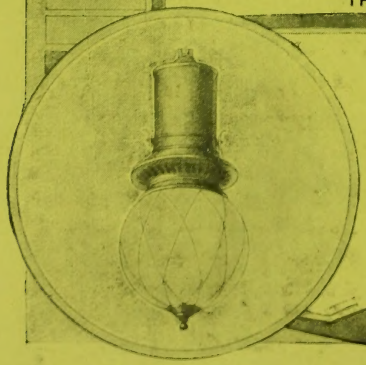

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PREFACE.

When issuing the last edition of the "Universal Electrical Directory," we referred to the excessive competition and the consequent undercutting of prices that then prevailed. In many departments of British electrical industry, we regret that this condition of things has not materially altered. From various directions we learn that during 1906 the actual business turnover was larger than in the preceding year, but the margin of profit was cut very fine indeed. This fact, together with the continuous advance that has been taking place in the prices of practically all raw materials, has made safe estimating extremely difficult. Happily, there are not wanting signs that 1907 will bring a general improvement in profit obtainable.

The development of electricity supply from the commercial point of view is being pushed with greater zeal and enterprise. The claims of electricity as a lighting, heating and power agent are now being put before the public in a more educative and attractive manner, and with commendable persistency, in many parts of the kingdom. It is a movement which should, and we believe will, spread, until it touches every electricity supply undertaking, and will produce good results for electricity sellers, thus creating an increasing demand for electrical manufactures required in installation work.

The London power controversy is not settled, though it may be said to have advanced a stage. The present uncertainty undoubtedly hinders full progress—the possible consumer waits, and the supply authorities are inclined to hesitate to carry out big plant extensions.

In the provinces, where companies are developing the supply of power for mining and other industrial purposes, there has not, in all cases, been that degree of success that had been anticipated. As a result of more energetic action—and in one area of general reorganization—we may hope for matters to take a more promising turn shortly, causing a greater demand for certain classes of electrical manufactures.

In regard to electric tramway work, the bulk of it during the past year has been in connection with the L.C.C. conduit lines and the L.U.T. trolley system extensions. Some movement has been made in the direction of surface contact working in one or two places in the provinces.

Several events of importance have occurred in the electric railway department. Two further tube lines have been completed in London—the Baker Street and Waterloo and the Great Northern and Piccadilly—and when the Charing Cross and Euston line which is now constructing is finished, as it is expected to be in a few months, there will be no further work of this description in progress. The Hammersmith and City lines, and certain electrical sections of the G.W.R. in connection therewith, have also got to work. The Midland Railway has placed contracts in connection with the single-phase equipment of a short length of line, and the L.B. and S.C. single-phase sections are being proceeded with. The L. and N.W. has prepared a scheme for an electric line from Euston to Watford, which has yet to receive Parliamentary sanction. Everybody interested in the electrical industry eagerly awaits a bold step forward in railway electrification.

Electricity is becoming more and more in favour for train lighting, is making very satisfactory progress in mining work, and the electro-chemical departments command increasing attention. The continued progress in telephonic development is not likely to show any falling off as the years advance. In electro-mobiles a move forward is not only possible, but very probable in the near future. New and important discoveries in wireless telegraphy have been made.

One satisfactory result of the unattractive condition of home trade has been the increasing initiative and energy which many British firms have been displaying in foreign markets. It appears that there is greater scope there for doing profitable business than there is at home at present. We trust that 1907 may bring an improvement at home, through the revival of general trade—at last touching the electrical trade—as well as through this greater electrical activity abroad.

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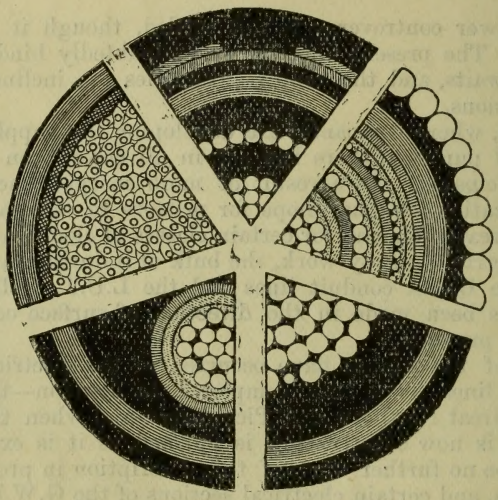

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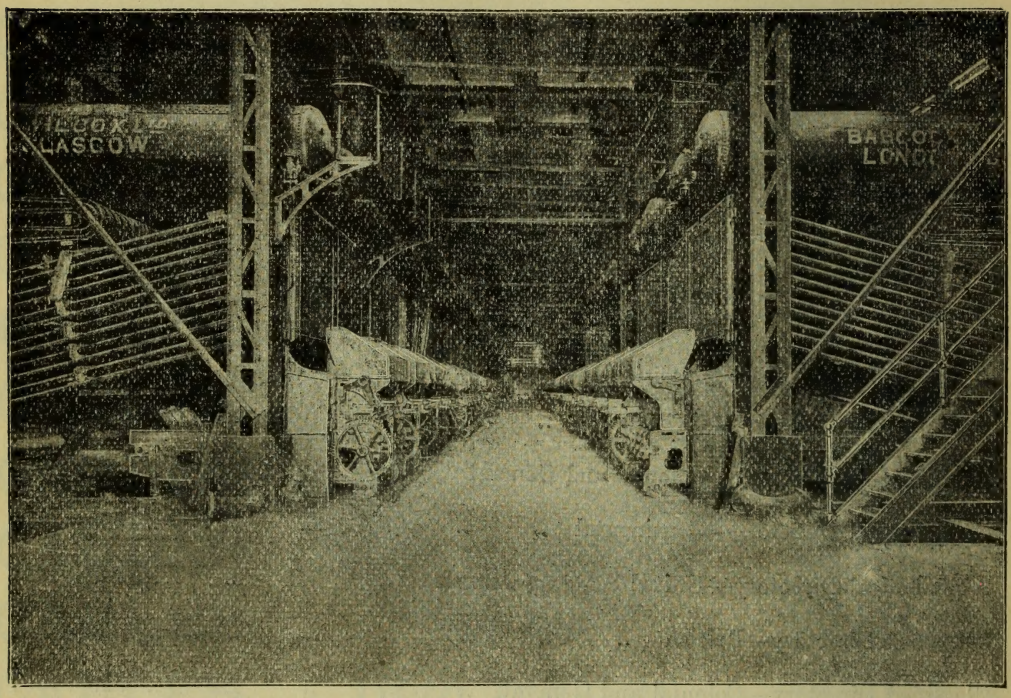

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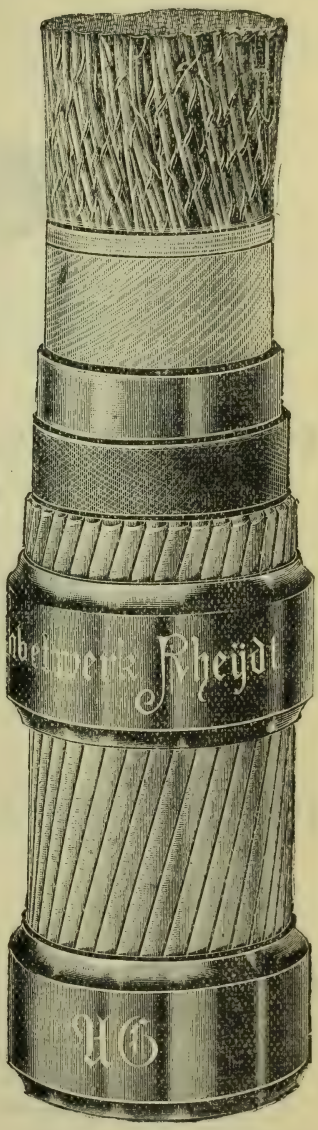

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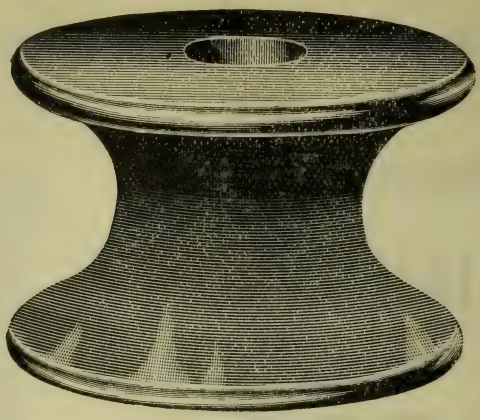

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Castings for Electrical Purposes	437	...	...	...
Ceiling Rose Manufrs.	437	...	1176	...
Central Station Volt & Ammeters	437	...	...	...
Charcoal Suppliers	437	...	...	...
Chemical Glass & Apparatus Manufrs.	438	...	1177	1403
Chemical Manufrs.	438	931	1177	1403
Chemical Merchants & Agents	438	931	...	1403
Chemists—Analytical	439	...	...	1403
Chemists—Consulting	439	...	...	1403
Chemists—Electro	439	...	1177	1403
Circuit Breakers	440	...	...	...
Clock Wheels, Pinions, &c.—Makers of	440	...	...	1403
Clocks & Synchronization—Electric	440	...	1178	1404
Clutch Manufrs.	441	...	...	1404
Coil Winders	441	...	...	...
Coils—Medical & Intensity	441	...	1178	1404
Colonial Agents	442	...	...	...
Colour Makers	442	...	...	...
Combined Switch & Wall Socket Manufrs.	442	...	...	...
Commutator Bars & Segments	443	...	...	1404
Compass Cap Makers	443	...	...	...
Compass Makers	443	...	1178	...
Concentric Flexibles & Cables	443	...	...	...
Condensers—Makers of	443	...	1178	1404
Condensers (Electric)—Makers of	443	...	...	...
Conduit Systems of House Wiring	444	...	...	1404
Conduits (Underground) & Culverts	444	931	1178	1404
Contractors—Electric Light & Power	448	931	1178	1404
Contractors for Equipping Cable-Repairing Ships	454	...	...	...
Contractors—Installation	454	931	1185	1405
Contractors—Telegraph	459	...	1187	...
Contractors—Telephone	460	934	1187	...
Copper & Brass Founders	460	...	...	...
Copper & Brass Merchants	461	...	1188	1413
Copper Depositors	461	...	...	...
Copper Tape Manufrs.	461	...	...	...
Copper Wire Drawers	461	...	...	...
Core Serving Machine Manufrs.	461	...	1188	...
Cotton Waste Merchants	462	...	...	...
Cranes (Electric)—Manufrs. of	462	934	1188	1413
Creosote Manufrs.	463	...	...	1413
Crown Agents for the Colonies	442	...	...	...
Crucible Manufrs.	463	...	...	1413
Cut-Outs, Makers of	464	934	1188	1413
Cut-Outs (Magnetic)—Makers of	464	934	1188	1413
Cut-Outs—Marble & Slate	464	...	...	...
Dental Appliances(Electric)—Makers of	465	...	...	...
Depositors—Electro	465	...	1188	...
Designers & Draughtsmen	465	...	1188	1414
Distributers & Suppliers of Electricity	466	...	1188	1414
Dividers—Mathematical	466	...	...	...
Door Openers—Electric	466	...	...	1414
Door-Plate Manufrs. & Engravers	466	...	...	...
Drain Pipe Manufrs.—Iron	466	...	...	...
Drain Pipe Manufrs.—Stoneware	466	...	...	...
Driving Band Fastener Makers	466	...	...	...
Driving Band Makers—Balata	466	...	...	...
Driving Band Makers—Cotton	467	934	...	...
Driving Band Makers—Hair	467	...	...	...
Driving Band Makers—Indiarubber & Gutta-Percha	467	934	...	1414
Driving Band Makers—Leather	467	934	...	1414
Driving Chain Makers—Steel	468	...	1189	...
Dynamo Brushes	468	...	1189	1414
Dynamo & Electric Machine Mfrs.	470	934	1189	1414

	Brit.	Col. & Gen.	Con.	U.S.A.
Dynamo Wires	477	...	...	...
Earthenware Manufrs. for Electrical Purposes	477	...	1190	...
Ebonite Manufrs.	478	...	1190	...
Ebonite Pumps, Syphons, & Tubings	478	...	...	...
Electricians	478	935	1191	1415
Electricians—Consulting	484	939	1199	1417
Electricians—Domestic	485	...	1199	...
Electricians—Experts	485	939	1199	1417
Electricians—Manufng.	486	939	1199	1418
Electricians—Medical	489	939	1201	1419
Electricians—Medical Manufng.	489	...	1201	1419
Electricity Meters—Makers of	489	940	1201	1420
Electricity Works	490	940	1202	...
ELECTRICITY WORKS—Contractors for the Construction & Maintenance of	518	931	1177	...
Electro-Medical Apparatus	520	...	...	...
Electro - Platers' & Electro - Typers' Plant, & Material Manufrs.	520	...	1202	...
Electro-Platers' Supply Factors	521	...	...	...
Electro-Plating & Depositing Machine Manufrs.	521	...	...	1421
Electrolier Brackets & Pendants	522	962	1203	1420
Electrolytic Carbons	522	...	...	...
Electro-Silver & Nickel Platers & Gilders	521	962	1203	...
Electrotypers	523	...	1203	...
Elevating & Conveying Machinery	523	...	...	...
Emery, Emery Cloth & Glass Paper Manufrs.	523	...	...	...
Emery Wheel & Machinery Makers	524	...	...	...
Enamel for Insulating Purposes	524	...	...	...
Enamelled Slate Manufrs.	524	...	...	...
Engine & Boiler Makers	525	...	1203	...
Engine Makers—Automatic	525	...	...	...
Engine Makers—Compressed Air	525	...	...	...
Engine Makers—Gas	525	...	1204	1421
Engine Makers — Steam (Electrical Purposes)	526	962	1204	1421
Engine Makers (Steam)—High Speed	528	...	1204	1421
Engine Makers—Hot Air	526	...	...	...
Engine Makers—Petroleum	526	...	1204	...
Engineers—Civil	528	962	1205	1422
Engineers—Consulting	530	962	1205	1422
Engineers—Electrical	533	963	1205	1423
Engineers—Electrical Consulting	562	973	1222	1434
Engineers—Electrical Manufng.	564	974	1223	1436
Engineers—Electrical Testing	568	...	1223	1436
Engineers—Electricity Works	568	974	1223	...
Engineers—General	575	980	1224	1436
Engineers—Hydraulic	576	981	1224	1437
Engineers—Lighthouse	576	...	...	...
Engineers—Mechanical	577	982	1224	1437
Engineers—Mining	579	982	1225	1437
Engineers' Stores	579	...	...	...
Engineers—Telegraph	579	982	1225	1437
Engineers—Telephone	580	984	1226	1437
Engineers—Torpedo	581	...	...	...
Engineers—Ventilating	581	...	1227	1437
Engravers—General	582	...	1227	...
Experimental Electric Work	583	...	1227	1437
Exploders for Mining	583	...	...	...
Exporters & Importers of Electrical & Telegraphic Plant	583	984	1227	1437
Fan Motors—Makers of	584	...	...	1437
Feed Water Filter Manufacturers	585	...	...	...
Feed Water Heaters—Makers of	585	...	...	1438
Felt Makers	586	...	...	...
File Manufrs.	586	...	...	...
Filter Manufrs.	586	...	...	...
Fire Engineers—Electric	586	...	...	...
Fire Engines (Electric)—Portable & Stationary	586	...	...	...
Fire Extinguishing Apparatus	587	...	...	...
Fittings Makers—Electrical	587	985	1227	1438
Flexible Tube Makers	591	...	1229	...
Flexible Wires & Cords for Electric Light	591	...	1229	...
Forced Draught	592	...	...	...
Forgings	592	...	1229	1439
Friction Gear Manufrs.	...	...	...	1439
Fuel Economisers—Makers of	592	...	...	...
Fuse Boards & Distribution Boards—Makers of	593	...	1229	...
Fuse Manufrs.—Electric	593	...	...	1439
Fuse Wire (Electric) Manufrs.	593	...	...	1439
Galvanic Apparatus Manufacturers & Dealers	594	...	...	...
Galvanized Iron Manufrs.	594	...	...	...
Galvanometers—Makers of	594	...	...	...
Gas Generating Machines	595	...	...	...
Gauge Glass Manufrs.	595	...	...	...
Gauge Makers	595	...	...	1439
Gears & Pinions	595	...	...	1439
General Suppliers of Electrical Requisites	596	985	1229	1440
Glass Blowers for Electrical Purposes	598	...	...	...
Glass Cell (Battery) Manufrs.	598	...	1230	...
Glass Manufrs.	598	...	1230	1440
Glass Supplies—Electrical	598	...	1230	...
Globes for Electric Lighting—Makers of	599	...	1230	1440
Government Officials	599	...	...	...
Governor Makers	600	...	1231	1441
Governor Makers—Electric	600	...	...	...
Gutta-Percha Wires & Cables	600	...	1231	...
Heating Apparatus Makers—Electric	600	985	1231	1441
Ignition Accumulator Makers	601	...	...	...
Incandescent Lamp Manufrs.—Electric	602	985	1231	1441
Incandescent Lamp Socket Makers	605	...	1232	...
Indiarubber & Gutta-Percha Mfrs. & Dealers	605	986	1232	1441
Indicators—Makers of	606	...	...	...
Induction Coils	606	...	...	...
Influence Machine Makers	606	...	1232	...
Injector & Steam Jet Pump Makers	606	...	...	1442
Inspectors (Electrical)—Government & Municipal	606	986	1232	1442
Instrument Jewellers—Electrical	607	...	...	...
Instrument Manufrs.—Electrical	607	986	1233	1442
Insulating Material Manufrs.	610	986	1234	1442
Insulating Paper	614	...	...	...
Insulation Testing Sets	615	...	...	...
Insulators (Electrical) Manufrs.	615	...	1235	1442
Insulators (Marble & Slate) Manufrs.	616	...	...	...
Insurance Companies — Fire, Employers' Liability, Engines, Boilers, &c.	616	...	...	...
Iridium Manufrs., Workers & Dealers	616	...	...	...
Iron & Steel Manufrs. & Merchants	616	987	1235	1443
Ivory & Wood Turners for Electrical Appliances	617	...	1235	...
Ivory Switchboard Labels & Address Tablets	618	...	...	...
Jewel Hole Makers	618	...	...	...
Jointing Material—Makers of	618	...	...	...
Laboratories—Electrical	618	...	1235	1443
Laboratories (Electrical) Furnishers	618	...	...	...
Lacquer & Varnish Manufrs. & Merch.	618	...	1235	1443
Ladders	619	...	1235	...
Lamp Holder Makers	619	...	1235	1443
Lamp Makers (for Railways, &c.)	619	...	...	1443
Lamp Post Manufrs.	620	...	1236	1443
Launch Designers & Builders—Electric	620	...	1236	1443
Lead-Covered Cable Makers	620	...	...	1443
Lead Merchants	621	...	...	...
Lecturers' Apparatus—Makers of	621	...	...	...
Lettering on Ivory	621	...	...	1443
Lifts (Electric)—Makers of	622	987	1236	1443
Light, Power & Traction Companies—Electric	622	...	1236	1444
Light Systems—Electric	624	...	...	...
Lightning Arresters—Makers of	625	...	1237	1461
Lightning Conductor Mfrs. & Erectors	625	...	1237	...
Lightning Engineers	626	...	1238	...
Linesmen's Tool Wallets	626	...	...	...
Lock Manufacturers—Electric	626	...	...	...
Locomotives—Electric	626	...	...	...
Lubricant Manufacturers	626	...	...	1461
Lubricator Makers for Electric Machines & Engines	626	...	1238	1461
Machine Tool Makers	627	987	1238	1461
Machinery Merchants & Agents	628	987	1238	1462
Magnesium Merchants	628	...	...	...
Magnet Castings (Steel) Manufacturers	628	...	...	...
Magnet Forgings	629	...	...	...
Magnet Manufacturers	629	...	1238	1462
Magnetic Steel Manufrs.	629	988	1238	...
Magneto & Electric Machine Manufrs.	629	...	1238	...
Mahogany, Hardwood, & Timber Merchants	629	...	...	...
Malleable Iron Castings	629	...	...	...
Manganese Merchants	630	...	1239	...
Manufacturers' Agents	631	988	1239	1462
Manufacturers' Representatives	631	988	1239	...
Manufacturing Cos.—Electric	631	...	...	...
Marble—Workers & Turners of	632	...	...	...
Marble Slab Merch. & Mfrs.	632	...	...	...
Mathematical Instrument Makers	632	988	1239	...
Measuring Instrument Makers—Electric	632	...	1239	1463
Metal Castings—Makers of	635	...	...	1463
Metal Manufrs. & Founders (General)	635	989	1240	...
Metal Merchants	635	989	1240	1463
Metal Spinners	635	...	...	...
Metallurgists—Electro	636	989	1240	1463
Meteorological Instrument Makers	636	...	1240	...
Mica Merchants	636	989	...	1463
Micrometers & Measuring Instruments —Makers of	638	...	...	...
Microphone Makers	638	...	1241	1463
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Miners' Safety Lamps—Electric	638	...	...	...
Mining Machinery (Electric)—Makers of	638	...	1241	1463

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Motor Car Requisites	640			
Motor Carriages	640	989	1241	1463
Motor Manufacturers—Electric	640		1241	1464
Motor Starting Switches	644			
National Telephone Co.'s Officials	645			
Nickel Manufrs., Merchants & Refiners	645		1242	
Nickel Platers	645			
Nickel-Plating Salts & Anodes	645			
Nitric & Nitrous Acid Manufrs.	646			
Oil Filters	646			1464
Oil Manufrs., Refiners & Merchants	647		1242	1464
Omnibuses, Cabs & Parcels Vans—Electrical	647	989	1242	1464
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Phonographs—Makers & Agents	649	990		1465
Phosphor Tin Manufrs.	651			
Phosphorized Bronze Manufrs.	651		1243	1465
Photometers—Makers of	651		1243	
Pipes—Brass, Iron, Lead	651			
Platina Smiths			1243	
Platinum Factors	651		1243	
Platinum Manufrs. & Refiners	651		1243	1465
Platinum Merchants	652		1243	1466
Platinum Retorts, Crucibles, Boilers, & Bottles	652			
Platinum Scrap—Dealers in	652			
Pneumatic Bell Manufrs.	652			
Pneumatic Dispatch Tubes	652			
Pneumatic Engineers	652			
Pole Finding Paper	652			
Poles (Iron)—Manufrs. of	652			1466
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Porcelain & China Fittings Makers	653		1243	1466
Porous Cell Manufrs.	654		1244	
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Portable Electric Lamps—Makers of	654			
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Prepayment Electricity Meters	655			
Press Tool Makers	655			
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Pulley Makers	661	991	1248	1468
Pump Makers	661		1248	1468
Pushes Makers (Electric Bell)	662		1248	1469
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Quicksilver Merchants	662			
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Railway Supplies (Electric)—Makers of & Dealers in				1469
Railway & Tramway Engineers	663		1248	1469
Railways(Electric)—Makers of & Contractors for	664	994	1248	1475
Railways, Tramways, &c.—Manufrs. of Requisites & Appliances for	665	994	1248	1469
Railways & Tramways—Electric	665	991	1249	1470
Rangefinders	669			
Recording Instruments—Makers of	669		1249	
Reflector & Shade Manufrs.—Glass, Metal & Silk	670		1249	1475
Regulators—Makers of	671			1476
Resistance Coil & Frame Makers	671			
Resistance Wires—Makers of	672		1250	
Rheostats	672			1476
Rolling Mills & Rolled Metal Merch.	672			
Röntgen Apparatus—Makers & Dealers	672	995	1250	1476
Roofs (Iron)—Makers of	673			
Rope Makers—Manilla & Hemp	673			
Rotary Converters	673			
Schools of Electrical Engineering, Telegraphy, &c.	673	995	1250	1476
Scientific Apparatus Makers	677	995	1250	1477
Screw Plate, Stocks, & Dies Makers	678		1251	1477
Screws, Terminals, & small Detached Accessories Manufrs.	678		1251	1477
Screw Threads—Cutters of	678			
Search Lights (Projectors, &c.)	680		1251	1477
Second-Hand Electrical Plant	680			1477
Shafting Manufrs.	680		1251	
Sheet Metal Workers & Japanners	681			
Ship Fitters for Electric Lighting	681			
Ships' Telegraphs—Makers of	681			
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Slate Enamellers	682			
Slate & Slate Slab Merchants & Manufacturers	682			
Slate Turners for Electrical Purposes	682		1251	1477
Smelters & Refiners	683		1252	1477
Societies—Learned & Scientific	683	995	1252	1478
Solder Manufrs. & Merchants	684			1478
Soldering Lamps & Irons—Makers of	685			
Specialities Makers—Electrical	685	996	1252	1478
Speed Indicator Makers	685		1253	
Spelter Manufrs.	686			
Spring Makers for Pushes	686		1253	1479
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Stampings for Armatures, Transformers, &c.	686			
Steam Gauge Makers	687			
Steam Packing Manufrs.	687			1479
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Steel Armoured Cables	687			
Steel Castings—Makers of	688			
Steel Forged Shafts & Shaftings	688			
Steel for Magnets	688	996		
Steel Manufrs., Converters & Refiners	688		1253	
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Stoker Makers—Mechanical	688			
Street Light Fittings	689			
Submarine Cables—Makers of	689		1253	1479
Sulphate of Alumina Manufrs.	689			
Sulphate of Ammonia Manufrs.	689			
Sulphate of Copper Manufrs.	689			
Sulphuric & Sulphurous Acid Manufrs.	689		1253	
Sundriesmen—Electrical	689		1253	1479
Superheaters—Makers of	690			
Supplies (Electrical)—Dealers in	690	996	1253	1479
Supplies (Electrical)—Makers of	691	1000	1255	1486
Supplies for Cable Ships & Stations	692			
Switch Makers—Electric	693	1000	1255	1486
Switchboards—Makers of	696			1487
Switchboards, Bases & Covers—Makers	698		1255	1487
Tachometers & Tachographs	698		1255	
Tallow Merchants	698			
Tank & Cistern Makers—Iron & Slate	698			
Taping Machine Manufrs.	699			
Telegraph Agents	699	1000	1255	
Telegraph Apparatus Makers	699	1000	1256	1487
Telegraph Cable Making Machine Manufrs.	701		1256	
Telegraph & Cable Companies	700	1000		1487
Telegraph Cables—Makers of	701		1256	1487
Telegraph Constructors	701			
Telegraph Engineers of Railway Cos.	701		1256	
Telegraph Instrument Ink Makers	702		1257	
Telegraph Instrument Manufrs.	702		1257	1487
Telegraph Iron & Steel Buoy Makers	702		1257	
Telegraph Paper Makers	702			1487
Telegraph & Telephone Pole (Iron) Manufrs.	703		1257	1487
Telegraph & Telephone Supplies	703	1000	1257	1488
Telegraph Works & Stores	703		1257	1488
Telephone Apparatus Makers	704		1257	1488
Telephone Cables—Makers of	706		1258	1488
Telephone Companies	707	1000		1488
Telephone Exchanges—Equippers of	707			1489
Telephones—Makers of	708		1258	1489
Testing Instrument Makers—Electrical	709			1489
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Thermostats (Electric) & Gas Regulators—Makers of	710			1489
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Tin & Lead Foil Manufrs.	710			
Tin Merchants	710			
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Torpedo Manufrs.	710			
Traction Engineers—Electric	711		1259	1489
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Tramcar Engines (Electric)—Makers of	712			1489
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Tramway Systems—Electric	712			
Tramways (Electric)—Makers of & Contractors for	712	1001	1259	
Transformers—Makers of	713		1259	1490
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Tube Makers—Aluminium	716			
Tube Makers—Brass	716			
Tube Makers—Copper	716		1260	
Tube Makers—Ebonite & Vulcanite	717		1260	
Tube Makers—Glass	717		1260	
Tube Makers—Iron	717		1260	
Tube Makers—Lead	717			
Tube Makers—Steel	718			
Turbine Waterwheel Makers	718	1001	1260	1490
Turbo ElectricGenerators—Makers of	719			
Underground Cable Systems	719			1490
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Valve Manufrs.	721	...	...	1490
Vices (Parallel)—Wrought & Cast Iron	721	...	...	...
Voltmeters—Makers of	721	...	1260	1490
Vulcanite Manufrs.	722	...	1260	1490
Vulcanized Fibre Manufrs.	722	...	1260	1490
Vulcanized Indiarubber Wires & Cables	723	...	...	1491
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Washers & Rivets—Makers of	724	...	1261	...
Watch & Clock Makers—Non-Magnetizable	...	...	1261	...
Water Cooling Towers	724	...	...	...
Water Level Apparatus Makers—Electrical	724	...	1261	...
Water Purifying Plant	725	...	...	...
Watertight Fittings	725	...	...	...
Welding—Electric	725	...	1261	1491
White Metal Manufrs.	725	...	...	...
Winches—Electric	726	...	...	...
Winches for Arc Lamps	726	...	1261	...
Wire Cable Machine Manufrs.	726	...	...	...
Wire Cord Manufrs.	726	...	...	1491
Wire Coverers—Cotton	726	1001	1261	1491
Wire Coverers—Indiarubber & Gutta-Percha	727	1001	1261	1491
Wire Coverers—Silk	728	1001	1261	1491
Wire Covering Machines—Makers of	729	...	1261	1491
Wire Drawers	729	...	1261	...
Wire Draw-Plate Makers	730	...	...	...
Wire Gauge Manufacturers	730	...	...	...
Wire Manufrs.—Braided	730	...	1262	...
Wire Manufrs.—Brass	731	...	1262	1491
Wire Manufrs.—Copper	731	...	1262	1491
Wire Manufrs.—Galvanized Iron & Steel	733	...	1262	...
Wire Manufrs.—German Silver	733	...	1262	...
Wire Manufrs.—Iron	733	1001	...	1492
Wire Manufrs.—Manganese Steel	734	...	...	...
Wire Manufrs.—Phosphor Bronze	734	...	...	...
Wire Manufrs.—Platinoid	734	...	...	...
Wire Manufrs.—Platinum	734	...	1262	...
Wire Manufrs.—Steel	734	...	...	1492
Wire Manufrs.—Telegraph	734	...	1262	...
Wire Manufrs.—Telephone	735	1001	1262	1492
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Wire Rope Machine Makers	736	...	1263	...
Wire Rope Manufrs.	737	...	1263	1492
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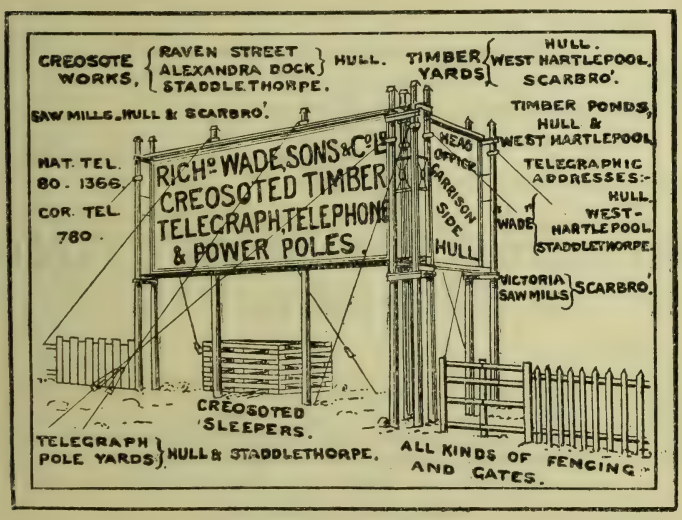

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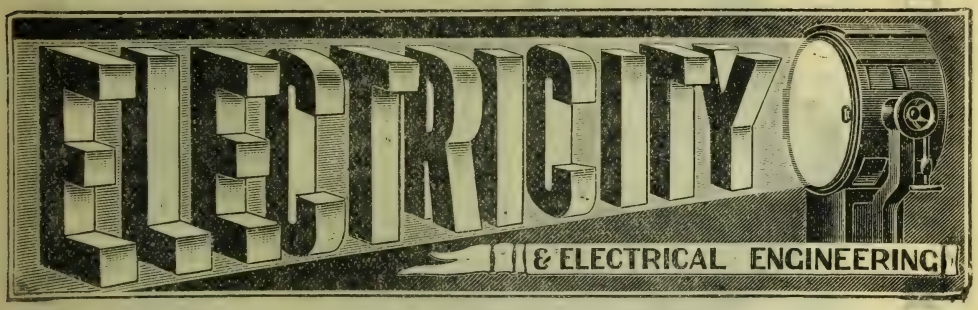

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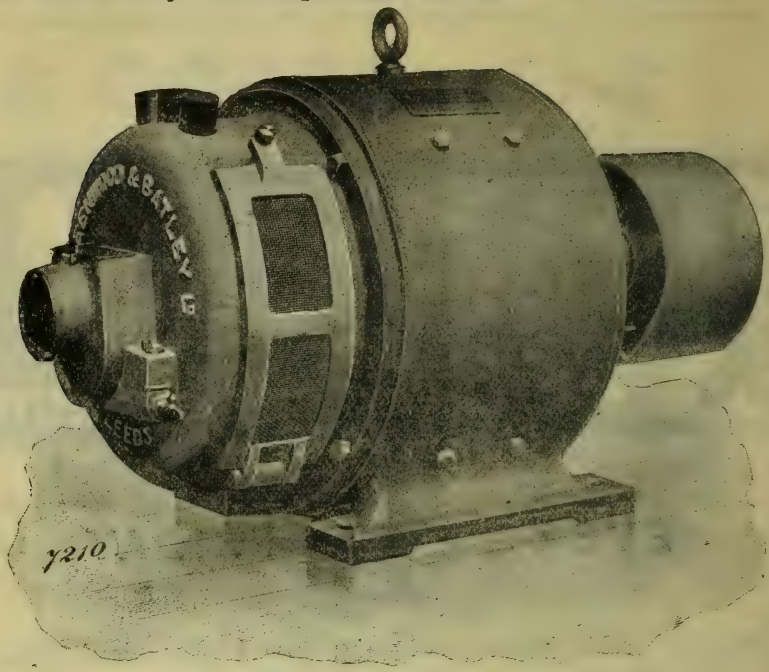

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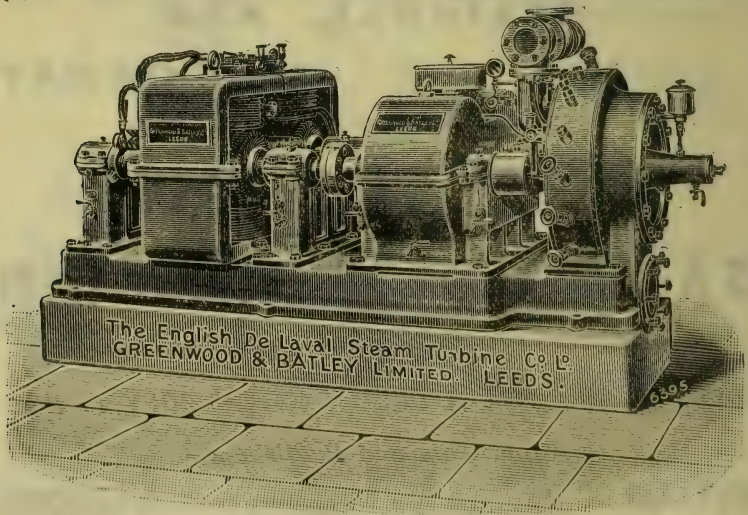

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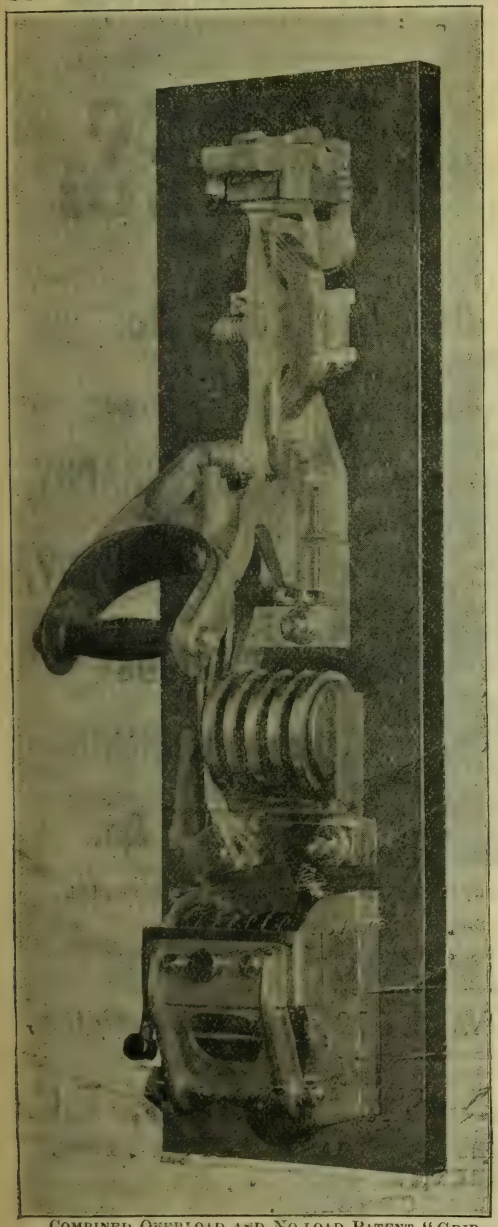

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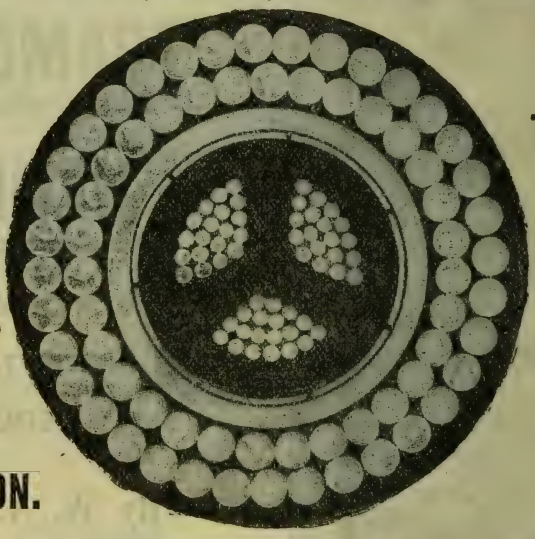

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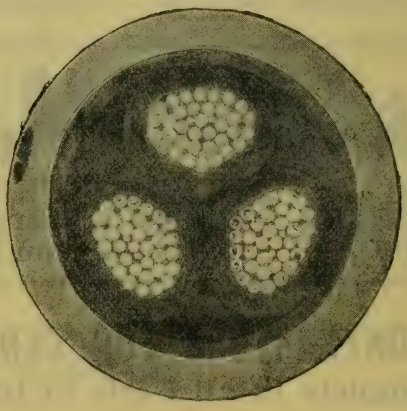

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ADDENDA.

BENJAMIN, EDGAR L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, London, W.C. "E.L.B." patent electric bell, telephone, &c., systems., "C.I.R.H." patent traction instruments & apparatus, &c.

Berry Construction Co., Ltd., electrical engineers, Hastings House, 10, Norfolk-st., Strand, London, W.C.

Browne, G. Massiot, & Co., manufacturers & importers of electrical supplies, 108, Argyle-st., Glasgow.

Bute, T. Ashton, district manager National Telephone Co., Ltd., Godstall-chbrs., Godstall-lane, Chester. (Teleph. No. 127.)

City of Oxford Electric Tramways, Ltd., Queen Anne's-chbrs., Westminster, London, S.W.

Cohen, Nigel H., A.M.I.E.E., 5, Southwick-cres., Hyde Park, London, W.

Davenport, H., electrical engineer, Canada-chbrs., 36, Spring-gdns., Manchester.

London Telegraph Training College, Morse House, Earl's Court, London, S.W. *See* SCHOOLS.

Mander, A. F., electrical & mechanical engineer, 258, Villa Cross, Handsworth. Works: 62, Victoria-rd., Aston, Birmingham.

Marshall, R. D., electrical engineer, United Electric Light & Power Supply Co., Ltd., Ardwick-pl., 184, Stockport-rd., Manchester.

Martyn, S. W., & Co., electrical & mechanical engineers, 11, Pratt-st., Camden Town, London, N.W.

Matthews, R. Borlase, WH.EX., A.M.I.C.E., consulting electrical engineer, 9, Cambrian-pl., Swansea.

Mors (England), Ltd., 45, Great Marlborough-st., London, W.

Munday, A., electrical engineer, 61, Watling-st., London, E.C.

New Ignition Syndicate, Ltd., 6, John-st., Adelphi, London, W.C.

Newark Electric Supply Co., Ltd., 74, Coleman-st., London, E.C. Registered Dec. 31, 1906. Nominal capital: £1000 in £1 shares.

Ousey, Geo. R., & Co, fittings, 7, Bunhill-row, London, E.C. (Telegs.: "Ousey." Tel. 1994, Central.)

Rowe, Thos., A.M.I.E.E., Corcovado, Pearson-rd., Higher Tranmere, Birkenhead.

Sharpe, Wm., & Son, Ltd., electrical apparatus manufacturers, 3, Bucklersbury, London, E.C.

Warriner, Ltd., manufacturers of electric light fittings, Riverside Works, Doncaster.

TOO LATE CORRECTIONS.

Pages 41 & 78.—Browne, H. D., chairman Anglo-Argentine Tramways Co., Ltd., *deceased.*

Page 42.—Ardron, J., C.B., *retired from post of* senior assistant secretary to the G.P.O.

Page 45.—Auto-Claw Co., Ltd. *New address*, 148–150, Curtain-rd., E.C.

Page 47.—Baker, G. E. *Delete the words* director Kalgoorlie Electric Power & Lighting Corp., Ltd.

Page 51.—Bartlett, A. T. *New address*, 51, Wheelwright-rd., Gravelly Hill, Birmingham.

[P.T.O.

Aberystwith Electricity Works. Chiswick Electric Supply Corp., Ltd., proprietors. (Teleph. No. 0195.) Engineer, E. P. Perkins.

Abraham, A. J., A.M.I.E.E., chief electrical engineer, Lanark C.C., Cambuslang, N.B.

Abrahams, Hy., A.I.E.E., 8, Lymington-rd., West Hampstead, London, N.W.

Accessible Battery & Engineering Co., Ltd., battery manufacturers, 39, Victoria-st., Westminster, London, S.W. (Telegs.: "Litharge, London." Teleph. No. 5326, Westminster.)

Accessories Manufacturing Co., Ltd., manufacturers of electric light fittings & accessories, 9 & 10, Wells-st., Oxford-st., London, W. (Telegrams: "Accesorias, London." Telephone No. 1875, Gerrard.)

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Too Late Corrections—*continued.*

Page 119.—Dawe, P. H. *Now at* Dacre House, Westminster; & Clapham Park.
Page 119.—Day's Adjusting & Locking Points Co. *Delete entry entirely.*
Page 125.—Doolette, G. P. *Delete* director Kalgoorlie Elec. Power & Lighting Corp., Ltd.
Page 155.—Fulton, T. Crichton, *for* Corporation Telephone No. *read* P.O. Teleph. No.
Page 179.—Hart Accumulator Co., *for* London Teleph. Nos. *read* 1306 & 1307, East.
Page 193.—Horsley, J. A. B., *is leaving* Tonbridge *for* Harrow.
Page 210.—Kaiser, J. *Now* Kaiser, John M., Ltd.
Page 212.—Kendal Corporation. Barnes, J. A. T., A.M.I.E.E, *now* engineer & manager, *vice* W. Thomson.
Pages 217 & 676.—Kuenen, Prof. J. P., *is leaving* Dundee *for* Leyden.
Page 228.—Llanrwst Electric Supply Co. *Delete entry entirely.*
Page 233.—Lyndhurst Electric Lighting & Traction Co., Ltd. *Now* Lyndhurst, Ltd.
Page 241.—Marco, C., & Co. *New address*, 16, Edmund-pl., E.C. *Delete* Teleph. No.
Page 243.—Mason, Wilson & Co. *Now* C. H. Mason, Wilson & Co., Ltd.
Page 246.—Mazarron Elec. Light Co. *Delete entry entirely.*
Page 255.—Morris, David King *The entry should now read* Morris & Lister, manufacturers of electrical specialities, Carlton Works, Lockhurst-lane, Coventry.
Pages 260–261.—National Telephone Co., Ltd. *Add to issued capital* 100,000 new shares, part paid, *& the amount* of 4 per cent. debenture stock issued is £1,710,093. Sir J. T. Woodhouse *is no longer* director.
Page 278.—Peking & North China Elec. Corp. *Delete entry entirely.*
Page 289.—Pullan, Charles. *New address*, 52, King's-arcade.
Page 326.—South Metropolitan Elec. Light & Power Co., Ltd. The Sydenham address & Telephone No. *should be deleted, also the date of* trust deed, July 5, 1906.
Page 330.—Standard Time Co. *Delete entry entirely.*
Page 348.—Tonbridge U.D.C. J. A. B. Horsley *has resigned.*
Page 360.—Wallach Bros. *New address*, Royal London House, Finsbury-sq., E.C. (Teleph. No. 3796, London Wall.)
Page 368.—West Ham Corp. *New* Teleph. Nos. *for* Stratford, 1320 & 1321, East.
Page 373.—Wighan, Jno. R., *deceased.*
Page 676.—University of Birmingham. J. Dennis Coales, B.SC., A.M.I.E.E, lecturer *vice* D. K Morris.

Colonial.

Page 875.—Henley's (South Africa) Telegraph Works Co., Ltd. *New Johannesburg address*, Howard-bldgs., cor. Loveday & Main-sts.

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A. C. Electrical Co., electrical engineers, Saracen-bldgs., Snow Hill, London, E.C. (Teleph. No. 2100, Holborn.)

A. E. G. Electrical Co. of South Africa, Ltd., electrical & mechanical engineers, 125, Charing Cross-rd., London, W.C.

A. E. G. ENGLISH MANUFACTURING CO., LTD., patentees of Nernst Electric Lamps for Great Britain, all British Colonies, all Asia, Africa, Central & South America & adjacent islands. Address: 4–5, New Compton-st., Charing Cross-rd., London, W.C. (Telegs.: "Aegma, London." Teleph. No. 2363, Gerrard.) Manager, C. Pfeffer.

A. S. C. Railway Appliances Syndicate, electric signal manufacturers, 28, Victoria-st., London, S.W. (Telegrams: "Curphey, London." Telephone No. 345, Westminster.)

Abbot & Co., wiring contractors, Brock-st., Lancaster.

Abbott, John, Nivasol, Eastbourne. Chairman East India Tramways, Ltd.

Abbott, W., Hamilton House, Victoria Embankment, London, E.C. Director London United Tramways (1901), Ltd.; director Underground Electric Railways Co. of London, Ltd.; director Edgware & Hampstead Railway Co.; director Metropolitan District Railway.

Abbott & Co. (Newark), Ltd., makers of arc lamp hoists, boilers, &c., Newark-on-Trent. (Telegrams: "Abbott, Newark." A.B.C. Code used. Nat. Telephone No. 34.)

Abel, Wm. J., A.M.I.E.E., 99, Waterloo-cres., Nottingham.

Abel & Imray, patent, design & trade marks registration agents, Birkbeck Bank-chbrs., Southampton-bldgs., London, W.C. (Telegrams: "Patentable, London." Telephone No. 109, Holborn.)

Aberavon District Tramways Syndicate, Ltd., Arlington-chbrs., 4 & 5, Commercial-st., Newport, Mon. Registered Dec. 8, 1904. Nominal capital: £2000 in £1 shares.

Abercorn, Duke of, K.G., 60-61, Green-st., Grosvenor-sq., W. Chairman African Transcontinental Telegraph Co., Ltd.

Aberdare Electric Lighting Co., Ltd., Bank-chbrs., Aberdare, Glamorgan. Registered Aug. 23, 1900, with a nominal capital of £2000 in £1 shares. 340 shares have been taken up, but no calls made.

Aberdeen Corporation Electric Lighting & Tramway. (Telegrams: "Bell, Corporation, Aberdeen." Telephone Nos. 1075 & 1194.) Electrical engineer, J. Alex. Bell, M.I.E.E., M.I.M.E.

Aberdeen Electrical Engineering Co., Ltd., electrical engineers, 17, Belmont-st., Aberdeen. (Telegs.: "Fuse, Aberdeen." Teleph. No. 842.) Directors: Jas. Copland Glegg, Esq. (chairman); G. England, Esq.; W. D. Ironside, Esq., C.E.; A. Ledingham, Esq. Manager, R. G. Botting; secretaries: Messrs. G. & J. McBain. Nominal capital: £10,000 in ordinary shares of £1 each. £3650 issued & fully paid.

Aberdeen Suburban Tramways Co., 15, Golden-sq., Aberdeen. (Telegrams: "Judicial, Aberdeen." Telephone No. 447.) Nominal capital: £72,000 in £1 shares. Issued: 30,888 shares & £22,792 5s. has been received. Mortgages: £8000. Directors: G. J. Walker, Esq.; W. Jackson, Esq., J.P.; J. Morgan, Esq.; W. Christie, Esq., M.B., C.M.; A. Wilkie, Esq. (managing). Engineer, G. G. Jenkins; secretary, Geo. Duncan.

Aberystwith Electricity Works. Chiswick Electric Supply Corp., Ltd., proprietors. (Teleph. No. 0195.) Engineer, E. P. Perkins.

Abraham, A. J., A.M.I.E.E., chief electrical engineer, Lanark C.C., Cambuslang, N.B.

Abrahams, Hy., A.I.E.E., 8, Lymington-rd., West Hampstead, London, N.W.

Accessible Battery & Engineering Co., Ltd., battery manufacturers, 39, Victoria-st., Westminster, London, S.W. (Telegs.: "Litharge, London." Teleph. No. 5326, Westminster.)

Accessories Manufacturing Co., Ltd., manufacturers of electric light fittings & accessories, 9 & 10, Wells-st., Oxford-st., London, W. (Telegrams: "Accesorias, London." Telephone No. 1875, Gerrard.)

Accrington Corporation Electricity Works. (Teleph. No. 2.) H. Gray, A.M.I.E.E., boro' elec. engineer.

Accumulator Industries, Ltd., accumulators & accessories manufacturers. Registered offices, laboratories & works: Woking. (Telegrams: "Sciencing, Woking." Telephone No. 2, Woking.) Nominal capital: £40,000 in 40,000 ordinary £1 shares. 37,006 shares have been taken up, £1 per share has been called on 26,806 shares, & the remaining 10,200 are considered as fully paid. Managing director, Hy. Leitner.

Accumulator & Motor Construction Co., Ltd., 119–125, Finsbury-pave., London, E.C.

Ackermann, A. S. E., B.SC. (Eng.), A.C.G.I., A.M.I.C.E., M.R.S.I., consulting engineer, 25, Victoria-st., Westminster, London, S.W. (Teleph. No. 244, Victoria.)

Ackers, B. St. John, Huntley Manor, Gloucester. Director Oriental Telephone & Electric Co., Ltd.; director Telephone Co. of Egypt, Ltd.

Ackery, H. Melville, A.I.E.E., Elec. Engineers' Dept., Admiralty, Whitehall, London, S.W.

Ackland, Snow H., metal spinner, 75 & 81, Worship-st., London, E.C.

Ackroyd & Best, Ltd., makers of the "Best" miners' safety (oil) lamp to light by electricity, Morley, Yorks. (Telegrams: "Lamps, Morley." Telephone No. 86.)

Acland, R. L., A.M.I.E.E., borough electrical engineer & tramways manager, Chesterfield.

"Acme" Lamp (Protected), St. Peter's, Kent.

ACME MOTOR & TRACTION CO., motor makers & manufacturers (Immisch type), 72, Finsbury-pavement, London; & The Ham, Brentford. (Teleph. No. 253, Chiswick.)

à Court, S., A.M.I.C.E., consulting electrical engineer, 39, Victoria-st., London, S.W. (Telegrams: "Togatus, London." P.O. Telephone No. 406, Victoria.)

Acton & Chiswick Polytechnic, Bedford Park, London, W. *See* SCHOOLS.

Acton Urban District Council Electricity Works, 130, Churchfield-rd., Acton, W. Engr., J. Martin Blair.

Acworth, W. M., director Great Northern, Piccadilly & Brompton Railway Co.

Adam, A., Boulogne-sur-Mer, France. Director Peking & North China Electrical Corporation, Ltd.

Adam, A., director South Lancashire Electric Supply Co., Ltd., Atherton, Lancs.; director South Lancashire United Tramways, Ltd.; director Lancashire Light Railways, Ltd.

Adam, M. A., B.SC., A.M.I.C.E., A.M.I.E.E., consulting electrical engineer & patent agent, 18, Southampton-bldgs., Chancery-lane, London, W.C. (Telegs: "Cleradam, London." Teleph. No. 1518, Holborn.)

Adam, J. M., & Co., manufacturers of Adam's Patent pneumatic conveyers, dust separators, &c., Ibrox Works, Glasgow. (Telegrams: "Adamant, Glasgow." Corp. Telephone No. 66, Govan.)

Adams, Alexander, A.M.I.E.E., Corporation Electricity Department, 75, Waterloo-st., Glasgow.

Adams, Alex. J. S., F.R.A.S., postal telegraphs, General Post Office, London, E.C.

Adams, A. R., electric bell manufacturer, 67, Newington Causeway, London, S.E.

Adams, Chas., A.M.I.E.E., 8, Crescent-gdns., Bath.

Adams, Dawson, A.M.I.E.E., 43, Watling-st.-rd., Fulwood, Preston.

Adams, Henry, M.I.C.E., M.I.M.E., F.S.I., &c., consulting engineer, 60, Queen Victoria-st., London, E.C. (Telegrams: "Viburnum, London." Telephone No. 6006, Bank.)

Adams, John, 1, Dinam-st., Nantymoel. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Adams, Prof. W. G., F.R.S., M.I.E.E., 1, Forthfield-ter., Sidmouth, Devon.

Adams, W., electrician, Ashdown-rd., Kingston-on-Thames.

Adams, W., A.M.I.E.E., deputy electrical engineer, Corporation Electricity Works, Hanley, Staffs.

Adams, W. P., M.I.E.E., electric & hydraulic engineer, 28, Victoria-st., S.W. (Telephone No. 5364, Westminster.)

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Adams, T., & Sons, wood casings for electric light wiring, Cambridge-st., Birmingham. (Telegrams: "Adams, Birmingham." Nat. Telephone No. 319.)

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Adams-Randall Telephone Patents Co., Ltd., 65, New Broad-st., London, E.C. (Teleph. No. 4187, Avenue.) Registered April 11, 1899. Capital: £60,000 in 50,000 ordinary & 10,000 6 per cent. cumulative preference shares of £1 each. 50,000 ordinary & 8700 preference shares have been taken up & are fully paid. 6 per cent. debentures issued: £10,000, redeemable 1903. Directors: A. W. Bainton, Esq. (chairman); W. G. B. Sweet, Esq.; W. H. Parker, Esq.; C. Adams-Randall, Esq. Secretary, J. R. Davies.

Adamson, A., A.R.C.S., physics & electrical engineer, Municipal School of Technology, Sackville-st., Manchester.

Adamson, Daniel, M.I.MECH.E., A.M.I.E.E., Sunnybank, Haughton Green, nr. Manchester.

Adamson, D. F., M.I.E.E., c/o London United Tramway, Fulwell Depôt, Twickenham; & Maisonnette, Princess-rd., Upper Teddington.

Adamson, George L., A.I.E.E., electrical engineer, Ohm Works, 116, Yorkshire-st., Rochdale. (Telegs.: "Adamson, electrician, Rochdale." Nat. Teleph. No. 0553.)

Adamson, Daniel, & Co., boiler makers & steam engine manufacturers, Engineering Works, Dukinfield, Manchester (Telegrams: "Adamson, Dukinfield." Nat. Telephone No. 9, Ashton); & Queen Anne's-chbrs., Broadway, Westminster, London, S.W.

Addenbrooke, G. L., M.I.E.E., 53, Victoria-st., Westminster, London, S.W. Director Shropshire & Worcestershire Electric Power Co.; director Shropshire & Worcestershire Electric Power Syndicate, Ltd.

Addie, R., consulting engineer, Norfolk House, Laurence Pountney Hill, London, E.C. (Telephone No. 5950, Central.)

Addinell & Co., electric lighting contractors, 30, Cock-lane, Snow Hill, London, E.C. (Teleph. No. 2100, Holborn.)

Addington Timber, Slate & Cement Co., Ltd., makers of electric light casings, &c., Cold Blow-rd., Brocklehurst-st., Hatcham, London, S.E. (Telegrams: "Andako, London." Telephone No. 19, Deptford.)

Addinsell, W. Arthur, secretary, China Furniture & Electrical Fittings Manufacturers' Association, 112, Edmund-st., Birmingham.

Adelaide Development Co., Ltd., electrical engineers, Westinghouse-bldg., Norfolk-st., Strand, London, W.C. Registered Dec. 2, 1899. Nominal capital: £25,000 in £10 shares.

Adelaide Electric Supply Co., Ltd., Finsbury-pavement House, London, E.C. Registered April 10, 1905. Nominal capital: £300,000 in £5 shares (30,000 6 per cent. cumulative preference). Issued: 26,065 ordinary, & 15,000 preference shares all fully paid. Directors: J. B. Braithwaite, Esq. (chairman); R. P. Sellon, Esq.; A. F. Farish, Esq. Secretary, W. E. Lane. Dividends on ordinary shares: April–Aug., 1905, 1*s.* 10*d.* per share; Aug., 1906, 2½ per cent.

Adelaide Electric Tramways, Ltd., 35, New Broad-st., London, E.C. Registered April 12, 1900. Nominal capital: £3000 in £1 shares. Issued: 7 shares; no calls have been made. Directors: J. A. Kelman, Esq.; D. Sluter, Esq.; H. Yuill, Esq.; D. E. Kelman, Esq.; C. S. Kelman, Esq.; G. C. Eedes, Esq.

Adie, Patrick, mathematical instrument maker, Broadway Works, 1, Broadway, Westminster, London, S.W.

Adkins & Co., general electricians, Northampton. (Telephone No. 11 Y. 3.)

Adlard, Howard T., A.I.E.E., Mansion House-st., London, E.C.

Adnil Electric Co., 6, Victoria-ave., Bishopsgate-st. Without, London, E.C. (Telegs.: "Adnil, London." Teleph. Nos. 796 & 775, London Wall.)

Adye, E. P., electrician, 3, Forthbridge-rd., Clapham Common, London, S.W.

African Concessions Synd., Ltd., formed to acquire a concession from the British South Africa Co. to utilise the water power of the Victoria Falls on the Zambesi for electrical power transmission, 701, Salisbury House, London Wall, E.C. Nominal capital: £50,000 in £1 shares, 6703 of which are issued as fully paid, 23,297 with 10*s.* called & 20,000 with 5*s.* called. Directors: W. A. Wills, Esq. (chairman); I. H. Hirschler, Esq.; H. Wilson Fox, Esq.; J. F. Jones, Esq., C.M.G.; Alfred H. Haggard, Esq.; A. H. D. Cochrane, Esq. Consulting engineers, Sir D. Fox & Sir Chas. Metcalfe, Bart.; secretary, S. S. Briggs.

African Direct Telegraph Co., Ltd., Electra House, Finsbury-pavement, London, E.C. (Telegrams: "Amulet, London.") Issued capital: ordinary shares, £236,000; second issue debentures made in 1893, for £42,000, of which £1400 drawn in May, 1894; £1400 in May, 1895; £1500 in May, 1896; £1600 in May, 1897; £1700 in May, 1898; £1700 in May, 1899; £1800 in May, 1900; £1800 in May, 1901; £2000 in May, 1902; £2000 in May, 1903; £2100 in May, 1904; £2100 in May, 1905; & £2300 in May, 1906. Managing director, The Hon. A. G. Brodrick. Secretary, H. E. Plank.

African Engineering (monthly; price 6*d.*), Queen Anne's-chbrs., Westminster, London, S.W.

African Trans-Continental Telegraph Co., Ltd., 2, London Wall-bldgs., London, E.C. (Telegrams: "Rhodesian, London." Telephone No. 1714, London Wall.) Directors: Duke of Abercorn, K.G., president; Sir Julius Wernher; S. Neumann, Esq.; R. Maguire, Esq. D. E. Brodie, acting secretary. Registered Dec. 27, 1892. Nominal capital: £300,000 in ordinary shares of £1 each; 226,850 have been taken up & are fully paid.

Agnew, C. S., 5, Mount-st., Manchester. Director National Telephone Co., Ltd.

Agnew-Williams, Ferrand, A.I.E.E., 86, Clifton-st., Old Trafford, Manchester.

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Ainsworth, R., A.M.I.E.E., Salford Rolling Mills, Manchester.

Aird, Sir John, M.P., A.I.E.E., Belvedere-rd., Lambeth, London, S.E.

Aird, Joseph, tubes for electrical conductors, Great Bridge, Tipton, Staffs. (Telegs.: "Vigilantia, Tipton." Tel. No. 9024); & 46, Queen Victoria-st., London, E.C. (Telegs.: "Vigilantia." Tel. No. 772, Bank.)

Airdrie & Coatbridge Tramways Co., Tramway Depôt, Main-st., Coatbridge; & Donington House, Norfolk-st., London, W.C. Authorized capital: £100,000. Issued: £5000. Directors: F. W. Chanter, Esq. (chairman); H. S. Day, Esq.; A. C. Miles, Esq. Manager, A. Delves; secretary, W. F. Herring.

Aish, W. H., electric light engineer, Victoria House, Bournemouth. (Telephone No. 167.)

Aitchison, G. C., A.M.I.C.E., general manager, North Wales Electric Power & Traction Co., Llanberis, R.S.O., Carnarvon.

Aitken, James, M.I.E.E., 21, Hampden-rd., Hornsey, London, N.

Aitken, T. M., A.M.I.C.E., asst. engineer, London Electric Supply Corp., Stowage Wharf, Deptford, S.E.

Aitken, William, M.I.E.E., British Insulated & Helsby Cables, Ltd., Edge-lane, Liverpool; & Beachcliffe, Sandon Promenade, Egremont, Cheshire.

Aitken, M. A., & Son, suppliers of ground & crushed carbon, Mitcham, Surrey. (Telegrams: "Aitken, Mitcham." Telephone No. 144, Croydon.)

Aiton & Co., steam pipe makers, Western Works, Hythe-rd., Willesden Junction, London, N.W.

Ajax Electrical Engineering Co., 291, High-rd., Ilford; & Ajax Works, Oaklands Park-ave., Ilford. (Telegs.: "Ajax, Ilford." Teleph. No. 604.)

Alabaster, H., A.I.E.E., "Milton," Grange-rd., Sutton, Surrey.

Alabaster, H., Gatehouse & Co., electrical engineers, 4, Ludgate Hill, London, E.C. (Telegrams: "Ageekay, London." Nat. Telephone No. 933, Holborn, Advt. Dept.; P.O. No. 4425, Central, Editorial Dept.)

Aland & Co., ventilating air propellers, 46, Commercial-rd., Lambeth, London, S.E. (Telegrams: "Ulmine, London.")

Albion Battery Co., makers of batteries for motor vehicles, 7, Portman-sq., London, W.

Albion Clay Co., Ltd., makers of underground pipes & conduits, Albion Works, Woodville, Burton-on-Trent (Telegrams: "Albion, Woodville." Telephone No. 14, Swadlincote); 38, Victoria-st., Westminster, London, S.W.; & Midland Railway New Goods Station, Euston-rd., London. (Telegrams: "Sewerage, London." Telephone No. 5536, Gerrard.)

Albion Lamp Co., Ltd. (Rippingille's), electroliers, Aston-rd., North Birmingham.

Albion Motor Car Co., Ltd., motor car builders, South-st., Scotstoun, Glasgow. (Telegs.: "Automobile, Glasgow." Teleph. Nos.: 645, Partick; & 645, W. Corp.)

Albright, J. F., M.I.E.E., A.M.I.C.E., electrical engineer, 96, Elm Park Gardens, S.W. Director Electric Lighting & Traction Co. of Australia, Ltd.; director Gravesend & Northfleet Elec. Tramways, Ltd.; director Devonport Elec. Tramways, Ltd.; director Kent Elec. Power Synd., Ltd.; director Midland Elec. Corp. for Power Distribution, Ltd.; director Kent Electric Power Co.

Albury, F. W., Friar-st., Reading. Director Reading Electric Supply Co., Ltd.

ALCOCK, A. U., M.I.E.E., 208, Russell-st., Melbourne, Australia. London address: c/o O. J. Parker & Co., 70, Bishopsgate-st. Within, E.C. (Telegrams: "Voltages, Melbourne." Codes A1, A.B.C., 4th. Telephone No. 2767.)

Alcock, Harold, electrician, Doseley, Dawley, Salop.

Alcock, R. W., A.I.E.E., 35, Bedford-rd., Rockferry, Cheshire.

Alcock, Wm. H., electrical engineer, Willesden House, Llandudno.

Alder, G. J. Thornton, electrical engineer & contractor, 53, Victoria-st., London, S.W.

Alderley & Wilmslow Electric Supply, Ltd., Alderley Edge, Cheshire. (Telephone No. 41, Alderley.) Registered April 24, 1896. Nominal capital: £20,000 in ordinary shares, & £10,000 in preference shares, all of £1 each. Issued: 5009 ordinary shares & £5000 debentures, all fully paid. Directors: F. E. Gripper, Esq. (chairman); J. C. Wigham, Esq.; P. Whyman, Esq.; Jno. Royle, Esq. Secretary, engineer & manager, Cuthbert W. Bentley. Dividends: 1904, 1905 & first half of 1906, *nil*.

Aldershot Urban District Council Electricity Works. Engineer, F. Garside. (Nat. Teleph. No. 22.)

Alderson-Smith, G., Wheatcroft Cliff, Scarborough. (Telegrams: "Alderson-Smith, Scarborough." Nat. Telephone No. 46.) Director Scarborough Electric Supply Co., Ltd.

Alderton, G., electrical engineer, 21A, Centurion-rd., Brighton.

Alderton, H. L., engineer, Electricity Supply Station, Guildford. (Telegs.: "Electric Supply, Guildford." Teleph. No. 0166.)

Aldin & Johnson, electrical engineers, 1, Gloucester-rd., London, S.W.

Aldred, William, electrician, 5, Brightside-bank, Brightside, Sheffield.

Aldred & Bevan, sheet metal stampings, Cheadle, Manchester.

Aldrich, H., St. Margarets, Burgess Hill. Director Burgess Hill & District Electric Supply Co., Ltd.

Aldrich, Thos. G., A.M.I.E.E., 1, Ascott-ave., Ealing, Middlesex.

Aldridge, Geo., A.M.I.E.E., 7, West Marlands, Southampton.

Aldridge, J. G. W., A.M.I.C.E., consulting electrical engineer, 9, Victoria-st., London, S.W. (Telegrams: "Motorpathy, London." Telephone No. 5118, Westminster.)

Aldridge, L. S., A.I.E.E., manager District Electric Co., 39 & 40, Berry-st., Wolverhampton.

Aldridge & Ranken, consulting engineers, 9, Victoria-st., London, S.W. (Telegrams: "Motorpathy, London." Telephone No. 5118, Westminster.)

Aldrington Electricity Supply Works (Hove Corporation), Town Hall, Hove. H. H. Scott, chief engineer; G. M. Harris, resident engineer.

Aldworth, J., manager Corporation Tramways, Nottingham.

Alexander, Captain R. M., Strathallan, Ryde. Director Isle of Wight Electric Light & Power Co., Ltd.; director St. Helen's Electric Lighting Co., Ltd.

Alexander, David, A.M.I.E.E., electrical plant & material, 43, Mains-st., Waterloo-st., Glasgow. (Telegrams: "Ohmic, Glasgow." Telephone Nos.: 4394, Corp.; 587, Argyle, Nat.)

Alexander, Ferd. E., electrical engineer, c/o E. P. Allam & Co., 11, Red Lion-st., Clerkenwell-rd., London, E.C. (Telephone No. 1891, Holborn.)

Alexander, John H., A.I.E.E., electrician, 35, Cluny-gdns., Edinburgh.

Alexander, W. J., A.I.E.E., 2, Manor-road, Twickenham.

Alexander, E. P., & Son, chartered patent agents, 306, High Holborn, London, W.C. (Telegrams: "Epa, London.")

Alexander's Electric Works, Carlow. Oscar St. J. McKee, resident engineer; G. M. Harriss, chief engineer & manager.

Alford, E. J., electrician, 1, Mortlake-ter., Victoria-rd. North, Southsea, Hants.

Alger, Charles E., electrical engineer, Brynhyfrid-rd., Newport, Mon. (Telegs.: "Alger Newport." Teleph. No. 276.)

Alger, T. E., electrical engineer, Pembroke House, Fields Park-rd., Newport, Mon.

Alger, R., & Sons, electrical engineers & contractors, 160, Dock-st., Newport, Mon. (Tel. No. 276.)

Alioth, R., Basle, Switzerland. Director British Continental Electricity Co., Ltd.

Allam, E. P., A.I.E.E., 11, Red Lion-st., Clerkenwell, London, E.C. (Teleph. No. 1280, Holborn.)

Allam, E. P., & Co., electric light & power engineers, manufacturers of "Premier" electric motor specialities, 11, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Smoothbore, London." Teleph. No. 1280, Holborn.)

Allan, Colby Tielke, electro-chemical engineer, Portobello House, Wakefield.

Allan, G. E., D.Sc., Seafield Park College, Fareham, Hants.

Allan, Percy F., electrical engineer, c/o Yarrow & Co., Scotstoun, Glasgow.

Allan, Wm., A.M.I.E.E., 50, Melville-st., Pollokshields, Glasgow.

Allan, G., & Co., consulting engineers, 2, Broad-st.-pl., London, E.C. (Telegrams: "Clematis, London." A.B.C., A1, Bedford McNeill's Codes used. Telephone No. 2282, London Wall.)

Allan, James, sen., & Son, electric light lamp pillar manufacturers, Elmbank Foundry, Glasgow. (Telegrams: "Elmbank, Glasgow." Telephone Nos.: 632, Douglas, Nat.; & 3460, Corp.)

Allard & Co., electric light contractors, 33, Jewry-st., Aldgate, London, E.C. (Tel. No. 5766, Avenue.)

Allbright, W. J., engineer, Southern Area, South Metropolitan Electric Light & Power Co., Ltd., Wells-rd., Upper Sydenham, London, S.E.

Allbright & Co., electrical engineers, Tamworth-rd., Croydon.

Allchin, Wm., Ltd., mechanical engineers, Globe Works, Northampton. (Telegrams: "Allchin, Globe, Northampton." Telephone No. 84.)

Allcock, H., A.M.I.E.E., 5, Peel-ter., Stretford, Manchester.

Allcock Brothers, bell manufacturers for electrical purposes, 24–28, King Edward's-rd., Birmingham.

Alldays & Onions Pneumatic Engineering Co., Ltd., electric ventilating engineers, Small Heath, Birmingham.

Allen, A. H., A.M.I.E.E., *Electrical Review*, 4, Ludgate Hill, London, E.C.

Allen, C. Edgar, A.I.E.E., Gwydir-chbrs., 104, High Holborn, London, W.C.

Allen, Ernest E., A.M.I.E.E., Bournemouth & Poole Electricity Supply Co., Ltd., Bourne Valley, Bournemouth; & Parkstone-ave., Parkestone, R.S.O., Dorset.

Allen, F. W., A.M.I.E.E., 107, Park-st., Grosvenor-sq., London, W.

Allen, Herbert, 88, Chancery-lane, London, E.C. Chairman Anglo-Portuguese Telephone Co., Ltd.

Allen, J. E., A.M.I.E.E., outside superintendent, District Council Electricity Works, Ilford, Essex.

Allen, L. E., electrical engineer, 56–57, Aldermanbury, London, E.C. (Telegs.: "Roselette, London." Teleph. No. 10658, Central.)

Allen, Percy, A.I.E.E., electrician, Ferncliffe, Higher Runcorn, Cheshire. (Telephone No. 33, Runcorn.)

Allen, R. G., A.I.E.E., Royal College of Science, Dublin.

Allen, Rupert S., A.I.E.E., Queen's Engineering Works, Bedford.

Allen, S. T., assistant engineer, Corporation Electricity Works, Prince Rock, Plymouth.

Allen, V. M., A.I.E.E., 3, Hale Side, Hale-rd., Altrincham, Cheshire.

Allen, Wm., A.M.I.E.E., chief assistant electrical engineer, Corporation, & 50, Westfield-lane, Mansfield.

ALLEN, W. H., engineer & manager, Corporation Electricity Works, Loughborough, Leicestershire. (Nat. Teleph. No. 0505.)

Allen, W. H., J.P., M.I.E.E., Queen's Engineering Works, Bedford.

Allen, C., & Son, mechanical engineers, Tone Engineering Works, Taunton.

Allen, Edgar, & Co., Ltd., tool steel, & file manufacturers, and steel founders, Imperial Steel Works, Sheffield. (Telegrams: "Allen, Sheffield." Telephone Nos. 917 & 265.) London: 52, Queen Victoria-st., E.C. (Telegrams: "Allentare, London." Telephone No. 657, Bank.)

Allen, F., & Sons, manufacturing & export chemists, Phœnix Works, 164, Upper North-street, London, E. (Telegrams: "Nitric, London." Telephone No. 47, Eastern.)

Allen & Hanburys, Ltd., electro-chemists, Three Colts-lane, Bethnal Green Junction, E., Plough-ct., 37, Lombard-st., E.C., & 7, Vere-st., Cavendish-sq., W., London. (Telegrams: "Allenburys, London." Telephone No. 33, London Wall.)

Allen, Laurence E., & Co., Ltd., sole proprietors of the "Rose" electric lamps, 56 & 57, Aldermanbury, London, E.C. (Telegs.: "Roselette, London." Teleph. No. 10658, Central.)

Allen & Mannooch, Ltd., electric light engineers & contractors, 128, Mount-st., 11, Farm-st., London, W. (Telephone No. 5186, Gerrard.)

Allen, W. H., Son & Co., Ltd., electrical & mechanical engineers, Queen's Engineering Works, Bedford; Queen Anne's-chbrs., Westminster, London, S.W. (Telephone No. 4277, Gerrard); & Queen's-rd., Belfast. (Telegrams: "Pump, Bedford." Telephone No. 1, Bedford. A.B.C. & A1 Codes used.)

Allerton, Right Hon. Lord, 27, Cadogan-sq., S.W. Director Eastern Telegraph Co., Ltd.

Alley & MacLellan, Ltd., mechanical engineers & high speed engine makers, Sentinel Works, Polmadie-rd., Glasgow. (Telegs.: "Alley, Glasgow." Teleph. Nos.: 673, Royal; 73, Gorbals; & Z 173, Corp.)

Alliance Electrical Co., Ltd., electrical & mechanical engineers, 23, Grafton-st., London, W. (Telephone No. 1490, Gerrard); & 115 & 117, Colmore-row, Birmingham. (Telegrams: "Continuity, Birmingham." Telephone No. 1217.)

Allin, P. H., & Sons, electrical engineers & contractors, 50 & 51, Burleigh-st., Cambridge.

Allingham, G. C., A.M.I.E.E., electrical engineer, 58, Denton-rd., Canton, Cardiff.

Allis-Chalmers Co., electric & general mining plant, 533, Salisbury House, Finsbury-circus, London, E.C. (Telegs.: "Gyrating, London." A.B.C., A1 & McNeill's Codes. Tel. No. 2747, London Wall.)

Allison, H., engineer; gas engines, &c. Works: Sheepfolds, Sunderland.

Allison Bros., patent agents, 52, Chancery-lane, London, W.C. (Telegrams: "Nosilla, London.")

Allison, J. G., & Co., electrical engineers & contractors, Marcus-st., Birkenhead.

Alloa Town Council Electricity Supply, Alloa, N.B. (Telegrams: "Electric, Alloa." Telephone No. 40, Alloa.) British Electric Plant Co., Ltd., proprietors of generating station. Chief engineer, R. H. Willis.

Allom, G. F., A.M.I.E.E., 15, George-st., Hanover-sq., London, W.

Allpress, Vincent S., M.I.C.E., M.I.E.E., Consulting Electrical & Mechanical Engineer, 25, Queen Anne's Gate, Westminster.

Allsopp, Hon. Herbert T., Walton Bury, nr. Stafford. Director Chili Telephone Co., Ltd.

Allward, M. J., A.I.E.E., 125, Seven Sister's-rd., London, N.

Almack, Edward, F.S.A., A.I.E.E., 99, Gresham-st., Bank, London, E.C.

Alnwick Electricity Works. Northern Counties Electricity Supply Co., Ltd., proprietors, Alnwick, Northumberland. (Telegs.: "Kilowatt, Newcastle-on-Tyne." Nat. Teleph. No. 043, Alnwick.) Engineer & general manager, C. W. Fairweather. Resident engineer, J. W. Summerside.

Alston, W. Walne, chief assistant engineer, Electricity Works, West Bromwich.

Altendorf & Wright, wire manufacturers, Vesey-st., Birmingham. (Telegs.: "Altendorf, Birmingham.")

Altree Bros., ironmongers & electricians, Castle-st., Shrewsbury.

Altrincham Electric Supply, Ltd., Stamford New-rd., Altrincham. (Telegs.: "Fairley, Electric, Altrincham.") Registered March 22, 1894. Directors: H. Wolfenden, Esq. (chairman); Sir J. W. Swan, F.R.S.; E. B. Ellice-Clark, Esq. Secretary, A. Fairley; electrician-in-charge, H. C. Caldwell. Nominal capital: £50,000 in £1 ordinary shares. Issued: £25,000, fully paid, & £25,000 debentures. Dividends: 1904, *nil;* 1905, 2½ per cent.

Altrincham Technical School, Altrincham, Cheshire. *See* SCHOOLS.

Alty, J. N., A.I.E.E., electrical engineer & demonstrator, Faraday House, Southampton Row, London, W.C.

Aluminium Castings Co., Ingleston Foundry, Greenock N.B. (Telegrams: "Castings, Greenock." Telephone No. 85.)

Aluminium & General Foundry Syndicate, Ltd., Romford, Essex. (Telegrams: "Weightless, Romford." Telephone No. 18.)

Aluminium Rectifiers Co., The, Boswell Court Works, Devonshire-st., W.C.

Alverstone, Lord, G.C.M.G., M.I.E.E., Hornton Lodge, Pitt-st., Kensington, London, S.W.

Alvey & Bower, electrical engineers & contractors, Chesterfield. (Nat. Telephone No. 0290.)

Alwyn, L., consulting electrical & mechanical engineer, 74, Terminus-chbrs., Holborn Viaduct, London, E.C. (Telephone No. 9403, Central.)

Amalgaline, Ltd., lead pipe & cable manufacturers, 41, Holborn Viaduct, London, E.C.

Amalgamated Dry Batteries, Ltd. Head offices: 16 & 17, Devonshire-sq., Bishopsgate-st., E.C. Works: Plough-yard, Shoreditch, E. Stores: 3 & 4, Great Winchester-st., London; & at Waltham Cross. (Telegs.: "Footbridge, London." Teleph. No. 8876, London Wall.)

Amalgamated Radio Telegraph Co., Ltd. Registered Sept. 15, 1906. Nominal capital: £450,000 in £1 shares.

Amazon Telegraph Co., Ltd., 42, Old Broad-st., London, E.C. (Telephone No. 9343, London Wall.) Registered July 5, 1895. Directors: G. Keith, Esq. (chairman & managing); E. B. Ellice-Clark, Esq.; C. W. Parish, Esq. Edmund Petley, F.C.I.S., secretary; F. E. Nosworthy, general manager & engineer. Nominal capital: £250,000 in £10 shares. Issued: £250,000, fully paid. There are also £119,700 5 per cent. debentures & £100,000 6 per cent. preference debentures. A board resolution under seal, dated June 20, 1905, creating £35,900 further debentures, has been registered. The present issue ranks *pari passu* with £119,700 like debentures issued in 1897. Both issues are covered by a trust deed, dated Aug. 5, 1897. The company reserves power to issue further debentures ranking *pari passu* with above to the extent of £39,100. The whole of the above debentures rank after £150,000 6 per cent. debentures created in 1901. A trust deed, dated July 11, 1905 (supplemental to said trust deed of 1897), securing £75,000 debentures, created by resolution of June 20, 1905 (consisting of the £35,900 & £39,100 above mentioned), has also been registered.

American Circular Loom Co., manufacturers of flexible conduits, 27, Chancery-lane, London, W.C. (Telegrams: "Loomkop, London." Telephone No. 4527, Holborn.)

American Hard Fibre Co. Agent, F. Winter, 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.)

American Hard Rubber Co., manufacturers of ebonite, vulcanite, &c., 115, Fore-st., London, E.C. (Telegs.: "Eboniseth, London." Teleph. No. 12754, Central.)

American Vulcanised Fibre Co., 68-71, Chiswell-st., London, E.C. (Telegs.: "Insulator, London." Teleph. No. 437, London Wall.)

Ames, F. W., chief assistant electrical engineer, Urban District Council Electricity Works, Long Eaton.

Ames, J. G., A.M.I.E.E., 1, Ravencourt-gdns., West Ealing.

Ames Crosta Sanitary Engineering Co., Ltd., conduit makers, City-chbrs., South Parade, Nottingham (Telegrams: "Ames, Nottingham." Telephone No. 1242); & 7, Victoria-st., London, S.W. (Telegs.: "Amesnador, London." Teleph. No. 377, Westminster.)

Ames & Son, electrical contractors, Long Causeway, Peterborough.

Ammon, A. F., electrical agent, 5, Cross-st., Manchester.

Ammon, Siegfried von, electrical engineer, 1, Oswaldestre House, Norfolk-st., Strand, W.C.

Amos, A. E., The Elms, Topsham. Director Topsham Electricity Supply Co., Ltd.

Ampere Electrical Co., elec. engrs., 44, Fleet-st., Dublin. (Telegs.: "Volt, Dublin." Tel. No. 58 Y.)

Anchor Cable Co., Ltd., cable makers & contractors, Anchor Cable Works, Leigh, Lancs. (Telegs.: "Rubber, Leigh, Lancs." Teleph. No. 61, Leigh.)

Anchor Electric Co., motor manufacturers, 39, Victoria-st., Westminster, S.W. (Telegrams: "Alacrious, London." Telephone No. 5075, Westminster.)

Anderson, A., M.A., LL.D., professor of natural philosophy, Queen's College, Galway, & Senator of Royal University of Ireland, Earlsfort-ter., Dublin.

Anderson, Alex., installation contractor, 24, Regent Moray-st., Glasgow. (Telegs.: "Acceptance, Glasgow." Teleph. Nos.: 186, Argyle, Nat.; & 415 Y., P.O. Central.)

Anderson, Chris, electrician, Lane House, Hunslet, Leeds.

Anderson, E. E., A.I.E.E., 28, Wharton-st., Lloyd-sq., London, W.C.

Anderson, F. Carleton, electrical engineer, Royal London-bldgs., 196, Deansgate, Manchester. (Telegs.: "Engineered, Manchester." Teleph. No. 5884.)

Anderson, Frank L., manufacturers' agent & representative. City office: 1, Furnival-st., London, E.C.

Anderson, G. C., A.M.I.E.E., 13, Balmoral Drive, Cambuslang, N.B.

Anderson, H., A.I.E.E., M.I.MECH.E., Swanscombe Works, Swanscombe, Kent.

Anderson, J., 52, Moorgate-st., E.C. Director Buenos Ayres & Belgrano Electric Tramways Co., Ltd.

Anderson, Jas., A.M.I.E.E., Ferranti Ltd., Hollinwood, Manchester.

Anderson, John, A.M.I.E.E., electrical engineer, Campfield, Elderslie, Scotland.

Anderson, John Arnot, A.M.I.E.E., Western Villa, Wallsend-on-Tyne.

Anderson, Joseph, Limehurst, Garstang-rd., Preston. Director National Electric Supply Co., Ltd.

Anderson, J. E., 8, Fenwick-st., Liverpool. Director Liverpool Overhead Railway Co.

Anderson, J. F., installation work, 23, Bridge-st., Aberdeen.

Anderson, J. Stewart, superintendent Commercial Cable Co., Dundee. (Teleph. No. 554.)

Anderson, J. Wemyss, A.M.I.C.E., consulting engineer, The University, Liverpool.

Anderson, Kenneth, director Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, E.C.

Anderson, T. Scott, M.I.E.E., A.M.I.C.E., Royal Insurance-bldgs., Sheffield. (Telephone No. 803.)

Anderson, Wm., installation contractor, 212, Bath-st., Glasgow. (Teleph. No. 1197, Corp.)

Anderson, Wm., engineer, Kettle River Power Co., Ltd., 3, Laurence Pountney Hill, London, E.C.

Anderson, W., lamp maker, 284, Buchanan-st., Glasgow. (Telephone No. 1464.)

Anderson, W., 9, Upper Sackville-st., Dublin. Managing director Dublin United Tramways Co. (1896), Ltd.; director Cork Electric Tramways & Lighting Co., Ltd.

Anderson, Wm. Roger, A.M.I.E.E., Peveril House, Beeston, Notts.

Anderson, W. T., A.M.I.E.E., 17, King's-ave., Old Trafford, Manchester.

Anderson, Alexander, & Co., electric light & power engineers, 5, West Blackhall-st., Greenock, N.B.

Anderson, Boyes & Co., Ltd., electrical, mining & mechanical engineers, Flemington Electrical Works, Wishaw, N.B. (Telegrams: "Electric, Motherwell." Telephone No. 37, Motherwell.)

Anderson, D., & Son, Ltd., felt, paint & silicate cotton manufacturers, Finsbury Pavement House, London, E.C. (Telegrams: "Ulster, London." Telephone No. 2046, London Wall); & Lagan Felt Works, Belfast. (Telegrams: "Anderson, Belfast." Nat. Telephone No. 100.)

Anderson, J. & A., electrical supplies, 231, St. Vincent-st., Glasgow. Sole agents in Scotland for the Electric & Ordnance Accessories Co., Ltd., Armorduct Manufacturing Co., Ltd., Ward & Goldstone, Simplified Underground Conductors, Ltd., & the Premier Accumulator Co.

Anderson & Munro, electric light & power & telephone contractors, 136, Bothwell-st., Glasgow (Telegrams: "Light, Glasgow." Telephone Nos.: 3421, Corp.; & 21, Argyle, Nat.); 63, Queen-st., Edinburgh (Telegrams: "Light, Edinburgh." Telephone No. 356); & St. Andrew-st., Dumfries.

ANDERSON, RICHARD, & CO. (successors to Sanderson & Co.), Huddersfield, lightning conductor manufacturers, 101, Leadenhall-st., London, E.C. (Telegs.: "Tonnerre, London." Teleph. No. 5537, Avenue.)

Anderston Foundry Co., Ltd., high-speed engine makers, 100, Cheapside, Glasgow (Telegrams: "Afco, Glasgow." Telephone No. 1388, Argyll); & Port Clarence, Middlesborough. (Telegrams: "Afco, Port Clarence." Telephone No. 45.)

Anderton & Halstead, Ltd., cable cloth manufacturers, Albert Mill, Haslingden, Lancs.

Andrew, John R., A.I.E.E., telegraph engineer, London & North Western Railway Co., Chester.

Andrew, L., A.M.I.E.E., electrical agent & merchant, 2, Carr-st., Blackfriars, Manchester.

Andrew, S. E., A.M.I.M.E., A.M.I.E.E., Hampden Residential Club, Phœnix-st., London, N.W.

Andrew, W., electrical engineer, 7, George Hotel Yard, Market-st., Bradford.

Andrew, C. H., & Son, Ltd., dynamos, Waterloo-rd., Stockport. (Telegrams: "Twist, Stockport." Telephone No. 190.)

Andrew, Jno. Hy., & Co., Ltd., steel wire manufacturers, Toledo Steel Works, Sheffield. (Telegrams: "Andrew, Sheffield." Telephone Nos. 175 & 2010.)

Andrew, L., & Co., electrical agents & merchants, 2, Carr-st., Blackfriars, Manchester. (Teleph. No. 1896.)

Andrews, F. E., A.M.I.M.E., Westthorpe, Loughborough, Leicestershire. Director Loughborough & District Electric Traction Syndicate, Ltd.

Andrews, H. Godfrey, assistant borough electrical engineer, Corporation, Bournemouth.

Andrews, Henry George, A.M.I.E.E., 8–10, Palmerston-rd., Boscombe, Bournemouth.

Andrews, J., electrician, Park-rd., Spalding.

Andrews, J. D. F., M.I.E.E., A.M.I.C.E., consulting electrical engineer, 47, Victoria-st., S.W. (Teleph. No. 835, Victoria); & 2, Park-ave., East Sheen, London, S.W.

Andrews, John L., A.M.I.E.E., 6F, Old Meeting-st., West Bromwich, Stafford.

Andrews, John R., A.M.I.E.E., Engineering Branch, Postal Telegraphs, Hexham.

Andrews, Leonard, M.I.E.E., A.M.I.C.E., electrical engineer, c/o Key Engineering Co., Ltd., 4, Queen Victoria-st., London, E.C. (Telegs.: "Andrews, c/o Keypoint, London." Teleph. No. 7234, Central.)

Andrews, L. H., A.I.E.E., electrician, 7, Gladsmuir-rd., Upper Holloway, London, N.

Andrews, L. J., A.M.I.E.E., 6F, Old Meeting-st., West Bromwich, Staffs.

Andrews, Oswald M., M.I.E.E., second engineer, St. James's & Pall Mall Electric Light Co., Ltd., Carnaby-st., Golden-sq., London, W.

Andrews, S., A.M.I.E.E., 55, West Cumberland-st., Glasgow.

Andrews, Thos. Newton, A.I.E.E., Charles School of Science, Plymouth.

ANDREWS, W. OSBORNE, electrical engineer, 73, Bignor-st., Cheetham, Manchester; 27, New Bailey-st., Salford (Teleph. No. 252 X.); & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Andrews & Mumford, Ltd., electrical apparatus manufacturers, 1, Leather-st., Camberwell, London, S.E.

Andrews, S., & Son, electrical engineers, Castle-rd., Cardiff.

Angell, J. A., engineer & surveyor, Urban District Council Electricity Works, Beckenham.

Angell, W. H., & Co., importers of copper, brass & phosphor bronze wires, 4, Lloyds-ave., Fenchurch-st., London, E.C. (Telegrams: "Angellario, London." Telephone No. 5758, Avenue.)

Angier, W. Donald, engineers' agent, 101, Leadenhall-st., London, E.C.

Anglin, A. H., M.A., professor of mathematics, Queen's College, Cork.

Anglo-American Telegraph Co., Ltd.—General office, 26, Old Broad-street, London, E.C. Registered March 3, 1866. (Telegs.: "Anglo, London." Teleph. No. 2054, London Wall.) Nominal capital: £7,000,000. Issued: consolidated ordinary stock, £622,600; preferred ordinary stock, £3,188,700; deferred ordinary stock, £3,188,700. T. H. Wells, Esq., secretary; J. H. Carson, Esq., manager. Directors: Francis A. Bevan, Esq. (chairman); Samuel Barber, Esq.; R. H. Benson, Esq.; Charles Burt, Esq.; Sir Gerald FitzGerald, K.C.M.G.; Herbert S. Leon, Esq. Dividends on ordinary stock, 1903, £3 1*s.* per cent.; 1904, £2 15*s.* per cent.; 1905, £3 5*s.* per cent.; & first half of 1906, £1 10*s.* per cent. Preferred stock, 1904, £5 10*s.* per cent.; 1905, £6 per cent.: & first half of 1906, £3 per cent. Deferred stock, 1903, 2*s.* per cent.; 1904, *nil.*; 1905, 10*s.* per cent.; & first half of 1906, *nil.*

Anglo-American Time Register Co., 62, St. Martin's-lane, London, W.C.

Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, Old Broad-st., E.C. Registered Dec. 21, 1876, reconstructed Nov. 19, 1887. Nominal capital: 260,007 5½ per cent. cumulative preference shares of £5 each, & 320,000 ordinary shares of £5 each. Issued: 260,007 preference & 320,000 ordinary shares. £266,600 permanent 6 per cent. debenture stock, secured by deed Aug. 13, 1888, has been issued. Directors: H. D. Browne, Esq. (chairman); Lord R. H. Browne; J. R. Corbett, Esq.; C. H. Sanford, Esq.; J. B. Concanon, Esq.; H. F. Gunning, Esq.; J. Heaton, Esq. Secretary, Louis Striem.

Anglo-Iberian Electric Light & Power Co., Ltd., Dashwood House, New Broad-st., London, E.C. Registered Jan. 14, 1903. Nominal capital: £10,000 in £1 shares.

Anglo-Italian Asbestos Co., importers & manufacturers of asbestos & rubber goods, Marsden-chbrs., Marsden-st., Manchester. (Telegrams: "Impregnate, Manchester." A.B.C. Code. Telephone No. 5461, Central.)

Anglo-Mexican Electric Co., Ltd., 35, Great St. Helen's, London, E.C. Registered Jan. 27, 1906. Nominal capital: £300,000 in £1 shares. A trust deed, dated March 2, 1906, to secure £300,000 debentures (created Feb. 23, 1906), has been registered.

Anglo-Portuguese Telephone Co., Ltd., 31, Budge-row, Moorgate, London, E.C. (Telegs.: "Diphda, London." Teleph. No. 9690, London Wall.) Registered June 8, 1887. Nominal capital: £100,000 in £1 ordinary shares, & £50,000 5 per cent. debenture stock. Issued capital: £99,954, in ordinary shares of £1 each (fully paid); & £50,000 debenture stock (fully paid). A trust deed, dated March 4, 1905, to secure £50,000 5 per cent. mortgage debenture stock, has been registered. Fredk. A. Bagnall, F.C.I.S., secretary. Directors: Herbert Allen, Esq. (chairman); Hubert Feilden Jackson, Esq.; Fredk. W. Kerr, Esq.; J. E. Kingsbury, Esq.; Chas. Woolley, Esq. Dividends: 1901, 1902 & 1903, 3 per cent.; 1904, 5 per cent.; 1905, 6 per cent.

Anglo-Swiss (H. Cuénod) Construction Co., electric motors, 21, Finsbury-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

Angold, Arthur Ernest, electrician, Rosthwaite, Hale-rd., Altrincham, Cheshire.

Angus, Col. W. M., 42, Grainger-st. West, Newcastle-on-Tyne. Director Newcastle & District Electric Lighting Co., Ltd.

Angus, H. W., corporation electrical engineer, Eccles. (Teleph. No. 50, Eccles.)

Angus, George, & Co., Ltd., manufacturers of leather & indiarubber goods for mechanical purposes, 46, Grainger-st., W.; & 18, Lombard-st., Newcastle-on-Tyne (Tel. No. 1156; P.O. 72. A.B.C. & Lieber's Codes used); 7, Bury-st., London, E.C. (Tel. No. 5769); 93, Bridge-st., Deansgate, Manchester (Nat. Tel. No. 1937); Princes-bldgs., 81, Dale-st., Liverpool (Tel. No. 6969); James-st., Bute Docks, Cardiff. (Tel. No. 179); 160, Briggate, Leeds (Tel. No. 367); 8A, Dale End, Birmingham (Nat. Tel. No. 2790); & 116, Hope-st., Glasgow. (Corp. Tel. No. 465.) (Telegrams: "Angus," Newcastle-on-Tyne & Liverpool; "Angustate," London, Manchester, Cardiff, Leeds, Birmingham & Glasgow.)

Anley, P. F., A.I.E.E., 47, Seaford-rd., Ealing, W.

Annandale, J. H., The Vale, Polton. Director The Scottish Central Electric Power Co.

Annels, Wm., electrical engineer, 77, Mortlake-rd., Richmond, Surrey.

Anness, E. G., A.I.E.E., 7, Grosvenor-gdns., Willesden Green, London, N.W.

Annetts, A. W., A.M.I.E.E., chief assistant engineer, Town Council Electricity Works, Morecambe.

Anns, Albert, A.I.E.E., "Glen Lyn," Coperscope-rd., Beckenham. (Teleph. No. 16, Sydenham.)

Ansell, Fredk. Graham, F.C.S., analytical chemist & electrical engineer, Wickwar, Gloucestershire. (Telegrams: "Ansell, Wickwar, Glos.")

Ansell, H., 20, Birchin-lane, E.C. Director Colombo Electric Tramways & Lighting Co., Ltd.; director Para Electric Railways & Lighting Co., Ltd.

Ansell, M., 55, Elm Park-gdns., S.W. Director West London & Provincial Electric Supply Co., Ltd.

Anslow, Frank, M.I.E.E., electrical engineer, 19, Havelock-st., Dowanhill, Glasgow.

Anson, F. J., A.I.E.E., 26, Mervan-rd., Brixton, London, S.W.

Anson, John A., A.I.E.E., Brookholme, Vanbrugh Park, Blackheath, S.E.

Anstice, E. P., assistant superintendent, Eastern Telegraph Co., Porthcurnow.

Anthony, R. E., electrical engineer, 151, Barry-rd., East Dulwich, London, S.E.

Anti-Incrustation Boiler Composition Co., composition makers for preventing incrustation in steam boilers, 150, Leadenhall-st., London, E.C. J. A. Evans, manager. (Telegrams: "Slaggy, London.")

Antill, B. H., A.M.I.C.E., M.I.E.E., electrical engineer, York Mansion, York-st., Westminster, London, S.W.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Rod. B. Bumiller, manager, manufacturers & contractors, Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom, Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., London, E.C.

Appelbee, N., M.I.E.E., chief electrical engineer, Corporation Electricity Works, Ashton-under-Lyne.

Applebee, G. A., electrical engineer & contractor, maker of projectors, battens, footlights & other theatrical appliances for stage effects, 97, Norroy-rd., Putney, London, S.W. (Tel. No. 742, Battersea.)

Appleby's, Ltd., crane manufacturers, 56, Victoria-st., London, S.W.

Applegarth, R., electrical engineer, 11, Queen Victoria-st., London, E.C. (Telegs.: "Scaphandre, London." Teleph. No. 2059, Central.)

Appleyard, Rollo, A.M.I.C.E., electrician, 79, St. Mary's Mansions, Paddington, London, W.

APPS, A., M.I.E.E., maker of surveying & electrical instruments to the Government, 433, Strand, London, W.C.

ARC LAMPS, LTD. (W. J. DAVY ARC LAMPS), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Management, London;" "Voltarcon, London." Teleph. Nos.: P.O. 2967, Central; & 220, North.) Works: St. Paul's-crescent, St. Paul's-rd., N.W. Registered July 11, 1901. Nominal capital: £60,000 in £1 shares. Issued: 55,300 shares fully paid. Directors: C. W. Milne, Esq. (chairman); Captain E. I. Bax; G. McFarlane, Esq.; A. E. Bennett, Esq.; W. J. Davy, Esq. (managing). Secretary, Wm. S. Gregg. Dividends: 1903, 6 per cent.; 1904, *interim* dividend at rate of 5 per cent. for first half year to July 31. *See inset advt.*, ARC LAMPS.

Archdale, James, & Co., lathe makers for electricians, Manchester Works, Ledsam-st., Birmingham. (Telegrams: "Archdale, Birmingham." Telephone No. 3558.)

Archer, Augustus, A.M.I.E.E., 30, Egerton-rd., Chorlton-cum-Hardy, Manchester.

Archer, G., chief assistant engineer, Electricity Supply Station, Fleet-st., Dublin.

Archer, Ralph M., A.R.C.SC., B.SC., M.I.E.E., 59, Fife-st., Crewton, nr. Derby.

Archer, T. J., station superintendent, Corporation Electricity Works, Walsall.

Archer, W. H., electric light engineer, Hanover-rd., Scarborough.

Archer, W. F., & Sons, electric bell & electric fittings manufacturers, 73, Lord-st., Liverpool.

Archives of the Roentgen Ray & Allied Phenomena (monthly, 1*s.* 6*d.*; extra postage, 2*d.*; ann. sub., 16*s.*, post free in advance), Rebman, Ltd., 129, Shaftesbury-ave., London, W.C. (Telegs.: "Squama, London." Teleph. No. 2026, Gerrard); & Rebman Co., 1123, Broadway, New York.

Archway Hardware Stores, electric bell fitters & contractors, 98, Archway-road, Highgate, London, N.

Arculus, A., & Co., globes for electric lighting purposes, in flint, opal, alabastrine, 295, Broad-street, Birmingham. (Telegrams: "Arculus, Birmingham." Telephone No. 910.)

Ardrey, J., electrical agent, 43A, High-st., Belfast. (Telegs.: "Ardrey, Belfast." Teleph. No. 1134.)

Ardron, J., C.B., A.I.E.E., assistant secretary, G.P.O., London, E.C.

Armfield, Joseph John, & Co., consulting engineers, makers of the British Empire turbine, 20, Mark-lane, London, E.C. (Telegrams: "Transformation, London." Telephone No. 2409, Central); & Vale of Avon Ironworks, Ringwood, Hampshire. (Telegrams: "Armfield, Ringwood.")

Armistead, William, electrical engineer, joint manager Thomas Parker, Ltd., Wolverhampton. (Telegrams: "Armistead, c/o Coils, Wolverhampton." Telephone No. 34.)

Armitage, Arthur, A.M.I.E.E., chief assistant engineer, Electricity Dept., Talbot-st., Nottingham.

Armitage, D., A.M.I.E.E., 15, Evering-rd., Stoke Newington, N.E.

Armitage, R., J.P., M.P., Farnley, nr. Leeds. Director Yorkshire Electric Power Co.; director Electrical Distribution of Yorkshire, Ltd.

Armitage, T. A., electrical engineer, 44, Buxton-rd., Huddersfield. (Nat. Teleph. No. 303.)

Armitage & Co., electrical engineers & contractors, 27A, Gloucester-st., Queen-sq., London, W.C. (Telephone No. 4677, Holborn.)

ARMORDUCT MANUFACTURING CO., LTD., conduit & cable manufacturers, 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct, London;" "Armorduct, Warrington;" & "Armorduct, Newcastle-on-Tyne." Teleph. Nos.: 1394, Holborn, London; 2827, Central, Newcastle; & 114, Warrington.)

Armoured Concrete Construction Co., conduits, 5, Westminster Palace-gardens, London, S.W.

Armstrong, C., electric lighting contractor, Eastgate-row, Chester. (Telegrams: "Armstrong Bros., Chester." Telephone No. 21 Y5.)

Armstrong, E., local manager & engineer, National Telephone Co., 52, Cambridge-rd., Hastings.

Armstrong, E. F., PH.D., consulting chemist, 55, Granville-park, Lewisham, S.E.; & Central Technical College, Exhibition-rd., S.W., London.

Armstrong, Frank, A.M.I.E.E., Whitehall, Clevedon, Somersetshire.

Armstrong, F. C., A.M.I.E.E., c/o Dick, Kerr & Co., Abchurch Yard, Cannon-st., London, E.C.

Armstrong, G. H., A.I.E.E., electrical engineer & electric light contractor, Chester-le-Street. (Telephone Nos.: 12, Nat.; & 15, P.O.)

Armstrong, John, electrical engineer & contractor, West Tower-st., Carlisle.

Armstrong, J. A., A.I.E.E., electrical engineer, 34, Oakley-rd., Ranelagh, Dublin.

Armstrong, John H., St. Nicholas-chbrs., Newcastle-on-Tyne. Director Newcastle-on-Tyne Electric Supply Co., Ltd.; director Tyneside Tramways & Tramroad Co.; director Priestman Power Co., Ltd.; chairman County of Durham Electric Power Supply Co.; director County of Durham Electrical Power Distribution Co.

Armstrong, M. F., 8, Upper Wimpole-st., W. Director Electric Lighting & Traction Co. of Australia, Ltd.; director British Eastern Electric Power Co., Ltd.

Armstrong, Prof. H. E., PH.D., F.R.S., professor of chemistry, City & Guilds of London Central Institution, Exhibition-road, London, S.W.

Armstrong, Rt. Hon. Lord, 93, Eaton-sq., S.W. Chairman De Forest Wireless Telegraph Synd., Ltd. Chairman Tyneside Tramways & Tramroad Co.

Armstrong, Addison & Co., creosoted telegraph poles, Sunderland.

Armstrong & Co., electricians & engineers, Twickenham, London, S.W. (Telegrams: "Armstrongs, Twickenham.")

Armstrong College, Newcastle-on-Tyne. (Teleph. No. 2570.) *See* SCHOOLS.

Armstrong & Hogg, installation contractors, 16, Stafford-st., & 43, Grindlay-st., Edinburgh. (Tel. No. 2041.)

Armstrong, J., & Co., electrical engineers, 21, Grafton-st., Bond-st., London, W. (Telegs.: "Thorium, London." Teleph. No. 3178, Mayfair.)

Armstrong, Sir W. G., Whitworth & Co., Ltd., mechanical engineers, &c., Elswick Works, Newcastle-on-Tyne. (Telegrams: "Elswick, Newcastle-on-Tyne." Telephone No. 1008.) London office: 8, Great George-st., S.W. (Telegrams: "Jesmond, London." Telephone No. 229, Westminster.)

ARMSTRONG, STEVENS & SON, manufacturers of electricians' tools & appliances, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt.*, BOLTS, SCREWS, NUTS, &C.

Arnison, G. N., & Sons, wiring contractors, 42, Borough-rd., Sunderland.

Arnold, Edward W., A.M.I.E E., Redbourn Bury, St. Albans.

Arnold, H. R., Furze Bank, Malvern. Director Kidderminster & District Electric Lighting & Traction Co., Ltd.; director Kidderminster & Stourport Electric Tramway Co.; director Banbury & District Electric Supply Co., Ltd.; director Worcester Electric Traction Co., Ltd.

Arnold, J. E., civil & electrical engineer, 9, Camden-st., Islington, London, N.

Arnold, A. G., & Son, electrical engineers, Market-st., Newport. (Telegs.: "Arnolds, Newport." Teleph. No.: Nat. 118. Night Teleph. No. 0673, Nat.)

Arnold & Sons, electrical & medical instrument makers, 26, 30 & 31, West Smithfield, & 1, 2, 3, 18 & 19, Giltspur-st., E.C. (Telegrams: "Instruments, London." Telephone No. 518, Holborn.)

Arnot, J. F., director Delagoa Bay Development Corporation, Ltd., 85, Gracechurch-st., London, E.C.

Arnot, William, M.I.C.E., M.I.E.E., M.I.M.E., electrical engineer, consulting electrical engineer, 163, Hope-st., Glasgow. (Telegs.: "Induction, Glasgow." Teleph. No. Nat. 638, Argyle.)

Aron Electricity Meter, Ltd., electricity meter & electric clock manufacturers, 80A, Salusbury-rd., Kilburn, N.W. (Teleph. No. 1865, Paddington.) Registered Aug. 25, 1898. Nominal capital: £250,000 in £1 shares (125,000 of which are preference). £75,000 debentures. Issued: all the ordinary, considered as paid, & all the preference, fully paid, & £60,000 debentures. Directors: H. Hirst, Esq. (chairman); Sir James Pender, Bart.; S. Barclay Heward, Esq.; H. Kahn, Esq.; Col. R. E. B. Crompton, C.B.; R. W. Wallace, Esq., K.C.; Geheim. Rath. Prof. Dr. H. Aron (managing). Engineer, E. Dormann; secretary, M. Aron, F.C.I.S. Dividends: 1900, 6 per cent. on preference, with ½ per cent. bonus, & 12 per cent. on ordinary; 1901, 6 per cent. on preference; 1902 & 1903, *nil*; 1904, 2½ per cent.; 1905, 4½ per cent. on account of arrears of preference dividend.

Aronsberg, A., electrician & optician, 12, Victoria-street, Manchester.

Aronsberg, Chas., electrician, 24, Manchester-st., Liverpool. (Telephone No. 6683, Central.)

Art Fittings, Ltd., manufacturers of electrical fittings & art metal workers, 112, Victoria-st., Westminster, London, S.W. (Telegrams: "Artifex, London." Telephone No. 724, Westminster.)

Arthur, Allan, A.M.I.C.E., A.I.E.E., electrical engineer, 192A, St. Vincent-st., Glasgow.

Arthur, A. J., engineer, Tonyrefail & Gilfach Goch Electric Light Co., Ltd., Mill-st., Tonyrefail.

Arthur, H. H., A.M.I.E.E., Urban District Council's Electricity Works, Ilford.

Arthur, Allan & Ure, electrical engineers & contractors, 192A, St. Vincent-st., Glasgow. (Corp. Telephone No. 3945.)

Arundell, Wm. H., A.I.E.E., electrical engineer, Market-st., Maidenhead.

Asbestos & Asbestic Co., Ltd. (Turners & Manville, Ltd., sole agents), asbestos mine owners & manufacturers, 81, Fenchurch-st., London, E.C. (Telegs.: "Asbestino, London." Teleph. Nos. 1458 & 1437, Avenue.)

Asbestos Fireproof Paint Co., Ltd., paint manufacturers, 34, Deansgate, Manchester. (Telegrams: "Salamander, Manchester." Nat. Telephone No. 1697.) Works: Norwood-rd., Birmingham. (Telegrams: "Asbestos, Birmingham." Nat. Telephone No. 1392.)

Asbestos & Rubber Co., Ltd., indiarubber, gutta-percha & asbestos manufacturers, Hull.

Ash, Herbert Dudley, A.M.I.E.E., 192, Heaton-rd., Newcastle-on-Tyne.

Ash, Wm. H., superintendent, Eastern Telegraph Co., Porthcurno, Treen, R.S.O., Cornwall.

Ashberry, P., & Sons, Ltd., electro-platers & gilders, 21, Bowling Green-st., Sheffield. (Telegrams: "Britannia, Sheffield.")

Ashby, C. F., district manager (East Kent), National Telephone Co., Ltd., 39, St. George's-st., Canterbury. (Teleph. No. 81.)

Ashby, Geo. F., electric bell manufacturer, 184, King's-road, Chelsea, London, S.W.

Ashby, J., J.P., The Old Bank, Staines. Chairman Woking Electric Supply Co., Ltd.

Ashby, Jos. A., electrical engineer, John Davis & Son (Derby), Ltd., All Saints' Works, Derby.

Ashby, Morris, Ltd., zinc merchants, 17, Laurence Pountney-lane, London, E.C. (Telegrams: "Ashby, London.")

Ashcroft, A. G., assistant professor of engineering, City & Guilds Central Technical College, Exhibition-rd., London, S.W.

Ashford, H. Leonard, designer of electrical fittings, 5, John-st., Adelphi, London, W.C.

Ashford & District Electric Supply Co., Ltd., 118, Queen Victoria-st., London, E.C. Registered Dec. 12, 1903. Nominal capital: £1000 in £1 shares. Directors: G. D. Handley, Esq.; E. W. Oakley, Esq.; W. T. Pressland, Esq. Electrical engineer, A. J. Fippard; secretary, J. W. Cranfield.

Ashlin, F. J. W., A.M.I.E.E., 30, Thornhill-rd., Handsworth, Birmingham. (Local Teleph. No. 0566, Handsworth.)

Ashton, A. G., A.I.E.E., electrician, Royal Laboratory, Woolwich Arsenal, London, S.E.

Ashton, A. W., M.SC., head of Electrical Engineering Department, Battersea Polytechnic, London, S.W.

Ashton, F. S., A.M.I.E.E., 63, Chapel-rd., Sale.

Ashton, Harold, electrical engineer & contractor, 8 & 10, Bull's Head-yard, Manchester. (Nat. Teleph. No. 268, X.)

Ashton, John, district manager, National Telephone Co., Telephone-bldgs., Rutland-st., Leicester.

Ashton, John H., electrical engineer, 104, Sheen-rd., Richmond, Surrey.

Ashton & Holt, electrical engineers, Ryde.

Ashton, J., & Son, leather belt & leather link belt makers, Gorton Tannery, nr. Manchester. (Telegrams: "Straps, Gorton." Nat. Teleph. No. 3, Openshaw. A.B.C. Code.)

Ashstone & Shepstone, installation contractors, 183 & 185, Above Bar, Southampton. (Telegs.: "Electricity, Southampton." Teleph. No. 288.)

Ashton, T. A., Ltd., electrical engineers, 36–42, Norfolk-st., & Change-alley, Sheffield. (Telegrams: "Ashton, Sheffield." Telephone Nos. 12, 1810 & 1561.)

Ashton-under-Lyne Corporation Electricity Works & Electric Tramways. (Nat. Telephone No. 201.) N. Appelbee, engineer; J. W. Dugdale, tramway manager.

Ashworth, J. R., D.SC., head of electrical engineering department, Municipal Technical School, Rochdale.

Ashworth, Geo. L., & Bros., earthenware manufacturers for electrical purposes, Broad-street, Hanley; 26, Ely Place, London, E.C. (Telegrams: "Ashworth, Hanley." Telephone No. 35.)

Ashworth & Parker, builders of high speed steam engines, Bury, Lancs.

Askew, Jas., A.M.I.E.E., 6, Talbot-rd., Penwortham, Preston, Lancs.

Aspinall, A., resident engineer, Corporation Electricity Works, Brighouse, Yorks.

Aspinall, Frank Boulton, M.I.E.E., City of London Electric Light Station, Bankside, S.E.

Aspinall, J. A. F., general manager, Lancashire & Yorkshire Railway Co., Hunt's Bank, Manchester.

Aspinall, R., electrician, c/o J. Sunderland & Co., 183, Gibbet-st., Halifax.

Aspinall, Wm. L., analytical & consulting chemist & assayer, Chemical Laboratory, Cowper-st., E.C.; & 3, Savage-gdns., E.C.

Assersohn, D., electric lighting contractor, 20, Commercial-st., E. (Teleph. No. 9357, London Wall.)

Association of Engineers-in-Charge, St. Bride's Foundation Institute, Bride-lane, London, E.C. President, W. T. Hatch, M.I.C.E., M.I.MECH.E.; hon. sec., Hy. Capsey, 112, Melbourne-grove, East Dulwich, S.E.

Association of Municipal Corporations, 9, Bridge-st., Westminster, London, S.W. (Telegs.: "Pritchard, London." Teleph. No. 3169, Gerrard.) Sir J. T. Woodhouse, president; J. Harmood Banner, M.P., vice-president; A. Goring Pritchard, secretary.

Association of Technical Institutions. President, Sir Philip Magnus; chairman of the Council, W. E. Sumpner, D.SC., M.I.E.E., principal Municipal Technical School, Birmingham; hon. secretary, S. H. Wells, principal Battersea Polytechnic, Battersea, London, S.W.

Astbury, Chas., resident electrical engineer, Urban District Council Electricity Works, Atherton, Lancs.

Astbury, W. H., lathe & machine tool maker, Brougham-chbrs., Wheeler-gate, Nottingham.

Aster, Ltd., machinery manufacturers, 407, Oxford-st., London, W.

Aston, E. A., A.I.E.E., 2, Seafield-ter., Clontarf, Dublin.

Aston Bros., electrical contractors, Aston's Quay, Dublin.

Aston Bros., Ltd., electrical engineers, 38, Donegall-st., Belfast. (Telegs.: "Dynamo, Belfast." Teleph. No. 731.)

Aston-Manor Corporation Electricity Works, Chester-st., Aston-Manor, nr. Birmingham. (Telephone No. 18, Birmingham.) Borough electrical engineer, R. Foster.

Aston Manor Technical School, Aston, Birmingham. *See* SCHOOLS.

Atchison, A. F. T., B.SC., A.I.E.E., Hillside, Langley Park, Sutton, Surrey.

Atchison, C. C., M.I.E.E., borough & tramways electrical engineer, Rochdale.

Atchley, C. A., electrical engineer, Baltic-chbrs., 50, Wellington-st., Glasgow. (Telegs.: "Bowden, Glasgow." Teleph. No. 221, Argyle, Glasgow.)

Atherley-Jones, L. A., K.C., M.P., 25, Pembroke-rd., Kensington-gdns., W. Director Oldham, Ashton & Hyde Electric Tramway, Ltd.

Atherton, Jacob, Hurst Park, nr. Prescot, Lancs.; & York House, Norfolk-st., London, W.C. Chairman South London Electric Supply Corp., Ltd.; director New St. Helens & District Tramways Co., Ltd.

Atherton Technical School, Atherton, Lancs.

Atherton Urban District Council Electricity Works, Atherton, Lancs. Consulting engineer, T. L. Miller; resident engineer, C. Astbury.

Atkey, Pascall & Son, electric light engineers, 29 & 30, High-st., 2, Railway-st., & Medina River Wharf, West Cowes. (Teleph. No. 57, Y.)

Atkin, F. C. D., A.M.I.E.E., 12, Leighton-cres., Leighton-rd., London, N.W.

Atkins, H. C., A.R.S.M., A.I.E.E., St. Leonard's, Poplar-ave., Edgbaston, Birmingham.

Atkins, R. A., J.P., local director National Telephone Co., 91, South Mall, Cork.

Atkins Filter Engineering & Water Softening Co., Ltd., 71, Southwark Bridge-rd., London, S.E.

Atkinson, Claude W., A.M.I.C.E., consulting engineer, 2, Queen Anne's Gate, S.W.; & managing director Engineering Instruments, Ltd., Tyndale Works, Upper-st., London, N.

Atkinson, Llewelyn B., A.M.I.C.E., M.I.E.E., civil & electrical engineer, 30, Veronica-rd., Upper Tooting, London, S.W. Director W. T. Glover & Co., Ltd.; director Trafford Power & Light Supply (1902), Ltd.

Atkinson, R., Ingleton, Yorks. Director Ingleton Electric Lighting & Power Co., Ltd.

Atkinson, W., Ingleton, Yorks. Director Ingleton Electric Lighting & Power Co., Ltd.

Atkinson & Co., electric light engineers, Railway-st., Chatham.

Atlas Carbon & Battery Co., Ltd., makers of batteries, carbons, carbon brushes, &c., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.") The last return filed shows that out of a nominal capital of £2000 in £1 shares, the whole of the shares have been taken up & are paid up in full. *See* BATTERIES—DRY, GALVANIC, PRIMARY, CARBON RODS, DYNAMO BRUSHES, MANGANESE MERCHANTS, MOTOR CAR CELLS, & ZINC RODS.

Atlas Engineering Co., machine tool makers, Levenshulme, Manchester. (Telegrams: "Atlas Works, Levenshulme." Telephone No. 95, Rusholme.)

Attwater & Sons, steam & hydraulic engine packing manufacturers, Hopwood-st. Mills, Preston. (Telegrams: "Attwater, Preston." Nat. Telephone No. 45.)

Aubert, Wm., jun., consulting engineer, 16 & 18, Harp-alley, St. Bride's-st., London, E.C.

Aublett, Harry, & Co., Ltd., electrical engineers, 53, Curtain-rd., E.C. (Telegrams: "Aublett, London." Telephone No. 74, London Wall.)

Auckland Electric Tramways Co., Ltd., Donington House, Norfolk-st., London, W.C. Registered March 22, 1899. Nominal capital: £300,000 in £10 ordinary shares, all issued & fully paid, & £300,000 debentures. Two mortgages, dated Dec. 18, 1905, supplemental to a trust deed, dated July 14, 1903, & to an acknowledgment of indebtedness, dated Dec. 8, 1903, to secure £285,100 5 per cent. first mortgage debenture stock created by resolution of July 7, 1903, & fully paid, were registered on May 17, 1906, by permission of the Court. Directors: C. G. Tegetmeier, Esq. (chairman); C. S. B. Hilton, Esq.; P. M. Hansen, Esq.; R. P. Simpson, Esq. Electrical engineer, M. F. Carey; secretary, W. F. Herring.

Aulagnier, Louis E., A.M.I.E.E., 3, Ravensfield Villas, Church-rd., Hendon, N.W.

Auld, Wm., & Sons, electrical engineers, 70, Sandgate, & 48, Fort-st., Ayr. (Nat. Teleph. No. 5, X.)

Ault, Edwin, consulting engineer, 47, Victoria-st., London, S.W. (Telegrams: "Gradients, London.")

Ault, R. A., electrical engineer, 73, Talbot-st., Southport. (Telegrams: "Ault, Southport." Telephone No. 224, Southport.)

Aulton, F. P., A.I.E.E., 287, Tettenhall-rd., Wolverhampton.

Aust, J. F., electrical engineer, Shelton Coal, Iron & Steel Co., Stoke-on-Trent.

Austen, J. S., 68, Dashwood House, New Broad-st., E.C. Director Venezuela Telephone & Electrical Appliances Co., Ltd.; director South Lancashire Electric Supply Co., Ltd.; director Lancashire United Tramways, Ltd.; director New St. Helen's & District Tramways Co., Ltd; director Lancashire Light Railways, Ltd.

Austin, E. P., deputy borough electrical & tramways engineer, Corporation Electricity Works, Chesterfield.

Austin, H. S. E., A.M.I.E.E., assistant engineer, Corporation Electricity Works, Duke-st., Norwich.

Austin & Co., electrical engineers, 8, Leadenhall-st., London, E.C. (Teleph. No. 10503, Central.)

Austin & Son, electric light contractors, 4 & 6, Sandall-rd., London, N.W.

Australasian Hardware & Machinery (monthly; ann. sub., 5s.), 42, Cannon-st., London, E.C. (Teleph. No. 852, Bank.)

Austwick, Percival Charles, A.I.E.E., 423, Birkbeck Bank-chbrs., Holborn, London, W.C.; & Longleat, Sidcup, Kent.

Autocar (weekly), 20, Tudor-st., London, E.C. (Telegs.: "Cyclist, London." Teleph. Nos. 1201 & 1731, Holborn); & 19, Hertford-st., Coventry. (Teleph. No. 10.) (Price 3*d.*)

Auto Claw Co., Ltd., electrical & mechanical engineers, 38, Beech-st., Barbican, London, E.C.

Auto-Controller & Switch Co., Simplex Works, Vienna-rd., Jamaica-rd., Bermondsey, London, S.E. (Nat. Teleph. No. 2660, Hop.)

Automatic Electric Block Signalling Co., Ltd., 302, Finsbury Pavement, London, E.C.

Automatic Electric Co., Ltd., electrical automatic advertising machine manufacturers, 12, St. John's-lane, Liverpool.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGRAMS: "STANDARD.")

Auxiliary Electrical Co., Ltd., Salisbury House, London Wall, London, E.C.

Avens, Frederick, & Co., gas & oil engine makers, Trusty Engine Works, Stroud, Glos. (Telegs.: "Avens, Stroud." Teleph. No. 143, Y. 2.)

Avery, A. H., A.I.E.E., dynamo & electric machine manufacturer, Fulmen Works, Park-st., Tunbridge Wells. (Telegrams: "Avery, Engineer, Tunbridgewells.")

Avila, John F., A.M.I.E.E., London & South of England manager of Simplex Conduits, Ltd., Mansion House-chbrs., London, E.C. (Telegs.: "Audiphone, London." Teleph. No. 6052, Bank.)

Ayr Corporation Electricity Supply Works & Tramways, Ayr. Roland Marshall, burgh elec. engr.

Ayres, A., M.I.C.E., Ashleigh, Truro-rd., Wood Green, N. Director Coatbridge & Airdrie Electric Supply Co., Ltd.

Ayres, S. M., electrical & mechanical engineer & dealer in all kinds of electrical goods, 6, Leather-lane, Carrick-on-Suir, Ireland.

Ayrton, Mrs. Hertha, M.I.E.E., 41, Norfolk-sq., London, W.

Ayrton, Prof. W. E., F.R.S., M.I.E.E., consulting electrician & electrical engineer, Dean, & professor of electrical engineering, Central Technical College, Exhibition-rd., S.W.; & 41, Norfolk-sq., London, W.

Ayrton, William, & Co., engineers, machinists & tool makers, Gorebrook Iron Works, Longsight, Manchester. (Telegrams: "Spooler, Manchester." A.B.C. Code.)

Ayton, Frank, A.M.I.E.E., chief engineer & manager Corporation Electric Supply & Tramways Departments, Ipswich.

B. N. C., Ltd., electric lamp manufacturers, 7, Great St. Helens, London, E.C.

Babb, H., assistant engineer, Electricity Supply Co., Dartmouth.

Babbage, T., electrician, 38, West Exe, Tiverton.

BABCOCK & WILCOX LTD., engineers & patent water tube boiler makers, Oriel House, 30, Farringdon-st., London, E.C. (Telegrams: "Babcock, London." Telephone Nos. 1741, 1742 & 1744, Holborn); 29, St. Vincent-pl., Glasgow (Telegrams: "Babcock, Glasgow." Telephone No. 3110); 14, Deansgate, Manchester (Telegrams: "Babcock, Manchester." Telephone No. 3112); & Renfrew. (Telegrams: "Babcock, Renfrew." Telephone No. 4652.) *See advt., page* 6.

Bablake School of Science, Coventry. *See* SCHOOLS.

Bacchus, H., electric light & power contractor, Bedford.

Bache, Walter J., M.I.E.E., borough electrical engineer, Arle-rd., Cheltenham. (Teleph. No. 106.)

Back & Manson, metal merchants & representatives of John A. Roeblin's Sons Co. of New York, 36, New Broad-st., E.C. (Telegs.: "Back Manson, London." Teleph. No. 2592, London Wall.)

Backer, H. de, 1, rue de la Révolution, Brussels. Director Chilian Electric Tramway & Light Co., Ltd.

Bacon, A. R., A.M.I.E.E., resident engineer, County of London Electric Supply Co., Ltd., City-rd., E.C.

Bacon, J. J. C., A.I.E.E., 39, South-st., Ponders End, London, N.

Bacon, T. H., A.I.E.E., 29, Atherton-rd., Forest Gate, E.

Bacon, Thos. Henry, electrical engineer, 3, Budge-row, Cannon-st., E.C. (Telegs.: "Rostator, London." Teleph. No. 3577, London Wall.)

Bacon, T. W., A.I.E.E., Ramsden Hall, Billericay, Essex.

Bacon, W., district representative Siemens Bros. Dynamo Works, Ltd., 32, Bridge-st., Bristol.

Bacon & Curtis, Ltd., electric light apparatus manufacturers, High-st., Poole (Telephone No. 4); & 9, Regent's-terrace, Bournemouth. (Telephone No. 11.)

Badger, J., & Co., electric light apparatus manufacturers, 15, Summer-row, Birmingham.

Badger & Sons, malleable iron & steel castings, Long Croft Works, Wadsley Bridge, Sheffield.

Badger, Sons, & Co., Ltd., mechanical & electrical engineers, Cupola Works, Masbrough-st., Rotherham.

Badische Co., Ltd., acid manufacturers, 22, Bush-lane, London, E.C. (Telegrams: "Badische, London." Telephone No. 839, Bank.)

Badman, W. J., electrical engineer, Orchard-st., Weston-super-Mare (Nat. Telephone No. 9, X.); & Mount-st., Bridgwater. (Nat. Telephone No. 20 X. 3.)

Badois, V. C., electric light, bell, telephone & fire alarm contractor, 26, Victoria-st., Windsor.

Badoureau & Jones, Ltd., electrotypers, Poppin's-ct., Fleet-st., E.C.

Baeuerle, T., & Söhne, clockwork for electrical purposes, represented by L. F. Brunner, 279, Romford-rd., Forest Gate, E.

Baerlein & Co., engineers & export merchants, 12, Blackfriars-street, Salford, Manchester. (Telegrams: "Baerlein, Manchester." Nat. Telephone No. 503.)

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Bagguley & Wood, electrical engineers, 23, High-st., Newcastle, Staffs.

Bagnall, J., & Son, steel forgings for electrical purposes, Langley Forge, Oldbury, near Birmingham. (Telephone No. 10,003.)

Bagnold, Colonel A. H., R.E., M.I.E.E., superintendent, Building Works, Ordnance Factories, Royal Arsenal, Woolwich (Telegs.: "Construct, Woolwich." Telephone No. 88, Woolwich); & Warren Wood, Shooters Hill. (Telephone No. 233, Woolwich.)

Bagot, H. W., A.M.I.E.E., c/o Claud Hamilton, Ltd., 247, St. Vincent-st., Glasgow.

Bagshaw, J., & Sons, Ltd., clutch & pulley manufacturers, Victoria Foundry, Batley, Yorkshire. (Telegrams: "Bagshaw, Batley." Telephone No. 46.)

Bailey, Frank, M.I.C.E., M.I.E.E., electrical engineer, 64, Bankside, London, S.E. Director Metropolitan Electric Supply Co., Ltd.; director Uxbridge & District Electric Supply Co., Ltd.; director City of London Electric Lighting Co., Ltd.

Bailey, G., electrician, 10, Princess-st., Wolverhampton. (Telephone No. 2 X. 1.)

Bailey, H., A.I.E.E., electrical engineer & contractor, Sunny Bank, Blackburn.
Bailey, James, Central Telegraph Office, General Post Office, London, E.C.
Bailey, Wm. Jos., A.M.I.E.E., Postal Telegraphs, Sunderland.
Bailey, H., & Co., electrical engineers & contractors, 52 & 54, Blackburn-rd., Accrington. (Telegs.: "Bailey, Electricians." Telephone No. 24 Y. 5.)
Bailey, M., & Co., experimental glass blowers, Triumph Works, Church-path, Newington Green, London, N. (Telephone No. 1875, Dalston.)
Bailey & McConnell, electrical engineers, Bridge-st., Walsall.
Bailey, S. G., & Co., Ltd., manganese & crushed carbon manufacturers, Stafford Mills, Stroud, Gloucester. (Telegrams: "Manganese, Stroud." Telephone No. 59, Stroud.) London office: 9, Moorgate-court, E.C. (Telephone No. 9518, London Wall.)
Bailey, W. H., & Co., Ltd., recording instrument makers, Albion Works, Salford, Manchester. (Telegrams: "Beacon, Manchester." Telephone No. 991.)
Bailey, W. & J. A., glass manufacturers, Alloa Flint Glass Works, Alloa (Telegrams: "Bailey, Alloa"); & 32, Hatton Garden, London, E.C.
Bailie, J. D., A.M.I.E.E., Messrs. C. A. Parsons & Co., Peacocks-bldgs., Park Row, Leeds. (Telegrams: "Turbo, Leeds." Telephone No. 1194.)
Baillie, David, superintendent Pinkston Power Station, Corporation Tramways, Glasgow.
Baillie, G. H., consulting electrical engineer, Messrs. Swinburne, Cooper & Baillie, 82, Victoria-st., Westminster, S.W. (Telegrams: "Swooper, London." Telephone No. 292, Westminster.) Director Woodhouse & Baillie Riviera Electricity Co., Ltd.
Baillie, T. C., M.A., D.SC., teacher of physics & electrical engineering, Technical College, Sunderland.
Baily, Francis G., M.A., M.I.E.E., professor of electrical engineering & applied physics, Heriot Watt College, Edinburgh.
Baily, T. H., Temple-chbrs., Temple-ave., London, E.C. Director Fleetwood & District Electric Lighting & Power Syndicate, Ltd.
Baily, Grundy & Barrett, Ltd., electrical engineers, 2, St. Mary's-passage, Cambridge. (Teleph. No. 54.)
Baily, Wm., & Sons, electric bell fitters & contractors & art metal workers, 71, Gracechurch-st., London, E.C. (Telephone No. 5919, Avenue.)
Bain, L. G., A.M.I.E.E., Corporation Electricity Department, Fawcett-st., Sunderland.
Bain, R. Stewart, C.A., managing director The London Electric Supply Corporation, Ltd., 25A, Cockspur-st., London, S.W. Chairman Engineering Instruments, Ltd.
Bainbridge, Geo., electrical work, Vine-place, Sunderland.
Bainbridge, J. W., steel castings, 143, 145 & 147, Rosebery-ave., London, E.C.
Bainton, A. W., chairman Adams-Randall Telephone Patents Co., Ltd., 65, New Broad-st., London, E.C.
Bainton, L. H., A.M.I.E.E., S. Pearson & Son, Admiralty Harbour Works, Dover.
Baird, Andrew H., scientific instrument maker & chemical dealer, 33–39, Lothian-st., & 2 & 4, Brighton-st., Edinburgh. (Telegrams: "Radium, Edinburgh." Telephone No. 916.)
Baird, T., electrical & scientific instrument maker, 34, Queen-street, Glasgow.
Baird, John, Ltd., makers of electric light shades, 99, Milton-st., Port Dundas, Glasgow. (Telegrams: "Beveller, Glasgow." Telephone No. 1499.)
Baird & Tatlock, manufacturing electricians & chemical & glass apparatus manufacturers, 45, Renfrew-st., Glasgow (Telegs.: "Technical, Glasgow." Teleph. No. 3967); 7, Teviot-pl., Edinburgh (Telegs.: "Science, Edinburgh"); & 164, Brownlow Hill, Liverpool. (Telegs.: "Physical, Liverpool.")
Baker, C. Ashmore, A.I.E.E., 66, Victoria-st., London, S.W.
Baker, Chas. A., M.I.E.E., electrical engineer, L.C.C. Electric Lighting, Generating Station, Victoria Embankment, London; & 17, Pandora-rd., West Hampstead, N.W.
Baker, C. C., 1, Gresham-bldgs., London, E.C. Director Kalgoorlie Electric Tramways, Ltd.
Baker, C. K., A.R.S.M. Lond. & F.I.C., analytical chemist & gas examiner to the Sheffield Corporation, 16, Change Alley, Sheffield.
Baker, D., Folkestone. Director Folkestone Electricity Supply Co., Ltd.
Baker, Frank, B.SC., A.M.I.C.E., electrical engineer, Electric Construction Co., Wolverhampton.
Baker, G. H., A.M.I.E.E., station supt., Hornsey Electricity Works; & 17, Park-ave., Hornsey, N.
Baker, H. H. S., A.M.I.E.E., Westminster Electric Supply Corp., Davies-st., Mayfair, London, W.
Baker, P. M., B.SC., professor of technology, Municipal Technical School, Wolverhampton.
Baker, P. W., electric lighting contractor, 42, Windsor-st., Uxbridge.
Baker, R., electricity fittings supt., Gas Offices, Bolton. (Telegs.: "Gas, Bolton." Teleph. No. 163.)
Baker, Sir B., K.C.B., K.C.M.G., F.R.S., M.I.E.E., consulting engineer, 2, Queen-sq.-pl., Westminster, London, S.W. (Telegrams: "Oligist, London." Teleph. No. 33, Westminster.)
Baker, T. W., A.M.I.C.E., A.M.I.M.E., electrical & general consulting engineer, Broad-st. House, E.C. (Telephone No. 8389, Central.)
Baker, W. J. Rendell, resident engineer, Urban District Council, Malvern.
Baker, Bauer & Co., electrical engineers & manufacturers' agents, 3, Garden-st., Withy Grove, Manchester. (Telegrams: "Nicotine, Manchester." Telephone No. 08611, Manchester.)
Baker Bros., wiring contractors, Yarm-lane, Stockton-on-Tees.

Baker & Co., electrical engineers, Mulgrave-rd., Sutton, Surrey.

Baker & Farnfield, electrical engineers, Victoria-rd., Bexhill.

Baker, Joseph, & Sons, Ltd., mechanical & electrical engineers, Willesden Junction, London, N.W.; & 58, City-rd., London, E.C. (Telegs.: "Bakers, London.")

Baker & Shelford, consulting engineers, 35A, Great George-st., Westminster, London, S.W. (Telegrams: "Usefulness, London." Telephone No. 267, Westminster.)

Baker & Startin, mica brokers & miner's agents, 19, St. Dunstan's Hill, London, E.C. (Telegrams: "Startin, London." Lieber's, A.B.C. & A1 Codes used. Telephone No. 4424, Avenue.)

Baker-st. & Waterloo Railway. Offices: Hamilton House, Victoria Embankment, London, E.C. Nominal capital: £2,013,000 in £10 ordinary shares, £660,000 in £10 4 per cent. preference shares & £661,000 debenture stock. Issued: 1,025,730 ordinary & all the preference shares, & £656,600 debenture stock. Directors: T. J. Hare, Esq. (chairman); Admiral Sir Cyprian A. G. Bridge, G.C.B.; Sir Geo. S. Gibb; Major-General C. S. Hutchinson, C.B.; Rt. Hon. Sir Algernon West, G.C.B.; A. Willis, Esq. Secretary, W. E. Mandelick.

Baker's Patent Appliances Co., Ltd., makers of oil separators, Melrose-st. Works, Scarborough. (Telegs.: "Patent, Scarborough." Teleph. No. 194.)

Bakewell, F. J., A.M.I.E.E., Hillside, St. Margaret's Bay, Dover.

Bakewell, W., electrical contractor, Volt Works, Worksop-rd., Sheffield.

Bakewell, J., & Co., Ltd., electrical & general engineers, 46, King William-st., London, E.C.

Bakser, Alfred, manager Municipal Tramways, Birmingham.

Balcke & Co., cooling towers, 27, Clement's-lane, London, E.C. (Telegs: "Gegenstrom, London." Teleph. No. 10440, Central.)

Baldwin, O. H., director Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow.

Baldwin, F. G. C., A.M.I.E.E., 18, Twyning-road, Edgbaston, Birmingham.

Baldwin, G. J., electrical engineer, 211, Shooter's Hill-rd., Blackheath, S.E.

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Balfour, G., M.I.E.E., electrical engineer, c/o J. G. White & Co., Ltd., 9, Cloak-lane, Cannon-st., E.C.

Balfour, Geo., A.M.I.M.E., The Elms, Bromley, Kent. Managing director Dundee, Broughty Ferry & District Tramways Co., Ltd.

Balfour of Burleigh, The Right Hon. Lord, Kennet, Alloa, N.B. Director London Platino-Brazilian Telegraph Co., Ltd.; director Western Telegraph Co., Ltd.

Ball, A. E., electric clock expert, 38, St. Saviour's-rd. East, Leicester.

Ball, Alfred Falconer, M.I.E.E., Parkside, Gosforth, Newcastle.

Ball, C. Sandys, A.M.I.E.E., A.M.I.MECH.E., electrical engineer, "Monte Rosa," St. Leonards-on-Sea.

Ball, Joseph, lightning conductor erector, York Castle, Oldham. (Telegrams: "Castle, Oldham." Telephone No. 23.)

Ball, R. H., electrical engineer, 24, Cornbrook-st., Old Trafford, Manchester.

Ballantine, J. B., A.M.I.E.E., Edison Ore Milling Syndicate, Richmond, Surrey.

Ballard, A., electrical engineer, 7 & 8, East-st., Chichester. (Telegrams: "Ballard, Chichester." Nat. Telephone No. 2x, Chichester.)

Ballard, F., electrical engineer, 38, Albert-rd., Norbiton, London, S.W.

Balser, C., 7, rue d'Arenberg, Brussels. Director Marconi International Marine Communication Co., Ltd.

Bamber, J. W., manager, Corporation Tramways, Keighley.

Bamford, Geo., electrical engineer, 266, Wellington-rd. South, Stockport.

Bamford, H., M.SC., A.M.I.C.E., lecturer of engineering drawing & design, Engineering Laboratory, The University, Glasgow.

Bamford, W. W., Ltd., electrical & mechanical engineers, Deepwater Pier, Northfleet, Kent.

Bamsay, E., electrical contractor, 126, Fore-st., Exeter.

Banbury & District Electric Supply Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. Registered April 24, 1900. Nominal capital: £25,000 in £10 shares & £12,500 debentures. Issued: 2500 shares with £8 8s. per share paid. Directors: Geo. J. Somerville, Esq. (chairman); H. R. Arnold, Esq.; Geo. Offor, Esq. Managing engineer, A. J. Wray, A.I.E.E.; secretary, H. A. Stagg. Dividends: 1904, 2 per cent.; 1905, *nil.*

Bandovy, R., director International Ethiopian Railway Trust & Construction Co., Ltd., 34, Clement's-lane, London, E.C.

Banfield, Sons & Cole, electrical engineers, 31A, Western-rd., Hove. (Telephone No. 314.)

Bangor Corporation Electricity Works. Engineer, P. F. White.

Banister, Alan N., M.I.M.E., A.M.I.E.E., engineer & manager, Norwich Electric Tramways Co., Norwich. (Telegrams: "Tramways, Norwich." Telephone No. 475.)

Banker, S. M., A.I.E.E., "Helvellyn," Brownlow-road, Bounds-green, London, N.

Banks, O. T., & Co., electrical & mechanical engineers, 49, Mortimer-st., Cavendish-sq., London, W. (Telephone No. 5450, Gerrard.)

Bannatyne, J. FitzGerald, Haldan, Exeter. Director Marconi International Marine Communication Co., Ltd.; director Marconi Wireless Telegraph Co., Ltd.

Banner, J. S. Harmood, M.P., 24, North John-st., Liverpool. (Telegrams: "Harmood, Liverpool." Telephone Nos. 186 & 173.) Chairman Snowdon Mountain Tramroad & Hotels Co., Ltd.; director Midland Electric Corporation (1900), Ltd.; director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of Western Australia, Ltd.; director Midland Electric Corp. for Power Distribution, Ltd.

Bannister, E. C., electric lighting contractor, High-st., Weybridge.

Bannister, John C., A.I.E.E., 48, Church-rd., High-st., Wimbledon, S.W.

Bannister, Wm., J.P., 15, South Mall, Cork. Chairman Chloride Electrical Storage Co., Ltd.

Bannister, Wm., A.I.E.E., 90, Gravelly Hill, Birmingham.

Bannister, W. W., & Co., electrical & general engineers, Crawley, Sussex. (Telegrams: "Bannister, Crawley.")

Barber, A. E., A.M.I.E.E., 127, Whitehorse-rd., West Croydon.

Barber, B., engineer, Oulton Broad Electricity Co., Ltd., Oulton, Lowestoft, Suffolk.

Barber, Cecil, A.I.E.E., works engineer & traffic manager, Corporation Tramways, Bournemouth. (Telegs.: "Tramways, Bournemouth.")

Barber, Henry S., electric bell fitter, 41, Bridge-st., Hereford.

Barber, J. G., electrical engineer, Royce, Ltd., 9, Shirley-rd., Acock's Green, Birmingham.

Barber, J. W., electrical engineer, G.P.O., Market-pl., Hull. (P.O. Teleph. No. 162.)

Barber, Matthew Henry, A.M.I.E.E., c/o Berry, Skinner & Co., 65, King-st., Manchester.

Barber, S., director Anglo-American Telegraph Co., Ltd., 26, Old Broad-st., London, E.C.

Barber & Colman, Ltd., mechanical & electrical engineers, 38, King-st. West, Manchester.

Barclay, David, director Hobart Electric Tramway Co., Ltd., 11, Queen Victoria-st., London, E.C.

Barclay, John, M.I.C.E., engineer & surveyor to the District Council, Town Hall, Chiswick.

Barclay, J. W., 5, Clarendon-pl., Hyde Park-gardens, W. Deputy-chairman Electric Construction Co., Ltd.; director Oxford Electric Co., Ltd.; chairman Madras Electric Tramways (1904), Ltd.

Barclay, W. R., A.I.E.E., Cowley Bar, Homefield, nr. Sheffield.

Barclay, Andrew, Sons & Co., Ltd., engine builders, &c., Caledonia Works, Kilmarnock, N.B.

Barclay, W. J., & Co., electrical engineers & contractors, 26, Museum-st., Ipswich.

Barcroft, H., D.L., The Glen, Newry. Director Bessbrook & Newry Tramway Co.

Bardenfleth, Admiral F. C. C., D.R.N., director Great Northern Telegraph Co., Ltd., 26, Kongens Nytorv, Copenhagen.

Bardill, D. W., & Co., Ltd., manufacturers of & dealers in electrical, chemical & scientific apparatus, Derby; & at Burton-on-Trent.

Barfield, Eric P., A.M.I.E.E., electrical engineer, "Strathallan," Clarence-rd., Wood Green, London, N.

Barham & Co., electricians, Tuxford, Newark.

Baring, Capt., the Hon. Guy, M.P., director Winchester Electric Light & Power Co., Ltd.

Baring-Gould, E. S., Box Grove House, Guildford. Director Para Electric Railways & Lighting Co., Ltd.

Baritsu Light Cure Institute, Ltd., 67B, Shaftesbury-ave., London, W.C.

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Barker, E. A., A.M.I.E.E., borough electrical engineer, Electricity Works, Barnsley, Yorks. (Tel. No. 0160.)

Barker, E. D., installation contractor, Lynn-st., West Hartlepool.

Barker, E. J., A.M.I.E.E., 3, South View, Waterloo, Liverpool.

Barker, Frank, compiler "Weights of Steel Bars & Sheets," 2, Osgathorpe-rd., Pitsmoor, Sheffield.

Barker, George, F.C.I.P.A., electrical & chemical engineer, patent & design registration agent, 77, Colmore-row, Birmingham. (Telegrams: "Patent, Birmingham." Telephone No. 1300.)

Barker, J., director Ingleton Electric Lighting & Power Co., Ltd., Ingleton, Yorks.

Barker, John H., M.I.C.E., M.I.E.E., consulting engineer, 13, Yateley-rd., Edgbaston. (Telegs.: "Ammunition, Birmingham." Teleph. No. 229.)

Barker, J. J. P., A.M.I.E.E., 342½, Humberstone-rd., Leicester.

Barker, R. R., engineer, Bromley (Kent) Electric Light & Power Co., Ltd., 1, West-st., Bromley.

Barker, Reginald W., patent & trade marks registration agent, Vulcan House, 56, Ludgate Hill, London, E.C. (P.O. Telephone No. 1882, Central.)

Barker, W., electrical engineer, Derby-st., Preston.

Barker, W. H., A.M.I.E.E., Electrical Power Station, M.R. Co., Heysham Harbour, Lancs.

Barker & Allen, Ltd., manufacturers of all kinds of nickel & German silver sheet metal & wire for electrical purposes, Rolling & Wire Mills, Spring Hill, Birmingham. (Telegrams: "German, Birmingham." Telephone No. 342.)

Barker, Hall & Harvey, consulting electrical engineers, 2, Collingwood-st., Newcastle-on-Tyne. (Telegs.: "Farad, Newcastle." Teleph. No. 2918, Nat.)

BARKER, JOHN, & CO., LTD., electrical engineers & contractors, 52, 54, 56, 58 & 60, Kensington High-st., W. (Telegrams: "Barkers, Kensington." Telephone Nos. 395 & 396, Kensington.)

Barkham, C., chief assistant engineer, Electricity Works, Ipswich.

Barking Town Urban District Council Electricity Supply & Tramways, East-st., Barking. (Telegs.: "Electricity Works, Barking." Teleph. No. 16, Barking.) H. L. Howard, A.M.I.M.E., A.M.I.E.E., engineer & manager.

Barley, C. Johnson, M.I.E.E., Point House, Blackheath.

Barlow, H. C., manager H. A. Jackson & Co., Caxton Hall, Chapel-st., Salford, Manchester.

Barlow, H. D., M.I.E.E., Barlow Bros. & Co., 237, Shaftesbury-ave., London, W.C. (Telegs.: "Microfarad, London." Teleph. No. 6059, Gerrard.)

Barlow, Leonard, M.I.E.E., Barlow & Young, 8, London-st., London, E.C. (Telegrams: "Ohmmeter, London." Telephone No. 7980, Central.)

Barlow Bros. & Co., electrical engineers, 237, Shaftesbury-ave., London, W.C. (Telegs.: "Microfarad, London." Teleph. No. 6059, Gerrard.)

Barlow, H. B., & Co., makers of cut gearing, Pendleton Gear Works, Manchester. (Telegs.: "Works, Manchester." Teleph. No. 3685.)

Barlow & Young, electrical general engineers, 8, London-st., London, E.C. (Telegrams: "Ohmmeter, London." Telephone No. 7980, Central.)

Barmouth & District Electric Lighting & Power Co., Barmouth.

Barnaby, Wm. Fowler, mechanical & electrical engineer, 16, Lindum-ter., Doncaster-rd., Rotherham. (Teleph. No. 7.)

Barnard, Geo., A.M.I.E.E., chief inspecting engineer of contracts, Callender's Cable & Construction Co., Ltd., Chief Office, London & district engineer's offices, Callender's Wharf & Browning-st., Ladywood, Birmingham.

Barnard, J. W., sole agent for small storage cells manufactured by Electrical Power Storage Co., Ltd., 4, Great Winchester-st., London, E.C. (Telephone No. 1632, London Wall.)

Barnard, H. B., & Sons, copper, lead, zinc & metal merchants, 144, Lambeth Walk, London, S.E. (Telegrams: "Metalcibles, London." Telephone No. 993, Hop.) City office: 53, Gracechurch-st., E.C. (Telegs.: "Soldeerpan, London." Nat. Teleph. No. 1572, Avenue); Birmingham office: Guildhall-bldgs., Navigation-st. (Telegrams: "Metalcibles, Birmingham." Telephone No. 4604, Central.)

Barnard, R. T., electrical & mechanical engineer, 11, Ashmere-grove, Acre-lane, Brixton, London, S.W.

Barnes, Cuthbert W., A.I.E.E., 154, High-rd., Upper Clapton, London, N.E.

Barnes, D. J., A.M.I.E.E., electrical engineer, 17, Wolstonbury-rd., Hove, Sussex. (Teleph. No. 978, P.O.)

Barnes, Edwin, manufacturers' agent for electric light fittings, 15, Charterhouse-st., London, E.C.

Barnes, Frank W., medical electrician, 19, Margaret-st., Cavendish-sq., London, W.

Barnes, H., electric light engineer, 102, High-st., Chatham.

Barnes, John A. T., A.M.I.E.E., Corporation Electricity Works, Kendal, Yorks.

Barnes, J. E. Lloyd, M.I.M.E., principal & lecturer on magnetism & electricity, School of Art, Birkenhead.

Barnes, John S., A.M.I.E.E., electrical & mechanical engineer, 9, North-ter., Ferry Hill, nr. Durham.

Barnes, P. J., A.M.I.E.E., 16, Mason's Hill, Bromley, Kent.

Barnes, R. A., electric light fittings manufacturer, 113, Suffolk-st., Birmingham.

Barnes, S. E., A.I.E.E., electrical engineer, Great Grimsby Tramways Co., Pelham-rd., Cleethorpes.

Barnes, Wm. A., A.M.I.E.E., "Overdales," New-rd., Whitefield.

Barnes, F., & Son, electrical engineers, 81½, Great Hampton-row, Birmingham.

Barnes Urban District Council Electricity Works, Mortlake, Surrey. Engineer, C. S. Davidson. (Telephone No. 4, Richmond.)

Barnett, H. A., A.M.I.E.E., resident engineer.

Barnett, H. T., M.I.E.E., electrical engineer, 7, Teddington Park-rd., Teddington.

Barnett, P. M., M.I.C.E., engineer-in-chief (Great North of Scotland Railway), Aberdeen.

BARNETT ROWLAND & CO., LTD., electrical & general engineers, 3, Hanover-sq., & 17, Dean-st., Newcastle-on-Tyne. (Telegs.: "Dynamo, Newcastle-on-Tyne." Teleph. Nos. 2495 & 1483.)

Barnett & Soans, electrical contractors, George-st., Kettering; & Station-st., Burton-on-Trent.

Barningham, R. B., 41, Victoria-bldgs., Manchester. (Telegs.: "Barningham, Manchester." Teleph. No. 1650.) Director Blackpool & Fleetwood Tramway Co.; director City of Carlisle Electric Tramways Co., Ltd.; director United Electric Car Co., Ltd.

Barns, Wm., & Son, zinc merchants, Globe Works, Queensland-rd., Holloway, London, N. (Telegs.: "Perforation, London.")

Barnsley Boiler & Engineering Co., Ltd., electrical, mechanical & general engineers, Summer Lane Works, Barnsley.

Barnsley Corporation Lighting Committee, Barnsley, Yorks. (Nat. Telephone No. 110.) E. A. Barker, A.M.I.E.E., electrical engineer.

Barnsley & District Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C. Engineer & manager, W. K. Moorhouse. Registered March 3, 1902. Nominal capital: £50,000 in £5 shares. Capital subscribed: £40,035. Debentures issued: £25,000. A trust deed, dated April 8, 1903, to secure £20,000 debenture stock created by resolution of even date, has been registered. Directors: Lieut.-Col. Sir Thos. E. M. S. Pilkington, Bart. (chairman); E. A. Paris, Esq.; W. J. Greer, Esq. Secretary, C. H. Godward.

Barnsley, E., & Co., electricians, 79, Trafalgar-st., Brighton.

Barnstaple Corporation Electricity Works, Barnstaple, Devon. Boro' electrical engineer, J. W. Hadfield, A.M.I.E.E.

Barnwell, H. R., superintendent, Corporation Electricity Works, Barrow-in-Furness.

Baron, J. T., M.I.E.E., resident & supervising engineer, St. Pancras Electric Lighting Stations, Regent's Park & King's-rd., London, N.W. (Teleph. Nos. 512 & 513, Mayfair.)

Baron, W. H., electrical engineer, 4, Wesley-ave., Plymouth.

Barr, Archibald, D.SC., M.I.C.E., consulting engineer, regius professor of civil engineering & mechanics, The University, Glasgow. Office: Caxton-st., Anniesland, Glasgow. (Telephone Nos.: 9, W. Corporation; & 122, Hillhead.)

Barr, Jas. R., A.M.I.E.E., Heriott Watt College, Edinburgh.

Barr, Mark, M.I.E.E., electrical engineer, Temple Bar House, Fleet-st., London, E.C.

Barr, M., director Lancashire Power Construction Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.

Barr, Robt., Dunard, Kilmacolm. Chairman Kilmacolm Electric Lighting Co., Ltd.

Barr, T. H., Abington, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

BARR & STROUD, patentees & manufacturers of rangefinders & order & range telegraphs, as supplied to British & Foreign governments for naval & military use; also of high vacuum pumps, helm position indicators, electric clocks, &c., Anniesland, Glasgow, W. (Telegs.: "Telemeter, Glasgow." Teleph. Nos.: P.O., W9; Nat., 122, Hillhead.)

Barralet, Edgar S., U.K. manager of Insulating Varnish Department, Standard Varnish Works of New York, Chicago & London. Selling agents: Pinchin, Johnson & Co., Ltd., 23, Billiter-st., London, E.C.

Barran, Hy., J.P., director Yorkshire Electric Power Co.

Barratt, S. H. H., A.I.E.E., 16, Exeter-rd., Brondesbury, N.W. (Teleph. No. 854, P.O., Hampstead.)

Barrell, A., Market-sq., Witney. Director Witney Electric Supply Co., Ltd.

Barrett, Arthur, A.I.E.E., consulting electrical engineer, 6, Mortimer-rd., Parkside, Cambridge.

Barrett, W. F., F.R.S., M.R.I.A., M.I.E.E., &c., professor of experimental physics, Royal College of Science, Dublin, Ireland.

Barrett, W. J., installation contractor, 25, Park-sq., Luton.

Barron, C. A., & Lewin, patent agents, 32, John William-st., Huddersfield.

Barron, J., & Co., electric lighting contractors, 16A, Fraser-st., Liverpool, W. (Teleph. No. 0496, Royal.)

Barrow-in-Furness Corporation Electricity Works. H. R. Burnett, borough electrical engineer. (Telegrams: "Electricity Works, Barrow-in-Furness." Telephone No. 103, Barrow-in-Furness.)

Barrow-in-Furness Technical School, Barrow-in-Furness. *See* SCHOOLS.

Barrow-in-Furness Tramways, Donington House, Norfolk-st., Strand, London, W.C. Owned by British Electric Traction Co., Ltd. Directors: S. A. Sillem, Esq. (chairman); J. V. Kitchener, Esq.; H. S. Day, Esq. Electrical engineer & manager, W. F. Bladon; secretary, S. Neville Wells.

Barry, C. E., director Keynsham Electric Light & Power Co., Ltd., Keynsham, Somerset.

Barry, Sir J. Wolfe, K.C.B., LL.D., F.R.S., M.I.E.E., 21, Delahay-st., Westminster, S.W. Chairman Eastern Telegraph Co., Ltd.; chairman Eastern Extension Australasia & China Telegraph Co., Ltd.; chairman London Platino Brazilian Telegraph Co., Ltd.; chairman Western Telegraph Co., Ltd.; chairman Eastern & South African Telegraph Co., Ltd.

Barry Transporter & Engineering Co., 15, Great George-st., S.W. (Telegrams: "Pintle, London." Telephone No. 5004, Westminster.)

Barter, Charles, A.I.E.E., 122, Suffolk-st., Birmingham. (Telegrams: "Calorific, Birmingham." Telephone No. 1996.)

Bartholomew, Thos., Greenville House, Brynamman. Director Brynamman & District Electric Supply Co., Ltd.

Bartlett, Albert T., B.A., A.I.E.E., 65, Lichfield-rd., Stafford.

Bartlett, E. A., dealer in electrical apparatus, 7, High-st., Leamington.

Bartlett, J., 71, High-st., Witney. Director Witney Electric Supply Co., Ltd.

Bartlett, Wm., electrical engineer, 211, Prescot-rd., Fairfield, Liverpool, E.

Barton, E. H., A.M.I.E.E., D.SC., F.R.S.E., University College, Nottingham.

Barton, Thomas, electrical engineer & manufacturer. Works: Weir-st. & New Water-st.; offices & show-rooms: Ainsworth-st., Blackburn. (Telegrams: "Barton, Blackburn." Telephone No. 265. A.B.C. Code used.)

Barton, W. E., superintendent engineer, Corporation Electricity Works, Aylestone, Leicester. (Teleph. No. 788.)

Barton & Sons, Ltd., conduit makers, Beehive Foundry, Birchills, Walsall. (Telegs.: "Ingenuity, Walsall." Nat. Teleph. No. 81.)

Barton, W., & Son, installation contractors, 11, Forrest-rd., Edinburgh.

Barwell, C. J. W., copper & brass tube manufacturer, Norton-st., Hockley, Birmingham. (Telegrams: "Mandrill, Birmingham." Telephone No. 2164.)

Barwell, H. G., electrician, Eastern Telegraph Co., Porthcurno, Treen, R.S.O., Cornwall.

Barwell, W. H., engineer, Parish Council, Treeton, nr. Rotherham.

Barwell, James, Sons & Co., electric light fittings manufacturers, Clement-st., Birmingham.

Barwells, Ltd., nut, bolt & rivet manufacturers, metal mixers & copper merchants, 28, Pickford-st., Birmingham (Telegs.: "Metals, Birmingham." Teleph. No. 103); Brookfield-rd., Birmingham. (Telegs.: "Barwell, Birmingham." Teleph. No. 104); & 118, Cannon-st., London, E.C.

Bassano & Sons, manufacturing electrical engineers, 155, Bridge-st., Derby.

Bassnett, Thomas, electric bell manufacturer, 10, Bath-street, Liverpool. (Telegrams: "Manometer, Liverpool." Telephone No. 2172.)

Bastian, Chas. Orme, M.I.E.E., Bartholomew Works, Kentish Town, London, N.W.

Bastian Mercury Vapour Lamp, Ltd., 39, Victoria-st., London, S.W. (Telegrams: "Rucameter, London." Telephone No. 5099, West.)

Bastian Meter Co., Ltd., manufacturers of electricity meters, Bartholomew Works, Kentish Town, London, N.W. (Telegrams: "Truepenny, London." Telephone No. 478, North.)

Bastick, Joseph, electrical, mechanical, acetylene & carbide engineer, 40, Chestnut-st., Southport, Lancs.

Bastie, Percy H., director Ernest F. Moy, Ltd., Greenland-pl., Camden Town, N.W.

Bastow, S. E., A.M.I.E.E., chief contract engineer, Bruce Peebles & Co., Ltd., East Pilton, Edinburgh.

BAT ELECTRICAL CO., 23-25, North-st., King's Cross, London. (Telegs.: "Dizzy, London." Teleph. No. 9877, Central.)

Bate, A. Hewson, A.M.I.E.E., 37, Soho-rd., Handsworth, Birmingham.

Bate, Douglas C., A.M.I.C.E., electrical engineer, "Elvaston," Wylde Green, nr. Birmingham.

Bate, Richard, electrical & general turner, Cadby's Steam Works, 39½, Leather-lane, London, E.C.

Bate, W., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Bateman, John, & Co., scientific instrument makers & experimentalists, 205 & 206, High Holborn, London, W.C. (Telegrams: "Experiment, London.")

Bateman, M., & Co., dealers in glass for electric light, 27, Shoe-lane, London, E.C. (Telegs.: "Chromogen, London." Teleph. No. 1569, Holborn.)

Bates, A. T., electrician, Whitehead Torpedo Works, Weymouth.

Bates, Darwin, M.I.E.E., works manager, British Insulated & Helsby Cables, Ltd., Prescot, Lancashire (Telegrams: "Insulator, Prescot." Telephone No. 8); & The Orchard, Huyton, Liverpool.

Bates, H. H., A.I.E.E., 4, Cheltenham-ter., Heaton, Newcastle-on-Tyne.

Bates, T., electrician, Corporation Electricity Works, Morley.

Bates, W., electrician, Northern Counties Electricity Supply Co., Ltd., Hebburn, Durham.

Bates, W., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Bates, William, M.I.C.E., A.M.I.E.E., borough electrical engineer, Electricity Works, Birkenhead. (Telephone No. 1157.)

Bates, Joseph & Edward, & Sons, Ltd., brass founders, Temple-st., Wolverhampton.

BATES & PEARD ANNEALING FURNACE CO. For annealing metals bright without oxidation, Huyton, Liverpool. (Telegrams: "Bates, Huyton." Telephone No. 0147, Huyton.)

Bates, W. & A., Ltd., indiarubber manufacturers, St. Mary's Mills, Leicester. (Telegs.: "Sctab, Leicester." Teleph. No. 200.)

Bath Corporation Electricity Department, 7, Dorchester-st., Bath. (Telegrams: "Dynamo, Bath." Telephone No. 33.) F. Teague, engineer.

Bath Electric Tramways, Ltd., 18, St. Helen's-pl., London, E.C. (Telegrams: "Trammelets, London.") Power Station, Walcot-st., Bath. (Telegrams: "Trams, Bath." Nat. Telephone No. 214.) Registered July 9, 1902. Nominal capital: £75,000 in 5 per cent. cumulative preference shares of £1 each, £125,000 in preferred ordinary shares of £1 each & £30,000 in deferred ordinary shares of £1 each. Issued: 75,000 preference & 75,606 preferred ordinary shares, fully paid; & 30,000 deferred ordinary, issued as fully paid, & £135,000 debenture stock, secured by trust deed, dated Dec. 6, 1904. A trust deed, dated Dec. 28, 1905, securing £7000 first mortgage debenture stock (supplemental to a trust deed, dated Dec. 6, 1904), has been registered. Issue on March 6, 1906, of £15,900 5 per cent. second debentures, part of series created same date to secure £16,000. Directors: Sir V. Caillard (chairman); Hon. Sir J. Sivewright, K.C.M.G.; H. F. Clutterbuck, Esq.; E. H. R. Trenow, Esq.; A. A. C. Swinton, Esq. General manager & engineer, R. D. McCarter; secretary, H. J. Almond. Dividends on cumulative preference shares, 5 per cent., payable Jan. 1 & July 1, paid to July, 1906; 5 per cent. on preferred ordinary shares, paid April 21, 1906.

Bath, Henry, & Son, metal brokers & commission agents, Mining Office, Swansea; also at 53, New Broad-st., London, E.C.; also at 28, Chapel-st., Liverpool. (Telegs.: "Bath, Swansea;" "Bathota, London;" "Bathota, Liverpool." Teleph. Nos.: Swansea, 1; London, 117 & 118, Central; Liverpool, 185 & 5950, Central.)

Bath Technical School, Bath. *See* SCHOOLS.

Bathe, R. S., 46, Beaconsfield Villas, Preston Park, Brighton. Chairman Mazarron Electric Light Co., Ltd.

Batley Corporation Electricity Works & Tramways, Batley, Yorks. (Teleph. No. 38.) Electrical engineer, S. Derwen Jones, A.M.I.E.E., A.M.I.M.E.

Batstone, S. C., electrical engineer (Bromley, Batstone & Kirk), 24, Holborn, London, E.C. (Telegs.: "Workpeople, London." Teleph. No. 4839, Holborn.)

Battersea Borough Council Electricity Supply Works: (Teleph. No. 1832, Victoria.) Engineer, F. A. Bond, A.M.I.E.E.

Battersea Polytechnic, Battersea, London, S.W. (Teleph. No. 123, Vic.) *See* SCHOOLS.

Batty, D. E., A.M.I.E.E., 13, Bridge-st., Hitchin, Herts.

Batty, F. R., A.M.I.E.E., engineer & secretary Northallerton Electric Light & Power Co., Ltd., Northallerton.

Bauer & Imrie, patent agents, 72, Cannon-st., London, E.C. (Telegs.: "Advocato, London." Teleph. No. 4347, Central.)

Baeuerle, Math., clock wheels & movements for manufacturing purposes (M. Seeck, agent), 6, Henrietta-st., Covent Garden, London, W.C.

Baughan, A. H, A.M.I.E.E., consulting engineer, 8–10, London-st., Reading. (Teleph. No. 560.)

Baughan & Co., manufacturing electricians & contractors, London-st., Reading. (Telegs.: "Baughan, Reading." Teleph. No. 560.)

Bawden, Michael Williams, Mining & Assaying Offices, Liskeard, Cornwall. (Telegrams: "Bawden, Liskeard.")

Bax, Captain E. Ironside, Eldon, Weybridge, Surrey. Director Westminster Electric Supply Corporation, Ltd.; director South London Electric Supply Corporation, Ltd.; director Arc Lamps, Ltd.

Baxendale, T., A.M.I.E.E., Corporation Electricity Works, Stuart-st., Manchester.

Baxendale Bros., electrical supplies, 96, Whitechapel, Liverpool.

Baxendale & Co., electrical accessories manufacturers & merchants, Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin. (Telegrams: "Baxendales, Manchester;" "Baxendales, Edinburgh;" "Baxendales, Dublin." Telephone Nos.: Manchester, 900; Edinburgh, 2062; Dublin, 1405.)

Baxter, A. H., electrical engineer, 37, Millicent-rd., West Bridgeford, Nottingham.

Baxter, Wm., A.M.I.E.E., 142, Newhaven-rd., Leith, N.B.

Baxter, W. A., electrical engineer (Baxter & Impey), 54, Dudley-st., Birmingham. (Teleph. No. 544.)

BAXTER & CAUNTER, manufacturing electrical engineers, 86, Charing Cross-rd., London, W.C. (Telegrams: "Rapidolite, London." Nat. Teleph. Nos. 3463 & 4, Gerrard.)

Baxter & Impey, electrical engineers, 54, Dudley-st., Birmingham. (Telephone No. 544.)

BAXTER, R. & S., mica importers, merchants & manufacturers, 31, Murraygate. Works: Commercial-court, Dundee. (Telegrams: "Farina, Dundee." Telephone No. 83.) *See* DYNAMO AND ELEC. MACHINE MANUFACTURERS.

Baylay, W. L., A.I.E.E., Chesterfield, Hardy-rd., Blackheath, S.E.

Bayles, E. A., A.I.E.E., electrician, Hill Side, Helsby, nr. Warrington.

Bayley, B., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Bayley, F. S., Clanahan & Co., chemical manufacturers, 79, Mosley-st., Manchester. (Telegs.: "Chemical, Manchester." Teleph. No. 1218.)

Bayley, J., electrical engineer, Carville Power Station, Wallsend-on-Tyne.

Bayley & Sons, electric motor manufacturers, Deno-house, Poole-hill, Bournemouth.

Bayliss, T. A., joint managing director King's Norton Metal Co., Ltd., King's Norton, nr. Birmingham.

Bayliss, T. R., joint managing director & vice-chairman King's Norton Metal Co., Ltd., King's Norton, nr. Birmingham. (Telegrams: "Metal, King's Norton.")

Bayliss, Jones & Bayliss, Ltd., telegraph & telephone pole (iron) manufacturers, 139, Cannon-st., London, E.C. (Telegrams: "Lockfast, London." Telephone Nos: 8524, P.O., Central; & 889, Bank, Nat.); & at Wolverhampton.

Baylor, A. K., M.I.E.E., managing director Consolidated Supply Co., Ltd., Northampton Park, Canonbury, London, N.

Bayly, C. F. H., A.I.E.E, Electric Supply Station, South Eastern & Chatham Railway Co., Slades Green, Erith, Kent.

Bayly, H. M., A.M.I.E.E., manager J. E. Spagnoletti & Co., Goldhawk Works, Goldhawk-rd., London, W. (Telephone No. 181, Hammersmith); & 20, Addison-rd., Bedford Park, W.

Baynes, S. W., M.I.E.E., chief electrical engineer, St. Pancras Borough Council, London, N.W.

Bayntun, R. S. F., A.M.I.C.E., A.M.I.M.E., A.M.I.E.E., Mersey Railway Power Station, Shore-rd., Birkenhead.

Bazley & Co., electric light fitters, 120, High-st., Lewisham, S.E.

Beach, Allan F., A.I.E.E., 96B, West Norwood Mansions, West Norwood, S.E.

Beach, James, & Sons, dynamo makers, St. James-st., Taunton.

Beachcroft, P. E., 10, Upper Hamilton-ter., N.W. Director Electric Construction Co., Ltd.

Beadle, A. A., A.I.E.E., F.C.S., "Greenheys," Barnet.

Beale, B. R., M.I.E.E., 82, Victoria-st., London, S.W.

Beales, H. B., district manager, Bruce Peebles & Co., Ltd., 64, Cross-st., Manchester. (Telegs.: "Peebles, Manchester." Teleph. No. 5759, Central.)

Beales, Morton, M.I.E.E., electrical engineer. Manager Bruce Peebles & Co., Ltd., 1, London Wall-bldgs., London, E.C.

Beam Co. (The British Electrical & Mechanical Co.), electrical & mechanical engineers & contractors, 55, Barbican, London, E.C. (Telegs.: "Erpey, London." Teleph. No. 2253, Central.)

Bean, John Stennit, A.M.I.E.E., Electrical & Signal Dept., L. & N.W. Railway, Crewe.

Beanland, Fred., A.I.E.E., "Bega," Harrogate, Yorks. (Telegs.: "Beanland, Harrogate." Teleph. No. 15.)

Beanland, Perkin & Co., speciality: Burnley's Rozinal Soldering Paste, School Close Works, Neville-st, Leeds. (Telegrams: "Beanland, Leeds." Telephone No. 1383.)

Bearcroft, Chas. R. D., consulting engineer, 25, John-st., Bedford-row, London, W.C.

Beard, H., & Co., electrical engineers, Duke-st., Richmond, Surrey. (Telephone No. 129, Richmond.)

Beardmore, Wm., & Co., Ltd., special engines for driving dynamo machines, Naval Construction Works, Dalmain, N.B. (Telegs.: "Beardmore, Dalmain." Teleph. No. 40, Clydebank.)

Beare, H. H., A.M.I.E.E., 89, Derby-rd., Burton-on-Trent.

Beare, Prof. T. Hudson, F.R.S.E., M.I.C.E., M.I.M.E., Engineering Laboratory, The University, Edinburgh.

Beattie, A., D.L., J.P., 46, Fitzwilliam-sq., Dublin. Chairman Hampshire Light Railway (Electric) Co., Ltd.; chairman Provincial Tramways Co., Ltd.; chairman Great Grimsby Street Tramways Co.; director Gosport & Alverstoke Electric Lighting Co., Ltd.

Beattie, R., D.SC., lecturer in electrical engineering, Owen's College, Manchester.

Beattie, R. B., electrical contractor, 7, Standish-st., Burnley, Lancs. (Teleph. No. 0659.)

Beaty, R. J. H., A.M.I.E.E., Gale Hall, Langwathby, R.S.O., Cumberland.

Beauchamp, J. W., A.M.I.E.E., deputy manager & assistant engineer, Municipal Electric Supply Department, Commercial-st., Sheffield.

Beaumont, F. J., M.R.I., A.I.E.E., 21, Albany-rd., Stroud-green, London, N.

Beaumont, W. Worby, M.I.C.E., M.I.E.E., consulting engineer, Outer Temple, 222, Strand, London, W.C. (Telegrams: "Vibromotor, London." Telephone No. 4160, Gerrard.)

Beaumont & Still Colonial & Foreign Train Lighting Co., Ltd., 24, Charles-st., Hatton Garden, London, E.C. Registered Aug. 3, 1906. Nominal capital: £18,000 in £1 shares.

Beaumont & Still Train Lighting Co., Ltd., 24, Charles-st., Hatton Garden, E.C. Registered June 20, 1906. Nominal capital: £18,000 in £1 shares.

Beaven & Sons, Ltd., electrical engineers, County-bldgs., Westgate-st., Gloucester (Telegs.: "Beaven, Gloucester." Teleph. No. 24); & 27, Victoria-st., Westminster, S.W. (Telegs.: "Sanador, London." Teleph. No. 5011, Westminster.)

Beaver, C. J., A.M.I.E.E., Holme Lea, Ashley-rd., Hale, Cheshire.

Beck & Moss, Ltd., electro-platers, Faraday Works, Cannon-st., Hanley, Staffs. (Teleph No. 01184.)

Beck, W. H., & Co., M.I.M.E., F.C.I.P.A., consulting & mechanical engineers & chartered patent agents, 115 & 117, Cannon-st., London, E.C. Established 1867. (Telephone No. 1519, Central.)

Beckenham Urban District Council Electricity Works, Beckenham, Kent. (Telephone No. 166, Bromley.) Resident engineer, J. E. Tapper, A.M.I.E.E.

Becker, R., & Co., dynamo & motor makers, 53, City-rd., London, E.C. (Telegrams: "Cleavage, London." Telephone No. 6050, Central.)

Becket, Frank, A.I.E.E., c/o Mavor & Coulson, Glasgow.

Beckett, A. J., borough electrical engineer, Corporation Electricity Works, Bridlington.

Beckett, J. P., electrical engineer & wiring contractor, Carysfort, Chantry-lane, Grimsby.

Beckett, W. M., A.M.I.C.E., 33, Brazennose-st., Manchester. (Telephone No. 5545.) Director Northwich Electric Supply Co., Ltd.

Beckett, G. E., & Co., electricians, 79, Oxford-rd., C.-on-M., Manchester. (Teleph. No. 08756.)

BECKETT & PARKER, makers of ammeters & voltmeters, Tenby-st., Birmingham.

Beckmann & Co., wire manufacturers, 21, Finsbury-st., Moorfields, London, E.C. (Telegrams: "Manbeck, London." Telephone No. 1048, Central.)

Becks, G. A., engineer, 2 & 3, Broadway, Westminster, London, S.W.

Beddow, Jas., electrician, 112, Brynn-st., St. Helens, Lancs.

Bedell, B. H., electrical engineer, "G.B." Surface Contact Co., Hamilton House, Bishopsgate-st. Without, London, E.C. (Telegs.: "Opalite, London." Teleph. No. 2868, London Wall.)

Bedford, J. R., A.M.I.E.E., Rashleigh Phipps & Co., 147, Oxford-st., W. (Telegrams: "Diffuser, London." Telephone Nos.: 3973, Gerrard; & 12155, Central.)

Bedford & Co., electrical engineers, 41, St. Mary-st., Cardiff. (Nat. Teleph. No. 0881.)

Bedford Corporation Electricity Works. (Nat. Telephone No. 60.) Engineer, R. W. L. Phillips, A.M.I.E.E.

Bedford Engineering Co., electric crane builders, Ampthill-rd., Bedford. (Telegrams: "Cranes, Bedford." Nat. Telephone No. 33.)

Bedford, W. H., & Sons, electrical engineers, 28, St. George's-rd., & 1, Sillwood-st., Brighton.

Bedson, J. P., Carisbrook, Victoria Park, Manchester. Director North Wales & District Light Railway & Electric Power Syndicate, Ltd.

Bedson, P. Phillips, M.A., D.SC., F.I.C., professor of chemistry, Armstrong College, Newcastle-on-Tyne.

Beech, E., electrical contractor, Lincoln-rd., Peterborough.

Beech, Geo., telegraph instrument case makers, 69, Dalston-lane, London, E.

Beech, W. D., electric bell & telephone agent, 8, Chatham-bldgs., Manchester.

Beecham, J., J.P., St. Helen's, Lancs. Director West Cumberland Electric Tramways Co.; director North Wales Power & Traction Co., Ltd.; director South Lancashire Electric Supply Co., Ltd.; director Lancashire Light Railways Co., Ltd.; director Lancashire United Tramways, Ltd.

Beechey & Keizer, consulting engineers, 30, South Castle-st., Liverpool. (Teleph. No. 6757, Central.)

Beecroft & Wightman, Ltd., timber merchants & electric casing manufacturers, Harris-st., & Garnett-st. Sawmills, Bradford; also at Humber Sawmills, Burleigh-st., Hull; also at Boundary-st., Commercial-rd., Liverpool. (Telegrams: "Beecroft, Wightman, Bradford;" "Casings, Hull." Telephone Nos.: 3073 & 3074, Bradford; 874 & 2527, Hull; 8336, Central, Liverpool.)

Beeforth, Geo. Lord, The Belvedere, Scarborough. Director Scarborough Electric Supply Co., Ltd.

Beer, J., electrical contractor, 73, Summerland-st., Exeter.

Beesley, J., electrical apparatus maker, Horsemoor-green, Langley, Bucks.

Beesley, W. T., & Co., Ltd., makers of cold rolled steel, steel wire & steel castings, Attercliffe-rd. & Effingham-st., Sheffield. (Telegrams: "Beesley, Sheffield." Telephone No. 1399.)

Beeston Accumulator Syndicate, Ltd., storage battery manufacturers, Post Office-sq., Beeston, Notts.

Beeton, H. G., A.I.E.E., 31, West Hill, Sydenham.

Beeton, H. R., chairman Brompton & Kensington Electricity Supply Co., Ltd., Richmond-rd., Earl's Court, S.W.

Beeton, Stanley, M.I.E.E., electrical engineer, 58, Gloucester-ter., Hyde Park, London, W.

Beeton, S., 9, Upper Sackville-st., Dublin. Director Dublin United Tramways Co., Ltd.

Beevor, S. F., A.I.E.E., 93, Westbourne-ter., London, W. (Telephone No. 197, Paddington.)

Begbie Manufacturing Co., Ltd., petrol engine manufacturers, 407, Oxford-st., London, W.

Begg, F. Faithfull, Bartholomew House, London, E.C. Director Electric Supply Co. of Victoria, Ltd.; director Derbyshire & Nottinghamshire Electric Power Co.

Behr, F. B., electrical engineer, Manchester & Liverpool Electric Railway Synd., Ltd., 11, Cornhill, London, E.C.; & joint engineer, Manchester & Liverpool Electric Express Railway Co.

Beith, A., electrical engineer, Electrical Department, Buckingham Palace, London, S.W.

Belcher, F., F.C.A., 39, Coleman-st., E.C. Director Malaga Electricity Co., Ltd.

Belcher, J. H., principal & head of Electrical Department, Municipal Technical Institute, Coventry. (Telephone No. 193.)

Belfast Corporation Electricity Supply Works & Electric Trams, Belfast. Victor A. H. McCowen, M.I.M.E., M.I.E.E., engineer. (Telephone No. 833.)

Belfast Engineering Employers' Association. Secretary, J. Hind, jun., 8, Ulster-chbrs., Belfast. (Telegrams: "Hind, Ulster-chbrs., Belfast." Telephone No. 02272, Nat.)

Belfast Municipal Technical Institute, Belfast. *See* SCHOOLS—CLASSIFIED SECTION.

Belfast & North-East Ireland Electricity & Power Gas, 9, Chichester-st., Belfast. Secretary, Rd. Fleming. Parliamentary agents: Fowler & Co., 28, Victoria-st., S.W.

Belfield, R., A.M.I.C.E., M.I.E.E., Westinghouse-bldg., Norfolk-st., Strand, London, W.C.

Bell, A. Randall, A.M.I.E.E., chief engineer, Uxbridge & District Electric Supply Co., Ltd., Waterloo-rd., Uxbridge.

Bell, Francis G., A.M.I.E.E., 126, Milton-ave., East Ham, Essex.

Bell, G. Gilbert, resident electrical engineer, Hammersmith Borough Council, London, W. (Telephone No. 107, Hammersmith.)

Bell, Herbert, A.M.I.E.E., chief engineer, Corporation Electricity Works, Sculcoates-lane, Hull. (Corp. Teleph. No. 197.)

Bell, Horatio, A.M.I.E.E., 11, Queen Victoria-st., London, E.C.

Bell, J. Alex., M.I.E.E., M.I.MECH.E., city electrical & tramways engineer, Aberdeen. (Telegs.: "Bell, Corporation, Aberdeen." Teleph. No. 1075; Office No. 1194.)

Bell, J. E., A.I.E.E., 25, Mosley-st., Newcastle-on-Tyne.

Bell, James, A.I.E.E., Glenthorne, Howard-rd., Southampton.

Bell, John, superintendent, Post Office Telegraphs, Dundee.

Bell, M. L., director Cleveland & Durham County Electric Power Co., Hinton's-bldgs., Middlesbrough.

Bell, R. G., electrical engineer, 27, Mosley-st., Newcastle-on-Tyne.

Bell, Stuart, A.M.I.E.E., electrical engineer, Siemens Bros. & Co., Ltd., 163, Hope-st., Glasgow. (Telegrams: "Siemens, Glasgow.")

Bell, Sydney, electrical engineer, 15, Linden-st., Andover. (Telegs.: "Bell, Builder, Andover.")

Bell, Thomas Swainson, A.M.I.E.E., Electricity Works, Whitehaven.

Bell Bros. & Co. (London), Ltd., dealers in electrical supplies, 72, Bishopsgate-st. Within, London, E.C.

Bell, George, & Sons, publishers of electrical & scientific books, York House, Portugal-st., London, W.C. (Telegrams: "Bohn, London." Telephone No. 12784, Central.)

Bell Telephone & Electric Co., Parliament-chbrs., Great Smith-st., Westminster, London, S.W.

Bell's Asbestos Co., Ltd., asbestos manufacturers, Southwark-st., London, S.E. (Telegrams: "Belfry, London." Telephone Nos. 512 & 523, Hop. A.B.C. & A1 Codes used.)

Bell's Asbestos Co., Ltd., 8 & 9, South Parade, Manchester (F. R. Putz, sole vendor) (Telegrams: "Asbestos, Manchester." Telephone No. 810); & 53, Waring-st., Belfast. (Telegrams: "Asbestos, Belfast.")

Bellamy, Alfred R., electrical engineer, c/o J. E. H. Andrew & Co., Ltd., Reddish, Stockport. (Telegrams: "Andrew, Reddish." Nat. Telephone No. 27.)

Bellamy, J. G., Finsbury House, Blomfield-st., E.C. Director Hobart Electric Tramway Co., Ltd.; director Gloucestershire Electric Power Co.

Belliss, G. E., M.I.M.E., The Dell, King's Norton. (Telephone No. 2927.)

BELLISS & MORCOM LTD., engineers. Speciality: makers of quick-revolution engines for electric lighting, power & traction, Ledsam-street Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) Nominal capital: £300,000 in 15,000 5 per cent. preference & 15,000 ordinary shares of £10 each. Debentures, £38,000. 14,017 ordinary & 12,823 preference are issued & fully paid. Directors: A. E. Seaton, Esq., J.P.; T. H. Parrott, Esq.; G. B. Parrott, Esq. (secretary); & R. K. Morcom, Esq. Dividends: on ordinary shares, 1901–02, 1902–03, 12½ per cent.; 1903–04, 12½ per cent. & 40 per cent. bonus on ordinary shares; 1904–05, 1905–06, 15 per cent.; to Sept. 30, 1906, interim 5 per cent. per annum. *See* ENGINE MAKERS—HIGH SPEED.

Bellow, H. J., A.M.I.E.E., electrician, 343, Bensham-lane, Thornton Heath, Surrey.

Bellow & Son, makers of castings for electric light, bell & telephone fitters & contractors, Leominster.

Belsey, Walter J., A.M.I.E.E., c/o British Thomson-Houston Co., Ltd., 91, Wellington-st., Glasgow.

Belsham, Maurice, consulting engineer, Price & Belsham, 52, Queen Victoria-st., London, E.C. (Telegrams: "Belsham, London.")

Belshaw, T. O., consulting engineer, 53, Victoria-st., London, S.W. (Telegrams: "Enguion, London." Telephone No. 441, Westminster.)

Belshaw & Co., electrical & mechanical engineers, 53, Victoria-st., London, S.W. (Telegrams: "Enguion, London." Telephone No. 441, Westminster). Works: Chapel-pl., Westminster; Stores: 20, Horace-st., Edgware-rd., W.

Beltine Manufacturing Co., lubricants, 203, King-st., Hammersmith, W.

Bemrose, H. C., electrical engineer, Elmhurst, Derby.

Bemrose, J. E., assistant engineer, Corporation Electricity Works, Hylton-rd., Worcester.

Bemrose, W. S., installation contractor, 37, High-st., Rochester.

Bendall, R. L., A.I.E.E., 43A, Algiers-rd., Ladywell, S.E.

Benedict, W. C., A.I.E.E., 59, Newington Butts, London, S.E.

Benest, F. E., A.I.E.E., India Store Depôt, Belvedere-rd., London, S.E.

Benest, Henry, A.M.I.C.E., A.I.E.E., Indiarubber, Gutta-percha & Telegraph Works, Silvertown, London, E.

Benest, P. M., A.M.I.E.E., 14, Carlton-rd., Pendleton, Manchester.

Benham, E. E., A.M.I.E.E., Cleveland & Durham Electric Power, Ltd., Middlesbrough.

Benham & Sons, Ltd., electrical & mechanical engineers, makers of feed-water heaters, tanks, &c., Wigmore Engineering Works, 66, Wigmore-st., London, W. (Telegrams: "Benham, London." Telephone No. 65, Paddington.)

Benkert, G., electrical engineer & brass mfr., 48, Wilson-st., E.C. (Teleph. No. 5037, Central.)

Benn, H., Preaun, Austria. Director Lynton & Lynmouth Electric Light Co., Ltd.

Bennett, A. H., A.M.I.E.E., resident engineer, North Metropolitan Electrical Power Distribution Co., Ltd., Enfield, Middlesex.

Bennett, A. R., M.I.E.E., Queen Anne's-chbrs., Broadway, Westminster, London, S.W.

Bennett, A. W., practical & consulting electrical engineer, 9, Stanley-ave., Ashley-rd., Leeds.

Bennett, C. G. M., A.I.E.E., resident engineer, Kensington & Notting Hill Electric Lighting Works, Woodlane, Shepherd's Bush, London, W. (Telegs.: "Electrorum, London." Tel. No. 143, Hammersmith.)

Bennett, F. F., M.I.E.E., 2, Chatham-grove, Withington, Manchester.

Bennett, F. Ibbotson, A.I.E.E., Foden Bank, Macclesfield.

Bennett, J. F. M., A.M.I.E.E., Metropolitan Electric Railways, Manor House Depôt, Finsbury Park, London, N.

Bennett, J. G., director Commercial Cable Co., 23, Royal Exchange, E.C.

Bennett, Marshall H., A.M.I.M.E., A.M.I.E.E., Thomas L. Scott & Co., 3, London Wall-bldgs., London, E.C.

Bennett, P. M., electrical engineer, c/o Callender's Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C.

Bennett, T. J., engineer-in-charge Corporation Electricity Works, Belfast.

BENNETT, WALTER, spelter manufacturer, zinc & general metal merchant, 60, Gracechurch-st., London, E.C. (Telegrams: "Benefit, London." Telephone No. 770, Post Office Central.)

Bennett & Co., primary & secondary battery manufacturers, 32, Park Cross-st., Leeds.

Bennett, J. M., & Sons, electric light casing & cover makers, Hyde-road, Ardwick, Manchester. (Telegrams: "Goehring, Manchester." Telephone No. 166.)

Bennis, Alf. W., M.I.MECH.E., A.I.E.E., Westcliffe, Eccles.

Bennis, Edward, & Co., Ltd., mechanical engineers, Little Hulton, Bolton. (Telegs.: "Bennis, Little Hulton." Teleph. No. 13, Farnworth.)

Benrath Engineering Co., 36, Victoria-st., Westminster, S.W. (Telegs.: "Benrather, London." Teleph. No. 188, Victoria.)

Benson, Robert H., 66, New Broad-st., E.C. Director London Electric Supply Corporation, Ltd.; director Anglo-American Telegraph Co., Ltd.

Benson, W. A., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness.

Benson, W. A. S., & Co., Ltd., electrical engineers & fittings manufacturers, 82 & 83, New Bond-st., London, W.; wholesale, 2, Dering-st., Oxford-st. (Telegrams: "Dynamical, London." Telephone No. 3701, Gerrard.)

Bentham, C., director Ingleton Electric Lighting & Power Co., Ltd., Ingleton, Yorks.

Bentham, H., A.M.I.E.E., resident engineer, Birkdale District Electric Supply Co., Ltd., Birkdale. (Teleph. No. 65.)

Bentham, John, electrical engineer, New Sharlston Collieries, nr. Normanton, Yorks.

Bentley, Cuthbert W., resident engineer & secretary, Alderley & Wilmslow Electric Supply, Ltd., Alderley Edge, Cheshire.

Bentley, H. H., A.I.E.E., 2, Oaklands-rd., Bedford.

Bentley, John, A.I.E.E., 19, Clarence-rd., Thorpe Hamlet, Norwich.

Bentley, W., M.I.M.E., consulting mechanical engineer, Royal Insurance-bldgs., Crossley-st., Halifax. (Telegrams: "Bentley, Engineer, Halifax.")

Bentley, H. J., & Co., electricians, 17 & 23, Newton-st., Piccadilly, Manchester (Nat. Telephone No. 09207); 27, Bootle-st.; 34A, Dale-st., Manchester; & 73, Stockport-rd., Levenshulme.

Bentley, Isaac, & Co., Ltd., oil refiners & paint manufacturers, Vinoleo Oil Works, Trafford Park, Manchester. (Telegs.: "Vinoleo, Manchester." Teleph. No. 1658, Nat.)

Benton, Arthur, electrical engineer, Shaftesbury-road, Romford.

Benton, L. C., A.I.E.E., electrical engineer, 578, Chester-rd., Old Trafford, Manchester.

Benton, W. J., A.M.I.E.E., M.I.M.E., consulting & inspecting engineer, 1, Chestnut-ave., Hyde Park, Leeds.

Benton & Stone, German silver, brass & copper tube manufacturers, Aston Brook Tube Mills, Birmingham. (Telegs.: "Enots, Birmingham." Nat. Teleph. No. 2544.) A.B.C. Code used.

Berend, O., electrical engineer, 132, Wool Exchange, London, E.C. (Telegrams: "Loxa, London." Telephone No. 491, London Wall.)

Beresford, C. F. C., Col., R.E., M.I.E.E., 18, Lansdowne-rd., Holland Park-ave., London, W.

Berg-Leim, H. S., director Durham Collieries Electric Power Co., Ltd., Philadelphia, Co. Durham.

Bergh, F. C. N., mains inspector, Corporation Electricity Works, North-rd., Brighton.

Bergheim, J. S., 11, Cornhill, London, E.C. Director Manchester & Liverpool Electric Railway Syndicate, Ltd.

Bergtheil, A., M.I.E.E., electrical engineer, 12, Camomile-st., Bishopsgate-st., E.C.

Bergtheil & Young, Ltd, electrical engineers, 12, Camomile-st., Bishopsgate-st., E.C. (Telegrams: "Driving-wheel, London." Telephone No. 5850, Avenue); & 94, Market-st., Manchester. (Telegrams: "Spider, Manchester." Telephone No. 4945, Central, Manchester.)

Berk, F. W., & Co., acid manufacturers, 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, London, E. (Telegs.: "Berk, London." A.B.C. Code. Teleph. No. 4013, Avenue.) Electrical requirements a speciality. Sole makers of BAA. *See advt.*, ACCUMULATOR ACID MANUFACTURERS.

Berkeley, A., electrical agent, Guildhall-bldgs., Birmingham. (Teleph. No. 4564.)

BERLINER TELEPHONE MANUFACTURING CO. *See* The Sterling Telephone & Electric Co.

Berlyn, F. H. P., A.I.E.E., "Ashton," Mead-rd., Chislehurst.

Bermondsey Borough Council Electricity Works, Bermondsey, S.E. Engr., W. E. J. Heenan, M.I.E.E.

Bernard, P. B., Collegnes, Booterstown, Co. Dublin. Director Dublin United Tramways Co., Ltd.; director Shannon Water & Electric Power Co.

Bernheim, B., 41, Lansdowne-rd., London, W. Director National Electric Construction Co., Ltd.; director Musselburgh & District Electric Light & Traction Co., Ltd.; director Mexborough & Hawmarsh Construction Syndicate, Ltd.; director Rhondda Tramways Construction Synd., Ltd.; director Rhondda Tramways Co., Ltd.

Berry, E. E., Bordighera, Italy. Chairman British Continental Electricity Co., Ltd.

Berry, Ernest L., A.M.I.E.E., Lyric-chbrs., Whitcomb-st., London, W.C. (Telegrams: "Kathode, London." Telephone No. 2953, Gerrard.)

Berry, G. C., A.M.I.E.E., 28, Milton-rd., Acton, London, W. (Teleph. No. 8, Chiswick.)

Berry, H. H., A.M.I.E.E., 78, Upper Thames-st., London, E.C.

Berry, James, electrical engineer, Woodcock's-ct., Fishergate, Preston.

Berry Bros., electrical engineers, Birch-lane, Longsight, Manchester. (Teleph. No. 222, Rusholme.)

Berry Construction Co., Ltd., electrical apparatus mfrs., Hastings House, 10, Norfolk-st., London, W.C.

Berry, E. L., Harrison & Co., Lyric-chambers, Whitcomb-st., London, W.C. (Telegrams: "Kathode, London." Telephone No. 2953, Gerrard.)

Berry, F., & Sons, engineers' tool makers, Sowerby Bridge. (Telegrams: "Berry's, Sowerbybridge." Telephone No. 525. A.B.C. Code used.)

BERRY, SKINNER & CO., electrical engineers, wholesale suppliers & manufacturers of all accessories to the electric lighting trade, 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham. (Telegs.: "Ptolemaist, London;" "Ptolemaist, Manchester;" "Ptolemaist, Birmingham." Teleph. Nos.: 5421, Bank; & 13901, Central, London; 3908, Manchester; 3847, Birmingham. A.B.C. Code used.)

Berry, W. D., & Sons, manufacturers & erectors of lightning conductors, &c., Spring Place Works, Springwood-st., Huddersfield. (Telegrams: "Light, Huddersfield." Telephone No. 375.)

Berry, Z. D., & Sons, electrolier, lamp, lustre, &c., manufacturers, 16, Regency-st., Westminster, S.W.

Bert, G., & Co., installation contractors, Lodge-rd., West Bromwich.

Bertgues, L., electrical engineer, 5, Waterford-rd., Fulham, London, S.W.

Berthon, C. T., consulting engineer, 49 & 51, Eastcheap, London, E.C.

Bertin, Philip H., A.M.I.E.E., electrical engineer, 23 & 25, North-st., King's Cross, London, N. (Telegs.: "Dizzy, London." Teleph. No. 9877, Central.)

Bertrams Limited (estab. 1821), steam engine makers, St. Katherine's Works, Sciennes, Edinburgh.

Berwick-on-Tweed Electricity Works. Urban Electric Supply Co., Ltd., proprietors. Resident engineer, J. H. Home, A.M.I.E.E. (Teleph. No. 44.)

Bescoby, J. & J., cable drum carriage manufacturers, Cranwell-st., Lincoln.

Bessant, A. J., electric light engineer, 32, Grove-rd., Eastbourne.

Bessbrook & Newry Electric Tramway Co., Bessbrook, co. Armagh. (Telegrams: "Tramway, Bessbrook.") Nominal capital: 2000 shares of £10 each, loans £6500. Capital issued: £15,000. Directors: J. N. Richardson, Esq. (chairman); H. Barcroft, Esq., D.L.; J. F. Harris, Esq.; C. H. Richardson, Esq.; R. T. Scott, Esq.; W. M. Pim, Esq. Engineer, J. L. D. Meares; secretary, W. Scott. Dividends: 1898–1899, 2 per cent.; 1900 & since, *nil*.

Bessemer, H., & Co., Ltd., steel founders, Bessemer Steel Works, Sheffield. (Telegrams: "Bessemer, Sheffield." Telephone No. 91.)

Bessus & Co., scientific instrument makers, 83 & 84, Hatton Garden, London, E.C. (P.O. Telephone No. 1682, Central.)

Best, H. A., chief assistant electrical engineer, Urban District Council, Worksop.

Best, W., electrical engineer, Indiarubber, Gutta-percha & Telegraph Works Co., Ltd., Silvertown, London, E.; 2 & 4, Royal Exchange-sq., Glasgow; 82, Forsyth-st., Greenock (Telegs.: "Silvergray, Glasgow." Teleph. Nos.: 1434, Royal, Glasgow; & 449, Greenock); & Electricity Works, Dumfries.

Best Belting Co., Ltd., dynamo belting manufacturers, 13, Cullum-st., London, E.C. (Telegs.: "Notwithstanding, London." Teleph. No. 959, Avenue.)

Best & Lloyd, Ltd., electrolier manufacturers, Cambray Works, Handsworth, Birmingham. (Telegs.: "Best, Birmingham." Teleph. No. 35, Smethwick.) Show-rooms: London, 11, Bartletts-bldgs., Holborn Circus (Teleph. No. 1053, Holborn); Paris, 23, rue d'Hauteville. (Teleph. No. 140–36.) Registered March 8, 1898. Nominal capital: £50,000 in 2500 £10 ordinary shares & 2500 £10 preference shares. Issued: £20,020 in ordinary shares & £20,050 in 5 per cent. preference shares, both fully paid up. Directors: R. H. Best, Esq. (chairman); J. Pinckston, Esq.; W. R. Nicholl, Esq.; Geo. Vale, Esq. (secretary).

Beswick, J. H., superintendent Direct United States Cable Co., Ltd., D6, Exchange-bldgs., Liverpool. (Telegs.: "Direct, Liverpool." Teleph. No. 960.)

Bethell, The Hon. Alexander E., Capt., R.N., C.M.G., 31, Draycott-pl., London, S.W.

Bettison, W. H., engineer, Hartlepool Electric Tramway Co., Ltd., West Hartlepool.

Betts, F., fuel economiser maker, 33, Skipton-st., London-rd., London, S.E. (Telegrams: "Brickwork, London." Telephone No. 923, Hop.)

Bettws-y-coed Electric Lighting Co., Ltd., Bettwsycoed, Carnarvon. Registered Feb. 10, 1906. Nominal capital: £5000 in £1 shares.

Beuttell, A. W., chief engineer, North Wales Power & Traction Co., Ltd., Llanberis, R.S.O., Carnarvonshire.

Bevan, F. A., 54, Lombard-st., E.C. Director Eastern Extension Australasia & China Telegraph Co., Ltd.; chairman Anglo-American Telegraph Co., Ltd.

Bevan, H., electric bell fitter, 99, Frederick-st., Cardiff.

Beveridge, Robert, A.M.I.E.E., 87, Adelaide-rd., London, N.W.

Beveridge, Ltd., electrical contractors, 11, Jamaica-st., Glasgow.

Beves, Norman E., London manager, The British Prometheus Co., Ltd., 109, Oxford-st., London, W.

Bevis, H., M.I.E.E., 71, Queen Victoria-st., London, E.C.; & Peel Works, Salford, Manchester. Director General Electric Co., Ltd.

Bexhill Corporation Electricity Works, Bexhill. (Telephone No. 7.) Borough electrical engineer, W. T. Le Feuvre.

Bexley U.D.C. Electricity Works & Electric Tramways, Bexley, Kent. Engineer, C. Mittelhousen.

Beyer, Fred, representing The Copperworks "Deutschland," 8 & 9, Great St. Helen's, London, E.C. (Telegrams: "Beyerfried, London." Telephone No. 10543, Central.)

Beyer, Peacock & Co., Ltd., engineers' tool makers, Gorton, Manchester. (Telegrams: "Loco, Gorton." Telephone No. 255.)

Beynon & Son, electrical contractors (light & bells & telephones), Fleet-st., Torquay, Devon.

Bhisey Patents Syndicate, electric bell manufacturers, 323, Essex-rd., London, N. (Teleph. No. 1565, North.)

Bhone, G. W., electrical engineer, 10, Temple-st., Brighton.

Bibby, W. H., engineer, Northern Counties Electricity Supply Co., Ltd., Morpeth, Northumberland.

Bibby, John, Sons, & Co., Copper Works, Garston, Liverpool. (Telegs.: "Bibby, Liverpool." Teleph. No. 1, Garston.)

Bickford, Smith & Co., Ltd., makers of safety & electric fuses, &c., Tuckingmill & Camborne, Cornwall.

Bidwell, S., M.A., SC.D., LL.B., F.R.S., M.I.E.E., electrician, Beeshmead, Oatlands Chase, Weybridge.

Bigge, D. Selby, & Co., electric power engineers, 27, Mosley-st., Newcastle-on-Tyne (Telegrams: "Selby-Bigge, Newcastle-upon-Tyne." Telephone Nos.: 171, G.P.O.; & 1797, Central, Nat.); & 4, Park-pl., Cardiff. (Telegrams: "Elderitz, Cardiff. Telephone Nos.: 0939, Nat.; & 36, G.P.O.)

Biggs, Charles Henry, A.I.E.E., Coombe House, Stanmore-rd., Richmond.

Biggs, C. H. W., M.I.E.E., consulting electrician, Glebe Lodge, Champion Hill, London, S.E.

Biggs, C. W. V., A.I.E.E., 28, Victoria-st, London, S.W.

Biggs & Sons, publishers of electrical works, 139 & 140, Salisbury-court, Fleet-st., London, E.C. (Telephone No. 12278, Central.)

Bigland, H. H., A.M.I.E.E., M.I.M.E., &c., The Stones, Whitley Bay, R.S.O.

Bigley, T. M., A.M.I.C.E., 19, Castle-st., Liverpool. (Telegs.: "Bigley, Liverpool." Teleph. No. 6472.)

Bigsby, W. T., & Sons, varnish manufacturers, Morden-rd., Mitcham. (Telegrams: "Bigsby, Mitcham.")

Bilbie, Hobson & Co., "Stockport" gas engine, 80, Queen Victoria-st., London, E.C.; & Deverell-st., Great Dover-st., London, S.E. (Telegrams: "Andrew, London." Telephone No. 5937, Bank.)

Biliotti, Frank, A.M.I.E.E., electrical engineer, 110, Shepherd's Bush-rd., London, W.

Bill, C. E. S., A.M.I.E.E., 48, Bryn-rd., Swansea.

Bill, Sydney H., electrical engineer to the Mersey Docks & Harbour Board, Liverpool.

Bill, C. S., & Co., electrical apparatus, 56, Guest-st., Birmingham.

Billings & Spencer Co., manufacturers of tramway material, 8, Long-lane, London, E.C. (Telephone No. 5947, Central.)

Billington, A. M., M.I.E.E., Basildon House, Moorgate-st., London, E.C. (Telegs.: "Moistened, London." Teleph. No. 544, London Wall); & Yelmur, Enys-rd., Eastbourne.

Billington & Newton, electrical engineers, metal castings, Longport, Staffs. (Telegrams: "Bronze, Longport." Telephone No. 304, Potteries District.)

Billows, F. H., superintendent, Indo-European Telegraph Co., 18, Old Broad-st., London, E.C.

Bilsborough, J., electric bell manufacturer, Alderley Edge, Manchester.

Bilsland, Robert, B.SC., A.M.I.E.E., c/o Siemens Bros. & Co., York Mansions, York-st, London, S.W.

Bilston Urban District Council Electricity Works, Bilston, Staffs. Engineer, J. P. Wakeford.

Bingham, J. B., A.M.I.E.E., assistant electrical engineer, Corporation Electricity Works, Kirkcaldy.

Binks, Herbert, case maker, 57, Culford-rd., Southgate-rd., London, N.

Binks Bros., wire rope & lightning conductor manufacturers, Strafford-st., Millwall, London, E. (Telegrams: "Binks, London." Telephone No. 235, Eastern.)

Binney, C. H., director Shropshire, Worcestershire & Staffordshire Electric Power Co., 53, Victoria-st., S.W.

Binnie, Sir A. R., M. COUNCIL I.C.E., F.G.S., M.I.M.E., F.R.M.S. & M.R.I., engineer, 91, Great George-st., Westminster, London, S.W.

Binns, Walter, M.I.MECH.E., A.M.I.E.E., general manager & engineer, Corp. Tramways, Mill-lane, Reading. (Nat. Teleph. No. 330.)

Binns, J. & A., manufacturers of all kinds of iron & steel wire, West Mount Wire Works, Halifax. (Telegrams: "Wire, Halifax." Telephone No. 214.)

Birch, W., Gernheim, High Wycombe. Director Wycombe (Borough) Electric Light & Power Co., Ltd.

Birch, G., & Co., engineers & machine tool makers, Islington Tool Works, Salford, Manchester. (Telegrams: "Birch, Islington, Salford." Telephone No. 3191.)

Birch, John, & Co., Ltd., merchants & engineers, 3, London Wall-bldgs., London, E.C. (Telegrams: "Endeavour, London." Telephone No. 725, London Wall.)

Birchley & Co., electric lighting contractors, Oxford-st., Gloucester. (Telegs.: "Birchleys, electricians, Gloucester." Teleph. No. 13 Y. 5.)

Bird, A. G., A.M.I.E.E., engineer & manager Guernsey Electricity Supply Co., Les Amballes, Guernsey.

Bird, A. J., electrical engineer, 17, Union-st., Ryde, Isle of Wight.

Bird, George M., The Mulberries, Stratford-on-Avon. Chairman Stratford-on-Avon Electricity Co., Ltd.

Bird, Frederick, & Co., manufacturers of electric light pavement & roadway boxes, standards, pipes, &c., 11, Great Castle-st., Regent-st., London, W. (Telegs.: "Astute, London." Tel. No. 5512, Gerrard.)

Birkbeck College, Bream's-bldgs., Chancery-lane, London, E.C.

Birkdale District Electric Supply Co., Ltd., Donington House, Norfolk-st., London, W.C. (Telegrams: "Birkdale, c/o Tramway, London." Telephone Nos. 6821 & 6822, Gerrard); & Birkdale, Lancs. Registered May 21, 1901. Nominal capital: £30,000 in £5 shares & £15,000 debentures. The whole of the ordinary shares have been issued & are fully paid. Particulars of a series of £3000 debentures, created Feb. 14, 1905, have been filed. Directors: J. S. Raworth, Esq. (chairman); J. V. Kitchener, Esq.; S. A. Sillem, Esq. Secretary, S. Neville Wells; engineer, H. Bentham, A.M.I.E.E.

Birkdale Technical School, Birkdale. *See* SCHOOLS.

Birkenhead Corp. Electricity Works & Electric Tramways, Birkenhead. W. Bates, M.I.C.E., A.M.I.E.E., engineer. (Telegs.: "Bates, Electricity Works, Birkenhead." Teleph. No. 1157, Birkenhead.)

Birkenhead School of Art, Birkenhead. *See* SCHOOLS.

Birket, F., & Sons, electrical engineers, Cleckheaton.

Birkett, Robert, A.I.E.E., corporation electrical engineer, Southend-on-Sea.

Birmingham Association of Mechanical Engineers, 31, Palmerston-rd., Sparkbrook, Birmingham. Secretary, L. O'Brien.

Birmingham Battery & Metal Co., Ltd., brass & copper tube manufacturers, Selly Oak, Birmingham. (Telegs.: "Battery, Selly Oak." Nat. Teleph. Nos. 51 & 52.)

Birmingham Carbon Works, Witton, Birmingham. (Telegrams: "Carbonized, Witton, Birmingham." Telephone Nos. 2001 & 2002.)

Birmingham, City of, Tramways Co., Ltd. *See* City of Birmingham.

Birmingham Corporation Electricity Works. (Telegs.: "Dynamo, Birmingham." Teleph. Nos. 700 & 4327.) Engineer, R. A. Chattock, M.I.E.E.

Birmingham Corporation Tramways, County-bldgs., 147, Corporation-st., Birmingham. Electrical engineer, C. W. Hill; general manager, Alf. Baker.

Birmingham Electrical Fittings Co., Baskerville Electrical Works, Broad-st., Birmingham. (Telegs.: "Electrical, Birmingham.")

Birmingham Guild of Handicraft, Ltd., electric light fittings makers, 45, Great Charles-st., Birmingham. (Telegrams: "Handicraft, Birmingham." Telephone No. 3750.) London show-room: 7, Newman-st., Oxford-st., W. (Telephone No. 6657, Gerrard.)

Birmingham Installation Co., electrical engineers, Coleshill-st. Electrical Works, Birmingham. (Telephone No. 1607.)

Birmingham Lamp & Gasfittings Co., Ltd., name tablets for arc lamps, Summerfield Park Works, Birmingham.

Birmingham Lighting Co., electric light fittings makers, Edison Works, 133–135, Conybere-st., Birmingham. (Telegs.: "Celerity, Birmingham." Teleph. No. 164 X., Central.)

Birmingham Local Section of the Institution of Electrical Engineers, Winchester House, Victoria-sq., Birmingham. R. A. Chattock, chairman; H. B. Matthews, hon. secretary. (Teleph. No. 1511.)

Birmingham & Midland Tramways, Ltd., Donington House, Norfolk-st., W.C. (Telegs.: c/o Tramway. Teleph. Nos. 6821 & 6822, Gerrard.) Registered Nov. 22, 1883. Nominal capital: £1,050,000. Issued: £350,000 preferred ordinary shares, £209,780 in £10 preference shares & £350,000 deferred ordinary shares, all fully paid, & £355,000 4½ per cent. debenture stock. A trust deed, dated June, 1904, to secure £200,000 first debenture stock (with power to issue further stock, ranking *pari passu* up to half the subscribed capital for the time being), has been registered, and a further amount of £155,000 has been issued. Directors: C. S. B. Hilton, Esq. (chairman); J. A. Lycett, Esq. (managing); S. R. Blundstone, Esq.; Sir E. Spencer. Secretary, B. Kingsford; engineering manager, G. Conaty; traffic manager, R. W. Cramp. Dividends: 1901 & 1902, 5 per cent.; 1903, 6 per cent.; 1904, 5½ per cent. on preferred ordinary.

Birmingham Municipal Technical School, Birmingham. *See* Schools, Classified Section.

Birnbaum, I. B., manager The Sterling Telephone & Electric Co., 200, Upper Thames-st., London, E.C. (Telegrams: "Cucumis, London." Telephone No. 6089, Bank.)

Birrell, T. H., mains superintendent, Electricity Works, Worcester.

Birt, J. A. W., lightning conductor manufacturer, Tower Works, Wapping, London, E. (Telegrams: "Cortica, London.")

Birt, Sir Wm., Devonshire House, Shortlands, Kent. Deputy chairman Metropolitan Railway Co.

Birtill, Spurrier & Co., Ltd., slate for electrical purposes, Grove Works, Bury New-rd., Manchester. (Telegs.: "Aconite, Manchester.")

Bishop, C. E. S., 4, Throgmorton-ave., E.C. Director Venezuela Telephone & Elec. Appliances Co, Ltd.

Bishop, H. Collings, M.I.E.E., borough electrical & tramways manager, Newport, Mon. (Teleph. No. 15, Town Hall.)

Bishop, Howard W., electrical engineer, 15, College-rd., Moseley, Birmingham.

Bishop, H. W., district superintendent Edison & Swan Co., International Exchange-bldgs., Edmund-st., Birmingham. (Telegrams: "Ediswan, Birmingham." Telephone No. 997.)

Bishop, O. H., A.I.E.E., sales manager, Edison & Swan United Electric Light Co., Ltd., Ediswan-bldgs., 36, Queen-st., Cheapside, London, E.C. (Telegs.: "Ediswan, London." Teleph. No. 925, Bank.)

Bishop, W. J., A.I.E.E., electrician, The Limes, Milton-rd., Croydon.

Bishop Auckland Electricity Works, Durham. (Telegs.: "Unit, Bishop Auckland." Teleph. No. 31, Nat.) Cleveland & Durham Electric Power, Ltd., proprietors. Manager, A. B. Gridley; district engineer, C. H. Lydall.

Bishop, S. & C., & Co., gauge glasses, separator tubes, &c., St. Helens, Lancashire. (Telegrams: "Bishop, St. Helens." Telephone No. 63.)

Bishop's Stortford & Stanstead Electric Lighting Co., Ltd., Bishop's Stortford, Herts. Registered June 29, 1904. Nominal capital: £1000 in £1 shares.

Bissoker, Hy., electric light fittings maker, 11–15, New Bartholomew-st., Birmingham.

Bist, Alfred, & Co., Ltd., electrical & mechanical engineers, 18, Tib-st., Manchester.

Björnstad, J., M.I.M.E., M.I.E.E., consulting engineer, Broad Sanctuary-chbrs., Westminster, London, S.W.

Black, A. S., assistant engineer, Corporation, Southport.

Black, F. D., manager Electrical Department, Wm. Bryden & Son, 206, Bath-st., Glasgow.

Black, G. L., M.I.E.E., 75, Waterloo-st., Glasgow.

Black, John W., A.M.I.E.E., electrical engineer, 108A, West Regent-st., Glasgow.

Black Sea Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Registered May 12, 1873. Nominal capital: £150,000 in £10 shares. Issued: 13,000 shares, fully paid. Directors: Sir J. Denison-Pender, K.C.M.G. (chairman & managing director); Sir Wm. R. Brooke, K.C.I.E.; Sir A. J. Leppoc Cappel, K.C.I.E.; F. Alex Johnston, Esq.; T. W. Stratford-Andrews, Esq. Secretary, A. R. Hardie.

Blackburn, A. A., A.M.I.E.E., electrical & mechanical engineer, Wilmont-ter., Lisburn-rd., Belfast; & car works manager, City Tramways, Sandy Row, Belfast.

Blackburn, G. R., A.M.I.C.E., A.M.I.E.E., Tramways Department, Manchester.

Blackburn, R. S., A.I.E.E., electrical engineer & contractor, telephone, electric light, bells, &c., Ribstone Works, Commercial-st., Hebden Bridge, viâ Manchester. (Telegrams: "Blackburn, electrician, Hebden Bridge.")

Blackburn, W. A., engineer, Corporation Electricity Works, Burton-on-Trent.

Blackburn, C., & Son, electrical installations, 67, Redcliff Hill, Bristol. (Nat. Telephone No. 2146 Y.)

Blackburn Corporation Electricity Supply Department. (Telegs.: "Electricity, Blackburn." Teleph. No. 500.) P. P. Wheelwright, engineer.

Blackburn Corporation Tramways Department. (Telegs.: "Tramways, Blackburn." Teleph. No. 547.) J. H. Cowell, general manager.

Blackburn Municipal Technical School, Blackburn. *See* SCHOOLS, CLASSIFIED SECTION.

Blackburn, Starling & Co., Ltd., electrical engineers & lightning conductor makers, Gresham Works, Nottingham; 72, Piccadilly, Hanley; & 12, Fleet-st., Dublin. (Telegrams: "Blackburn, Nottingham." Telephone No. 238, Nott.) Registered March 28, 1899. Capital: £12,000 in £1 shares. Directors: J. Blackburn, Esq. (chairman); F. H. Starling, Esq. (managing director & secretary); C. Osborne, Esq.

Blackett, J. F., electrical engineer, Walker Gate Brass Works, Newcastle-on-Tyne.

Blackheath & Greenwich District E. L. Co., Ltd. *See* South Metropolitan Elec. Light & Power Co., Ltd.

Blackley, Samuel, A.I.E.E., March Hill, Dumfries, N.B.

Blackley, D. & J., electric bell & telephone fitters & contractors, Gilmore Park, Edinburgh. (Teleph. No. 3931 X.)

Blackman, Alfred S., M.I.E.E., borough electrical engineer, Sunderland.

Blackman, T. M., A.M.I.E.E., Crompton-ter., Garstang-rd., Fulwood, Preston, Lancs.

Blackman Export Co., Ltd., ventilating engineers, 70, Finsbury Pavement, London, E.C. (Telegrams: "Aculla, London." Telephone No. 156, London Wall.)

Blackmore, A., electrician, 5, Montpelier-st., Brompton, London, S.W. (Telephone No. 287, Western.)

Blackmore, R., electrical engineer, Hyde, Stalybridge, Mossley & Dukinfield Joint Electricity & Tramways Board, Stalybridge.

Blackmore, R., electrical contractor, 5, Montpelier-st., London, S.W. (Teleph. No. 287, Western.)

Blackpool Corporation Electricity Supply & Electric Tramways, West Caroline-st., Blackpool. (Telegrams: "Electricity, Blackpool." Telephone No. 67.) Chairman, Alderman Joseph Brodie; borough electrical & tramway engineer, Charles Furness.

Blackpool Electric Tramways (South), Ltd., 43, Castle-st., Liverpool. Registered April 29, 1901. Nominal capital: 70,000 ordinary shares of £1 each & 30,000 preference shares of £1 each, & £150,000 in 5 per cent. mortgage debenture bonds of £100 each. Issued: all the ordinary & preference shares, & £150,000 debentures issued to trustees, against which £150,000 mortgage debenture stock has been issued. Director: G. Hall Neale, Esq. Secretary, Andrew McGowan.

Blackpool Engineering Works, Ltd., electrical & general engineers, New-rd., Blackpool. (Telegrams: "Energy, Blackpool." Telephone No. 109.)

Blackpool & Fleetwood Electric Tramroad Co., Bispham, nr. Blackpool. (Telegs.: "Cameron, Blackpool." Teleph. No. 121, Blackpool.) Incorporated 1896 & 1898. Nominal capital: £180,000 in ordinary shares, of which £150,000 has been issued, & 800 5 per cent. mortgage debenture bonds of £50 each. Loans authorized: £60,000. Directors: G. Richardson, Esq. (chairman); R. B. Barningham, Esq.; R. H. Prestwich, Esq.; G. Readman, Esq.; J. Greenwood, Esq.; R. S. Boddington, Esq. Engineer, A. Cameron; secretary & general manager, J. Cameron. Dividends: Dec., 1902, 9 per cent. per annum for half year; June, 1903, 4 per cent. per annum for half year; Dec., 1903, 9 per cent. per annum for half year; June, 1904, 4 per cent. per annum for half year; Dec., 1904, 9 per cent. for half year.

Blackpool & Garstang Light Railway Co., 5, Clifton-st., Blackpool. Nominal capital: £180,000 in £10 shares. Directors: J. Greenwood, Esq. (chairman); T. Fisher, Esq., J.P.; C. Hopkinson, Esq.; J. Platt, Esq.; W. Walker, Esq. Secretary, R. Bibby; consulting engineers, Myres, Veevers & Myres.

Blackpool, St. Anne's & Lytham Tramways Co., Ltd., 30, Birley-st., Blackpool. (Teleph. Nos. 327 & 22, Blackpool.) Registered Oct. 15, 1898. Capital reduced in 1904 to 100,000 ordinary shares of 16*s.* each & 50,000 cumulative preference shares of 18*s.* each, all issued, & £150,000 5 per cent. debenture stock, all issued. Issue on May 20, 1905, of £5000, part of series created by resolutions of Jan. 12 & March 13, 1905, to secure £15,000. Previously issued of same series, £10,000. Directors: Thos. Blane, Esq.; T. M. Smith, Esq.; Geo. Nicholson, Esq. Secretary, C. E. Riding. Manager, Harry W. Laing.

Blackwell, James S., A.I.E.E, 54, Clarendon-st., Leicester.

Blackwell, Robert W., M.I.E.E., Parliament-chbrs., 14, Great Smith-st., London, S.W. Chairman R. W. Blackwell & Co., Ltd.; chairman Johnson & Phillips, Ltd.

Blackwell, Geo. G., Sons & Co., Ltd., manganese merchants, manganese & carbon prepared especially for batteries. Works: Garston. Head offices: The Albany, Old Hall-st., Liverpool (Telegrams: "Blackwell, Liverpool." A.B.C. Code. Telephone No. 959; Garston, 50); & 6 & 7, Cross-lane, London, E.C. (Telegrams: "Tungstate, London.")

BLACKWELL, ROBERT W., & CO., LTD., ENGINEERS & CONTRACTORS, PARLIAMENT-CHBRS., 14, GREAT SMITH-ST., LONDON, S.W. (TELEGS.: "KURKEE, LONDON." TELEPH. NOS. 766 & 767, WESTMINSTER. A1, A.B.C. & LIEBER'S CODES USED.) Registered Aug. 29, 1899. Nominal capital: £250,000 in £1 ordinary shares. All are issued, 225,000 fully paid, & 25,000 have 10*s.* per share paid. Directors: Robert W. Blackwell, Esq. (chairman); F. H. Barker, Esq.; E. R. James, Esq.; B. Hunting Howell, Esq.; W. H. Lynch, Esq. W. J. Bailey, secretary.

Blackwood, J. A., A.I.E.E., Union Cable Co., Ltd., 27, Eagle Wharf-rd., London, N.

Blackwood, W. E., electrical contractor, 1, Walton-st., Chelsea, London, S.W. (Teleph. No. 1576, Kens.)

Bladon, W. F., electrical engineer & manager Barrow-in-Furness Tramways.

Blaikie, J. R., A.M.I.E.E., 4, Priory Garden Villas, Cambridge-rd., Hastings.

Blaikie, John, & Sons, electric light engineers, 218, Union-st., & Littlejohn Street Metal Works, Aberdeen. (Telegs.: "Blaikie, Aberdeen." Teleph. Nos. 65 & 56.)

Blain, H. E., tramways manager, West Ham Corporation Tramways, Tramways Office, West Ham-lane, E. (Telegs.: "Trameurs, London." Teleph. No. 868, East.)

Blaine, R. G., M.E., A.M.I.C.E., consulting engineer, Afton Lodge, Stanley-rd., South Woodford, N.E.; & lecturer on mechanical engineering, City & Guilds of London Technical College, Leonard-st., E.C.

Blair, G. C., A.M.I.E.E., electrician, The Moorings, Thornly Park, Paisley, N.B.

Blair, Jas. A., 24, Broad-st., New York. Director Underground Electric Railways Co. of London, Ltd.

Blair, J. M., A.M.I.E.E., resident electrical engineer, Electricity Works, Acton, London, W.

Blair, Campbell & McLean, Ltd., copper pipe work, castings & coils, Woodville-st., Govan, Glasgow. (Telegs.: "Blazon, Glasgow." Nat. Teleph. Nos.: 18, Govan; & 128, Corp.)

Blake, A., electrical engineer to Urban District Council, Winidor, Grove-rd., Fareham, Hants.

Blake, A. W., A.M.I.E.E., A.M.I.MECH.E., electrical engineer, Mills, English & Co., Swansea.

Blake, F. C., electrical engineer, Station-ave., Kew Gardens, London, S.W. (Teleph. No. 136, Richmond.)

Blake, H. E., electrical engineer, 40, Streatham-pl., Streatham Hill, London, S.W.

Blake, H. N., electrical engineer & contractor, 28, High-st., Birmingham.

Blake & Knowles Steam Pump Works, engineers, 153, Queen Victoria-st., London, E.C. (Telegs.: "Steampump, London." Teleph. No. 5097, Bank.)

Blaker & Sons, electrical contractors, Leatherhead.

Blakesley, T. H., M.A., M.I.C.E., electrician, Royal Naval College, Greenwich, London, S.E.

Blakey, A. B., A.I.E.E., Rose Bank, Totley Brook, Totley, nr. Sheffield.

Blakey, Edwin, M.I.E.E., consulting electrical engineer, Barmouth, N. Wales. (Telegrams: "Blakey, Barmouth.")

Blakey Bros., electric sign makers, Bridlesmith Gate, Nottingham. (Telephone No. 1273.)

Bland & Co., installation contractors, Church-st., West Hartlepool.

Blandford, Sidney, A.I.E.E., 38, Harmer-st., Gravesend.

Blane, Thos., director Blackpool, St. Anne's & Lytham Tramways Co., Ltd., 30, Birley-st., Blackpool.

Blasberg Engineering Co., engineers & contractors, 78, Cross-st., Manchester. (Telegs.: "Mandate, Manchester." Teleph.: No. 6978.)

Blascheck, C. A., A.M.I.E.E., city electrical engineer, Canterbury.

Blaxland, H. M., ironmonger & electrical engineer, Broadway, Eltham.

Blenheim, Wm., A.M.I.E.E., M.S.A., Egham, Surrey. (Telegs.: "Blenheim, Egham." Teleph. No. 023, Egham.)

Blenheim, Wm. John, A.I.E.E., c/o Muirhead & Co., Elmers End, Beckenham.

Blenheim, W., & Co., electrical engineers, Egham, Surrey. (Telegs.: "Blenheim, Egham." Tel. No. 023.)

Blenkarn, Walter, electrical engineer & representative, 11, Queen Victoria-st., London, E.C. (Telegrams: "Blenkarns, London.")

Blennerhassett, R. F., A.I.E.E., 52, Hans-pl., London, S.W.

Blick, F., C.E., local engineer, National Telephone Co., Market-st., Paddington. (Telephone No. 101, Paddington.)

Bligh, J. R., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness.

Blight, John, jun., electrical & telephone engineer, 1, Frobisher-terrace, Falmouth.

Bliss, Sir H. W., K.C.I.E., 10, Cornwall-gdns., S.W. Director Kensington & Knightsbridge Electric Lighting Co., Ltd.

Bliss, E. W., & Co., metal working machinery, New-rd., Wandsworth-rd., S.W.

Blissett, P. T., A.M.I.E.E., A.M.I.M.E., Guinness, Sons & Co., St. James's Gate Brewery, Dublin.

Blissett, T., M.I.E.E., c/o Grindlay & Co., 54, Parliament-st., London, S.W.

Blockley Electric Supply Co., electric light works, Blockley, Worcs.

Bloemendal, Arthur J., A.M.I.E.E., Alliance Electrical Co., Ltd., 23, Grafton-st., London, W.

Blok, Arthur, A.I.E.E., B.SC., 47, Pyrland-rd., Canonbury, London, N.

Blomfield & Co., electrical engineers, St. Botolph's-corner, Colchester. (Telephone No. 5 Y. 3, Colchester.)

Bloomfield, F. J., electrical engineer, 71A, King-st., Maidenhead, Berks.

Blount, Bertram, F.I.C., electrolytic chemist, 76–78, York-st., Westminster, London, S.W. (Telephone No. 6870, Gerrard.)

Bloxam, T. W., A.M.I.E.E., Corporation Electric Light Works, East Bridge-st., Belfast. (Telephone No. 833A.)

Bluemel, C. W., & Bros., makers of electric ignition devices, &c., Wolston, nr. Coventry; & at 37, Great Eastern-st., London, E.C. (Telegs.: "Bluemel," Coventry & London. Teleph. No. 12156, Central.)

Blumann & Stern, Ltd., manufacturers & importers of high-class lubricants of every description, Plough Bridge, Deptford, London, S.E. (Telegs.: "Blumann, London." Teleph. No. 92, Deptford.)

Blundell, Harry, M.I.C.E., chief engineer, Cheshire Lines Railway, Central Station, Liverpool.

Blundell, J. Wagstaff, A.I.E.E., 21, Norton-rd., Hove, Sussex.

Blundell, Spence & Co., Ltd., lubricant manufacturers, Anchor Wharf, 9, Upper Thames-st., London, E.C. (Telegrams: "Blunspence, London." Telephone No. 624, Bank.)

Blundstone, S. R., consulting engineer, 3, Ludgate Circus-bldgs., London, E.C. Director South Staffordshire Tramways Co.; director South Staffordshire Tramways (Lessee) Co., Ltd.; chairman Wolverhampton District Electric Tramways, Ltd.; director Birmingham & Midland Tramways, Ltd.; director Dudley, Stourbridge & District Electric Traction Co., Ltd.

Blunt, H., director N. Melbourne Elec. Tramways & Lighting Co., Ltd., Worcester House, Walbrook, E.C.

Blyth, Alfred Carleton, A.M.I.E.E., c/o H. D. Blyth & Co., 34, Lime-st., London, E.C.

Blyth, James, M.A., LL.D., F.R.S.E., professor of natural philosophy, Glasgow & West of Scotland Technical College, Glasgow.

Blyth, S. F., A.M.I.E.E., Electricity Works, Gt. Yarmouth.

Blyth Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Blyth, Northumberland. Engineer, C. W. Fairweather.

Blythen, A. A., A.I.E.E., 39, Holmwood-gdns., Brixton Hill, S.W.

Blythswood, Lord, A.I.E.E., Blythswood, Renfrew, N.B.

Boake, A., Roberts & Co., Ltd., manufacturers of sulphurous acid & other chemicals, Stratford, London, E. (Telegrams: "Boake, London." Telephone No. 7, Stratford.)

Board of Education, South Kensington, London, S.W. (Telegs.: "Instruction, London." Teleph. No. 77, Western.)

Board of Trade, Whitehall Gardens, London, S.W. H. L. Smith, permanent secretary. For officials, *see* Government Officials, Classified Section.

Boate, R., assistant engineer, Cork Electric Tramways & Lighting Co., Ltd., Cork.

Boby, W., engineer, Salisbury House, London Wall, London, E.C.

Bock, Jas. K., A.M.I.E.E., electrical engineer, Finsbury Pavement House, Finsbury Pavement, London, E.C.

Bocquet, Frank H., A.I.E.E., c/o W. S. Forster, Rumwood, Langley, nr. Maidstone.

Boddington, R. S., Strangeways, Manchester. Director Electric Railway & Tramway Carriage Works, Ltd.; director Blackpool & Fleetwood Electric Tramroad Co.

Boldy, G. M., & Co., incandescent lamps, 18, Newington, Liverpool.

Boex, N. J., supt. of the Direct Spanish Telegraph Co., Ltd., 74 & 75, Gracechurch-st., London, E.C.

Bogota Telephone Co., Ltd., 110, Cannon-st., London, E.C. (Telegs.: "Pelacz, London." Teleph. No. 5496, Bank. Bedford, M'Neil, Broomhall, Moreing & Neal, K.K., A.B.C. & Lieber's Codes.) Registered Dec. 31, 1900. Nominal capital: £25,000 in £1 shares. Issued: 20,107 shares (10,000 as paid). £15,000 debentures, secured by trust deed, dated May 30, 1905, have been registered. Directors: F. Dodd, Esq.; G. P. Haddock, Esq.; Loraine Petre, Esq.; J. E. Cliffe, Esq.; J. F. Alex. Rawlinson, Esq. Secretary, A. G. Thresher.

Bohringer, A. J., A.I.E.E., 30, Alfred-pl. West, London, S.W.

Boissier, E., superintendent of mains, Corporation Electricity Supply Works, Derby.

Bojesen, S. S., Swan House, Copthall-ave., London, E.C. Director De Forest Wireless Telegraph Synd., Ltd.

Bolam, J. H., M.SC., station superintendent, Electric Light Station, Bristol.

Bolas, T., F.C.S., F.I.C., &c., electrical & chemical laboratories, 60, Grove-park-ter., Chiswick, London, W.

Boldero, Alexander F. J., M.F.S., Ivy House, Penkridge, Staffs.

Bolding, J., & Sons, Ltd., brass manufacturers, &c., Grosvenor Works, Davies-st., Berkeley-sq., London, W. (Telegrams: "Boldings, London." Telephone No. 5077, Gerrard.)

Bole Hall Mill Co., telegraph tape manufacturers, Tamworth. (Telegrams: "Bolehall, Tamworth.")

Bolton, Ernest, electrical engineer, 8, Alan-rd., Withington, Manchester.

Bolton, R. A. R., A.M.I.E.E., Brincliff, Elsee-rd., Rugby.

Bolton, W., superintendent Eastern Telegraph Co., K13, Exchange-bldgs., Liverpool.

Bolton, Wm. F., A.M.I.E.E., electrical engineer, 36 & 38, New-st., Ashford, Kent.

Bolton & Co., superheaters, 49, Deansgate, Manchester.

Bolton Corporation Electricity Supply & Electric Tramways. Works: Spa-rd., Bolton. (Telegrams: "Engineer, Electricity Works, Bolton." Telephone No. 269.) Borough electrical engineer & tramways general manager, Arthur A. Day, A.M.I.C.E., M.I.E.E.

Bolton & Sons, electricians, 153, Hope-st., Glasgow. (Telegs.: "Gresham, Glasgow." Tel. No. 4286.)

Bolton Technical School, Bolton. *See* SCHOOLS, CLASSIFIED SECTION.

Bolton, Thomas, & Sons, Ltd., Manufacturers of Copper Telegraph & Electric Wire, Mersey Copper Works, Widnes (Registered Offices) (Telegrams: "Rolls, Widnes." Telephone No. 13); Oakamoor, North Staffs. (Telegrams: "Bolton, Oakamoor"); Broad-St. Metal Works, Birmingham (Telegrams: "Boltons, Birmingham." Teleph. No. 244); & 88, Bishopgate-st. Within, London, E.C. (Telegs.: "Wiredrawn, London." Telephone No. 632, Central.)

Bombay Electric Supply & Tramways Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. (Telegs.: "Bombay, c/o Tramways, London." Western Union Code. Teleph. No. 6821, Gerrard.) Registered June 27, 1905. Nominal capital: £1,200,000 in £10 shares (£600,000 preference), & £600,000 debentures. Issued: £270,070 in ordinary shares, fully paid, £600,000 in preference shares, £6 per share paid, & all the debentures paid up & secured by trust deed of Nov. 7, 1905. Directors: Sir Ed. Sassoon, Bart., M.P.; Sir E. C. K. Ollivant, K.C.I.E.; E. Garcke, Esq.; C. Shirreff B. Hilton, Esq.; F. C. Rimington, Esq. (managing). Engineers, C. W. G. Little, London; A. T. Cooper, Bombay; secretary, E. Hopwood.

Bomford & Evershed, Ltd., general engineers, &c., Atlas Works, Pershore.

Bompas, G. C., A.I.E.E., 121, Westbourne-ter., Hyde Park, London, W.

Bonathan, J. A., district manager National Telephone Co., 3, Cheapside-chbrs., Luton. (Telephone No. 40.)

Bond, F. A., A.M.I.E.E., chief engineer, Battersea (London) Council, Battersea, S.W.

Bond, W. F., electrician, 245, Euston-rd., London, N.W. (Telephone No. 3943, Central.)

Bond, Walter G. A., A.I.E.E., British Electric Traction Co., Donington House, Norfolk-st., Strand, W.C. Chairman Devonport & District Tramways Co.; chairman Taunton Electric Co., Ltd.; director North Staffordshire Tramways Co., Ltd.; director Hartlepool Electric Tramways Co., Ltd.; chairman Gravesend & Northfleet Electric Tramways, Ltd.; director Worcester Electric Traction Co., Ltd.; director Swansea Improvements & Tramways Co.

Bond Bros., electrical cabinet work, 16 & 21, Sunbury Workshops, Calvert-ave., Shoreditch, London, E.C.

Bo'ness Town Council Electricity Works, Bo'ness, N.B. Engineer, J. M. McGown.

Bonnella, D. H., & Son, Ltd., manufacturing electricians, ivory, wood & bone turners for electrical purposes, 58 & 60, Mortimer-st., London, W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) Registered May 25, 1899. Nominal capital: £15,000. Directors: D. H. Bonnella, Esq. (chairman); & A. J. Bonnella, Esq. *See advt. under* IVORY & WOOD TURNERS.

Bonner, J. D., 9, Victoria-st., S.W. Chairman Loch Leven Water & Electric Power Co.

Bonney, G. E., consulting electro-plater, 5, Ravensbourne-terrace, Morden Hill, Lewisham, S.E.

Bonney, S. R., & Co., electro-platers, &c., 34, Blackheath-rd., & 8, Skinners-row, Greenwich, S.E.

Bontch, John Meikle, A.I.E.E., 51, Forsyth-rd., Jesmond, Newcastle-on-Tyne.

Boond, S., electric light & power contractor, Leigh, Lancs.

Boor, G., & Co., chemical manufacturers, 21, Mincing-lane, London, E.C. (Telegs.: "Boor, London." Teleph. No. 1488, Avenue. A.B.C. Code.) Warehouse: 37, Tenter-st., Spitalfields.

Boot, H. L. P., C.E., M.I.E.E., consulting & borough electrical engineer, Electricity Works, Tunbridge Wells. (Telegrams: "Boot, Tunbridge Wells." Telephone No. 565.)

Booth, G. C., electrical engineer, 28, Silver-st., Whitby.

Booth, John, Barton Hall, Preston. Chairman National Electric Supply Co., Ltd.

Booth, Richard, electrician, 27, Cunliffe-street, Chorley, Lancs.

Booth, Robt., engineer, 110, Cannon-st., E.C. (Telegs.: "Crocus, London." Tel. No. 1477, Central.)

BOOTH, WM. H., steam engineer & Artesian & technical expert, 2, Queen Anne's-gate, Westminster, London, S.W. (Teleph. No. 2065, Victoria.)

Booth, George, & Co., machine tool makers, Arundel-st., Gibbet-st., Halifax. (Telegrams: "Boothe, Engineers, Halifax." Telephone No. 16x.)

Booth, James, & Co., Ltd., manufacturers of brass & copper tubes, strip, sheets, &c., Sheepcote-st. Tube & Rolling Mills, Birmingham. (Telegrams: "Booth, Birmingham." A.B.C., 5th edit., Lieber's & private Codes. Telephone No. 62.)

Booth, Joseph, & Bros., Ltd., engineers, electric & steam crane manufacturers, Rodley, Leeds; & 75A, Queen Victoria-st., London, E.C. (Telegrams: "Cranes, Rodley." Teleph. No. 20, Stanningley.)

Booth, S., & Co., electric light fittings manufacturers, Cheapside Works, Birmingham. (Telegrams: "Cheapside, Birmingham." Telephone No. 1182.)

Boothroyd, H. T., Hyslop & Co., electrical & mechanical engineers, Akenside-st., Bootle, Lancs. (Telegrams: "Commutator, Liverpool." Telephone No. 420, Bootle.)

Bootle Corporation Electricity Works & Electric Tramway, Bootle, Lancs. Borough electrical engineer, T. D. Clothier. (Telephone No. 424.)

Bootle Municipal Technical School, Bootle, Lancs.

Borland, F. J., A.M.I.E.E., Old Mills, Camp-road, & 3 Elmwood Green, Leeds.

Borland, F. J., & Co., electrical and general engineers, makers of "Scissors" Arc Lamps, Old Mills, Camp-rd., Leeds. (Telegs.: "Borland, Leeds." Teleph. No. 375Y.)

Bornand, F. V., A.M.I.E.E., Winchester House, Victoria-sq., Birmingham.

Borns, H., PH.D., F.C.S., A.M.I.E.E., technical translator, 5, Sutton Court-rd., Chiswick, W.

Boron Battery Electrical Supply Co., boron carbon manufacturers, Liverpool Research Laboratory, 131, St. Domingo-rd., Liverpool.

Borough Polytechnic Institute (W. M. Richardson, secretary; C. T. Millis, M.I.M.E., principal of educational department), 103, Borough-rd., London, S.E. (Telegrams: "Polychrest, London." Teleph. No. 3013, Hop.)

Borrer, J. H., director Gloucestershire Electric Power Co.; director Gloucestershire Electric Power Syndicate, Ltd.

Bosanquet, Charles J., M.S.A., A.M.I.E.E., Stokesay, Kidbrook Park-rd., Blackheath, S.E.

Boscawen, A. G., Soon's Park, Edenbridge, Kent. Chairman Manx Electric Railway Co., Ltd.

Bosomworth, Wm., Postal Telegraph Factory, Mount Pleasant, London, E.C.

Bostel Bros., electrical engineers, 18 & 19, Duke-st., Brighton. (Teleph. Nos.: 98, Corp.; & 869 X., Nat.)

Botham, A., A.I.E.E., electrical engineer, 47, Romilly-road, Finsbury-park, London, N.

Botley, C. F., A.M.I.C.E., gas & electrical engineer, Hastings. (Telegs.: "Botley, Hastings." Teleph. No. 23B.)

Botten, Henry, electrical engineer & manufacturing electrician, 39, Lime-st., London, E.C.

Botting, C., electrical engineer, West-st., Maidenhead.

Botting, C. J., engineer, New Palace Pier, Brighton.

Botting, R. G., A.I.E.E., manager Aberdeen Electrical Engineering Co., Ltd., 17, Belmont-st., Aberdeen.

Bottomley, C. F., resident engineer Market Drayton, Electric Light & Power Co., Ltd., Market Drayton, Salop.

Bottomley, J. T., M.A., LL.D., D.SC., F.R.S., F.R.S.E., F.C.S., M.I.E.E., 13, University-gdns., Glasgow. (Teleph. No. 35, Hillhead.)

Bottomley, Walter R., private telephone engineer, 30, Huddersfield-rd., Brighouse, Yorks.

Bottomley & Liddle, chartered patent agents, 154, St. Vincent-st., Glasgow. (Telegs.: "Patentable, Glasgow." Teleph. Nos.: Argyle, 1227, Nat.; & 1237, Corp.)

Bottone & Son, manufacturers of dynamos, motors, voltmeters, wireless telegraphs, &c., Wallington, Surrey. (Telegrams: "Bottone, Wallington.")

Boucher, J. W., A.I.E.E., electrician, district superintendent South & West of Ireland of the Edison & Swan U. E. L. Co., Ltd., 12, Dawson-st., Dublin. (Telegs.: "Ediswan, Dublin." Telephone No. 618.)

Boughton, H. F., registered patent agent, Boughton & Co., Patent Offices, 114A, Chancery-lane, W.C.; 14, Bell-yard, Temple Bar, W.C.; & 10, Heath-rd., Hounslow, W.

Boulnois, Edmund, 27, Westbourne-ter., W. Director Westminster Electric Supply Corporation, Ltd.; director Calcutta Electric Supply Corp., Ltd.; chairman Central Electric Supply Co., Ltd.

Boult, Eric F., A.I.E.E., 111, Hatton Garden, E.C.

Boult, Wade & Tennant, patent agents, 111 & 112, Hatton Garden, London, E.C.

Boulting, John, & Sons, electric light engineers, 5 & 6, Upper Marylebone-st., W. (Telephone No. 3233, Gerrard.)

Boulton, A. T., & Co., Ltd., electrical & mechanical engineers, 19, Craven-ter., Paddington, London, W.

Boulton & Mills, glass manufacturers. Show-rooms: 31, Ely-pl., London, E.C. Works: Stourbridge.

Bourne, Frank, M.AM.I.E.E., consulting engineer, 62, London Wall, London, E.C. (Telephone No. 1022, London Wall.)

Bourne, F., A.I.E.E., Telegraph Department, South Eastern Railway, New Cross, S.E.

Bourne, Horace, A.I.E.E., electrical engineer, Lancaster Lodge, Leam-ter., Leamington Spa.

Bourne, Hugh, A.M.I.E.E., 73, Sheen-lane, Mortlake, London, S.W.

Bourne, T. I., resident engineer, S. Pearson & Son, Ltd., Victoria-st., Westminster, S.W.

Bourne End Electric Installation Co., Bourne End, Bucks. London office: 19, Colville Mansions, North Kensington, W.

Bourne, Joseph, & Son, battery jar & insulator manufacturers, Denby Pottery, near Derby. London office & show-rooms: 23, Euston-rd., N.W. (Telegs.: "Danesby, London." Teleph. No. 9911, Central.)

Bournemouth Corporation Electricity Works & Tramways, Bournemouth. (Telegrams: "Tramways, Bournemouth." Nat. Telephone No. 63.) Engineer, I. Bulfin, A.M.I.C.E., M.I.M.E., A.M.I.E.E.

Bournemouth & Poole Electricity Supply Co., Ltd., Moorgate Court, London, E.C. (Telegrams: "Partnership, London"); & Verulam House, Bournemouth. (Telegrams: "Electric, Bournemouth." Telephone Nos.: Generating Stations, 199, Bournemouth, 2x, Poole; & 13, Christchurch, 257, Bournemouth.) Registered Dec. 9, 1897. Nominal capital: £250,000 in £10 ordinary shares, £75,000 in 4½ per cent. cumulative preference shares of £10 each, £75,000 in 6 per cent. second cumulative preference shares of £10 each, £100,000 in preference shares of £10 each & £300,000 debenture stock. Issued: £150,000 in ordinary shares, £75,000 in preference shares, £75,000 second preference, & £150,000 4½ per cent. debenture stock, all fully paid. Directors: A. H. Sanderson, Esq. (chairman); J. Atkinson Hosker, Esq. (vice-chairman); F. W. Reynolds, Esq.; F. E. Savory, Esq.; R. P. Sellon, Esq. Consulting engineer, C. P. Sparks, M.I.C.E.; secretary, H. B. Renwick; local secretary, W. D. Brightman; resident engineer, E. Ll. Ingram, M.I.E.E. Dividends on ordinary shares: 1901, 7 per cent.; 1902 & 1903, 8 per cent.; 1904, 7 per cent.

Bournemouth Science, Art & Technical School, Poole Hill, Bournemouth. Secretary, F. W. Ibbett.

Bousfield, E. G. P., A.M.I.E.E., Saxon Engineering Co., Ltd., Fenton, Stoke-on-Trent.

Bousfield, G. W., A.M.I.E.E., Stennard Works, Wakefield.

Bousquet, I., & Co., tin & copper foil & foil paper manufacturers, 28, Barbican, London, E.C. (Telegrams: "Bousquet, Barbican, London." Telephone No. 12468, Central.)

Boustead, I. M., Colombo, Ceylon. Director Colombo Electric Tramways & Lighting Co., Ltd.

Bovey, E. P., & Son, wiring contractors, Victoria-parade, Torquay. (Telegrams: "Bovey, Contractors, Torquay." Nat. Telephone No. 115.)

Böving, Jens Orten, consulting engineer & manufacturers' representative, Escher, Wyss & Co., 72, Victoria-st., Westminster, S.W. (Telegs.: "Jenorten, London." Teleph. No. 5493, Westminster.)

Bow, McLachlan & Co., Ltd., engineers, boiler makers & ironfounders, Paisley. (Telegrams: "Bow, Paisley." Telephone No. 6.) A1, A.B.C. & Commercial Codes used.

Bowden, Frank W., A.I.E.E., c/o British Thomson-Houston Co., Newcastle-on-Tyne.

Bowden, G. Harland, electric power engineer, Hucclecote Court, Hucclecote, nr. Gloucester. (Teleph. No. 314, Barnwood, Gloucester.)

Bowden, H. W., M.I.E.E., M.I.C.E., 3, Amersham-rd., Putney Hill, London, S.W. Managing director South Metropolitan Electric Light & Power Co., Ltd.

Bowden, J. R. J., A.M.I.E.E., chief assistant & distributing electrical engineer, Hackney Borough Council Electricity Works, Millfields-rd., Clapton, N.E.

Bowden, John, A.M.I.E.E., A.M.I.MECH.E., London County Council Tramways, 62, Finsbury Pavement, London, E.C.

Bowden, J. Horace, M.I.E.E., consulting & borough electrical engineer, Poplar, London, E.

Bowden, Th., electrician, Marconi's Wireless Telegraph Co., Tyssen-st., Dalston, London, N.E.

Bowden, T., J.P., Sheriff Mount, Gateshead. (Teleph. No. 8.) Director The Sunbeam Lamp Co., Ltd.

BOWDEN, G. HARLAND, & CO., electric power engineers, Royal London-bldgs., 196, Deansgate, Manchester (Telegs.: "Engineered, Manchester." Teleph. No. 5884); Baltic-chbrs., 50, Wellington-st., Glasgow (Telegs.: "Bowden, Glasgow." Teleph. No. 221, Argyle); 2, Laurence Pountney Hill, Cannon-st., London, E.C. (Telegs.: "Harbowdeco, London." Teleph. No. 7417, London Wall); & at Dundee & Cardiff.

Bowden, Higlett & Co., electric light contractors, Onslow-st., Guildford.

Bowell, G. B., electrical engineer, 5, Palmer-st., Westminster, London, S.W.

Bowen, Clifford Alfred, A.M.I.E.E., Corporation Electricity Supply & Tramway Departments, Constantine-rd., Ipswich.

Bowen, H. V., A.M.I.E.E., Ivy House, Higher Openshaw, Manchester.

Bowen, John, A.M.I.C.E., borough engineer & surveyor, Reading.

Bowen, T., resident engineer, Urban District Council Electricity Works, Llandilo, Carmarthen.

Bowen, T. W., electrical engineer, Mill-st., Kidderminster. (Teleph. No. 5 Y. 1.)

Bowen, W. F., electrical engineer, "Stonwall," Blackburn-road, Bolton.

Bowen & Co., brass founders for electricians, 6, Mount Pleasant, Gray's Inn-rd., London, W.C. (Telegs.: "Bowenite, London." Teleph. No. 1684, Holborn.)

Bowen & Odery Manufacturing Co., electrical engineers, 5, Nelson-st., Greenwich.

Bower, W. R., A.R.C.S. (London), lecturer on physics & electrical engineering, Technical College, Huddersfield.

Bowerman Bros., electric light engineers, 35, Osborne-rd., Southsea. (Telephone No. 582.)

Bowers & Barr, electrical engineers, Regent-st., Great Yarmouth. (Teleph. No. 0150.)

Bowes Scott & Western, Ltd., mining machinery & water softeners. Offices: Broadway-chbrs., Westminster, London, S.W.; sampling & testing works, Queen's Circus, Queen's-rd., Battersea, S.W. (Telegs.: "Donbowes, London." Teleph. No. 199, Westminster. A1, A.B.C. & McNeill's Codes.)

Bowker, Robert Bucknal, A.M.I.E.E., Burnbrae, Salisbury-rd., Moseley, Birmingham.

Bowker, Wm. R., C.E., consulting tramway engineer, 19, Huxley-ave., Cheetham, Manchester.

Bowlan, H. H., chief assistant engineer & mains superintendent, Corporation Mains Department, Junction Stores, Eastbourne. (Telephone No. 86.)

Bowles, E. Wingfield, consulting engineer, 28, Victoria-st., London, S.W. (Telegrams: "Nestling, London." Telephone No. 31, Victoria.)

Bowley, S., & Son, oil refiners & lubricant specialists, varnish & colour manufacturers, Wellington Works, Battersea Bridge, London, S.W. (Telegrams: "Bolyanson, London." Telephone No. 209, Battersea. A.B.C. Code.)

Bowman, A., Silverside, Buckhaven. Director Wemyss & District Tramways Co., Ltd.

Bowman, F. H., D.SC., F.R.S.E., M.I.E.E., A.I.C.E. & M.E., F.C.S., F.I.C., &c., 4, Albert-sq., Manchester.

Bowman, Joseph, consulting electrical engineer, 25, Middlegate, Penrith.

Bowman, J. M., resident engineer, North Metropolitan Electrical Power Distribution Co., Ltd., Electricity Works, Hertford.

Bowman, Charles, Ltd., engravers in brass, &c., 6, King-st., Tower Hill, London, E.C.

Bowman, J., & Co., electric cranes, etc., Johnstone, N.B.

Bowron, G., dealer in second-hand electrical goods, 57, Edgware-rd., W. (Teleph. No. 3588, Mayfair.)

Bowthorpe, Harry, electrical engineer, 51, Wolfington-rd., West Norwood, London, S.E.

Boxall, G. F., testing assistant, G.W. Railway, Electrical Engineer's Department, 150, Westbourne-ter., London, W.

Boxell, F., electrical engineer, 82, Gloucester-rd., Brighton. (Teleph. Nos.: 384, Corp.; & 184 X, 3, Nat.)

Boyce, B. A. M., A.I.E.E., 23, Frederick-rd., Gravelly-rd., Birmingham.

Boyce, Joseph, A.M.I.E.E., 155, Olive-lane, Darwen, Lancs.

Boycott, G. W. M., A.I.E.E., 27, Wemyss-rd., Blackheath, S.E.

Boyd, David Henry, A.M.I.E.E., 1, Lansdowne-rd., Old Charlton, S.E.

Boyd, R. J., A.I.E.E., 46, Hamilton Park Quadrant, Glasgow.

Boyd, Wm., A.M.I.M.E., A.M.I.E.E., engineer, Northwich Electric Supply Co., Ltd., 6-8, Lock-st., Northwich. (Telephone No. 102.)

Boydell, W., & Sons, electric light contractors, Brown-st. Iron Works, Leigh, Lancashire. (Telephone No. 33, Leigh.)

Boyden, T. L., engineer, Morgan Crucible Co., Ltd., Battersea Works, London, S.W.

Boyes, John, A.I.E.E., c/o Eastern Telegraph Co., Electra House, Moorgate, London, E.C.

Boyle, B. P., A.I.E.E., engineer, British Thomson-Houston Co., Ltd., 9, Donegall-sq., Belfast. (Telegs.: "Asteroidal, Belfast." Teleph. No. 395.)

Boyle, P., director Dublin & Slane Co., Ltd.

Boyle, R. Vicars, C.S.I., M.I.C.E., M.I.E.E., electrical engineer, 3, Stanhope-ter., Hyde Park, London, W.

Boyle Mills Electric Light Station Works, Boyle, Ireland. Engineer, Robt. Stewart.

Boyle, Robert, & Son, ventilating & consulting engineers, 64, Holborn Viaduct, London, E.C. (Telegs.: "Hypostile, London.")

Boys, C. Vernon, F.R.S., 66, Victoria-st., London, S.W.

Boys, Major R. H. H., D.S.O., R.E. (commanding K. Telegraph Co. R.E.), A.M.I.E.E., superintending engineer, Postal Telegraphs (Southern District), 64, North Side, Wandsworth Common, London, S.W.; & 5, Grove Court, Drayton-gdns., S.W.

Braby, Ivon, M.I.E.E., electrical engineer, Helena, Alan-rd., Wimbledon.

BRABY, E. & C., SLATE & MARBLE MERCHANTS; MANUFACTURERS OF SWITCHBOARDS, INSULATORS, SQUARE & CIRCULAR BASES, CUT OUTS, ETC., LATHE TURNED WORK IN MARBLE & PLAIN OR ENAMELLED SLATE. BANGOR WHARF, BELVEDERE-ROAD, LONDON, S.E. (Telegrams: "Marble, London." Tel. No. 825, Hop.)

BRABY, FREDK., & CO., LTD. ZINC TUBES, RODS, SHEETS, BATTERY PLATES & CYLINDERS, GALVANIZED IRON, ALUMINIUM, 352 to 364, Euston-rd., London, N.W. (Telegrams: "Courteous, London." Telephone Nos. 783 & 457, North); 218 & 220, High-st., Borough, S.E. (Telegrams: "Convolute, London." Telephone No. 7001, Central); Ida Works, Blackhorse Bridge, Deptford, S.E. (Telegrams: "Braby, Deptford, London." Telephone No. 233, Deptford); 110, Cannon-st., E.C. (Telegrams: "Xenophon, London." Telephone No. 5829, Bank); Havelock Works, Pennington-rd., Litherland, Liverpool (Telegrams: "Braby, Liverpool." Telephone No. 586, Bootle); Coronation-rd., Bristol (Telegrams: "Braby, Bristol." Telephone No. 947); Petershill-rd., Glasgow (Telegrams: "Braby, Glasgow." Telephone Nos.: Corp., S2, S3, S58, S59 & 1574; Royal, 4130, 4131 & 4134); & Falkirk. (Telegrams: "Rustless, Falkirk." Telephone No. 94, Falkirk.)

Braby, F., & Co., Ltd., galvanizers, rustless iron manufacturers, constructional engineers, iron & steel roofing contractors, tank makers, &c., Petershill-rd., Glasgow. (Telegrams: "Braby, Glasgow." Nat. Telephone Nos.: 4130 & 4131, Royal; Corp., S2, S3 & S58.)

Bracher, F. & W., installation contractors, Redcliff-st., Bristol. (Telephone No. 81.)

Brackenbury, H. I., Benwell Lodge, Newcastle-on-Tyne. Director Newcastle & District Electric Lighting Co., Ltd.

Bradburne, E. S., A.M.I.E.E., electrical & mechanical engineer, Avenham College-rd., Buxton.

Bradbury Bros., electrical engineers, 108, High-st., Croydon.

Bradbury & Co., manufacturers of electric light fittings & accessories, Woodcock-st., Birmingham. (Teleph. No. 2061.)

Bradbury & Co., Ltd., capstan lathes, brass-finishing lathes, milling machines, &c., for electrical engineers, Wellington Works, Oldham. (Telegrams: "Rotary, Oldham." Telephone No. 242.)

Braddon, C. D., A.M.I.E.E., electrical engineer, Ryecraft House, Cheetham Hill, Manchester.

Brade, Geo. A., A.M.I.E.E., North London Railway Electrical Dept., Bow Road Works, London, E.

Bradford, Frank, A.M.I.E.E., electrical engineer, Kingsholm, Wolveleigh-ter., Gosforth, Newcastle-on-Tyne.

Bradford, J., director City of Wellington Electric Light & Power Co., Ltd., New Broad-st. House, E.C.

Bradford, City of, Technical College, Classes in Electrical Engineering, Bradford. *See* SCHOOLS, &c.

Bradford Corporation Electric Tramways. J. H. Cox, M.I.C.E., city engineer. (Teleph. No. 1497.)

Bradford Corporation Electricity Supply. Works: Bolton-rd. & Valley-rd., Bradford. City electrical engineer & manager, T. Roles, A.M.I.E.E. (Telegs.: "Luminous, Bradford." Teleph. No. 262.)

Bradford Electrical Engineering Co., electric light contractors, Royal Arcade, Bradford. (Telegrams: "Megohm, Bradford." Telephone No. 1652.)

Brading & Co., Ltd., electric light engineers, 66, Grove-rd., Eastbourne.

Bradshaw, Wm., A.M.I.E.E., 22, Denbigh-place, Belgravia, London, S.W.

BRADSHAW & CO., bitumen manufacturers, 52, Queen Victoria-st., London, E.C. (Telegs.: "Subtending, London." Teleph. No. 6109, Bank.)

Bradshaw, J. C., & Co., manufacturing electricians, 10, Dixon-rd., New Cross, London, S.E.

Bradshaw, R. A., & Son, pillars, &c., Retford.

Bradwell, G., A.I.E.E., 37, Park-ave., Southport.

Bradwell, J., A.I.E.E., Reynolds & Bradwell, 134, Edmund-st., Birmingham.

Brady, C. R., engineer, Urban District Council Tramways, Cheadle & Gatley, Lancs.

Brady, N. P. W., Ferryside, Twickenham. Director Southern Counties Mono-Rail Syndicate, Ltd.

Brady, Sir F. W., Bart., 26, Upper Pembroke-st., Dublin. Director Clontarf & Hill of Howth Tramroad Co.

Brady & Martin, Ltd., electrical & scientific apparatus makers, Northumberland-rd., Newcastle-upon-Tyne. (Telegrams: "Martin, Newcastle-on-Tyne.")

Braid, H. R., A.M.I.E.E., 28, Addison-rd., Bedford Park, London, W.

Braime, T. F., & Co., Ltd., manufacturers of seamless oilcans, Goodman-st., Hunslet, Leeds. (Telegrams: "Braime, Hunslet, Leeds." Nat. Telephone No. 1767.)

Brain, Frank, M.I.M.E., A.M.I.C.E., electrical & mining engineer, & electric fuze manufacturer, Trafalgar House, Drybrook, Gloucester. (Telegs.: "Blasting, Serridge Junction." Tel. No. 5, Cinderford.)

Braithwaite, J. Bevan, M.I.E.E., "The Highlands," New Barnet, Herts. Chairman Electric Light & Traction Co. of Australia, Ltd.; chairman Adelaide Electric Supply Co., Ltd.; director Electric & General Investment Co., Ltd.; chairman County of London Electric Supply Co., Ltd.; chairman City of London Electric Lighting Co., Ltd.

Bramham, J., lightning conductor manufacturer, 104, Dale-st., Liverpool. (Telephone No. 6214.)

Bramwell & Harris, consulting engineers, 5, Great George-street, London, S.W. (Telegrams: "Wellbram, London." Telephone No. 60, Westminster.)

Brancker, R., 11, Old Hall-st., Liverpool. Director Heswall Electric Light Co., Ltd.

Brand, Ed., cable making machinery, &c., 35, Shakespeare-st., Manchester. (Telegrams: "Filieres, Manchester.")

Brand, Hon. A. G., Oaklawn, Crawley Down, Sussex. Director New General Traction Co., Ltd.; director Coventry Electric Tramways Co.; director Norwich Electric Tramways Co.

Brandon, Ernest Austin, A.I.E.E., electrical & mechanical agent, 55, Barbican, London, E.C. (Telegs.: "Erpeg, London." Teleph. No. 2253, Central.)

Brandreth, W. E., resident engineer & manager Wycombe Borough Electric Light & Power Co., Ltd., High Wycombe. (Telephone No. 43A.)

Brandt, Henrich A., mica merchant, 28, Minories, London, E.C. (Telegrams: "Micarelle, London." Telephone No. 6071, Avenue.)

Branson, Kent & Co., Ltd., makers of motor-car accumulators, &c., 40, Great Eastern-st., London, E.C.

Brantingham Bros., electrical engineers, 3, Toward-rd., Sunderland. (Telephone No. 553.)

Brash, Jas., A.I.E.E., electrical engineer, 93, Hope-st., Glasgow. (Telegrams: "Electricity, Glasgow.")

Brash, W. R., electrician, 44, Dalhousie-st., Glasgow.

Bratt, J. & A., & Sons, tin plate workers, japanners, enamellers & galvanizers, Clarence-st., Wolverhampton. (Telegrams: "Bratt, Wolverhampton." Telephone No. 183.)

Braulik, G., A.I.E.E., manufacturer & exporter of electrical goods, 217 & 218, Upper Thames-st., London, E.C. (Telegrams: "Braulik, London." Telephone No. 5075, Bank); & 39, Pitt-st., Sydney, N.S.W. *See* ACCESSORIES.

Braun & Co., inventors' model makers, 236 to 238, Pentonville-rd.; & 1, North-st., King's Cross, London. (Telegrams: "Braun, King's Cross." Telephone No. 1997, King's Cross.)

Brawn, Thos., & Co., electric light fittings, &c., Art Metal Works, 64, Clement-st., Birmingham. (Telephone No. 3240.)

Bray & Enniskerry Railway Co., 52, Westland-row, Dublin. Issued capital: £25,000 in £10 ordinary shares. Directors: A. Killingley, Esq (chairman); F. M'Cree, Esq. Secretary, M. F. Keogh.

Bray, Geo., & Co., Ltd., makers of lanterns for incandescent street lighting, Bagby Works, off Blackman-lane, Leeds. (Telegrams: "Bray, Leeds." Telephone No. 749.)

Bray, Markham & Reiss, Ltd., electrical engineers, Blackhorse-lane, Walthamstow, London, E. (Telegrams: "Bramaria, London." Telephone No. 548, Walthamstow.)

Bray Urban District Council Electricity Works, Bray, Ireland. (Nat. Telephone No. 1406, Dublin.) W. J. U. Sowter, A.M.I.E.E., engineer.

Brazil, Hy., A.I.E.E., 52, Sidney-rd., Beckenham.

Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st. Within, London, E.C. Registered Aug. 5, 1899. Nominal capital: £87,000 in £1 ordinary shares, £33,000 in £1 preference shares & £55,000 in 5 per cent. debenture stock. Issued: 86,900 ordinary shares fully paid, 8397 preference shares fully paid & 24,140 preference shares with 17*s.* 6*d.* per share paid, & £45,950 debenture stock. Directors: W. Bailey Hawkins, Esq. (chairman); A. G. Kendall, Esq.; W. Martineau, Esq.; S. J. Wilde, Esq.; T. Comber, Esq. Secretary, I. Hitchcock. Dividends on preference shares: July, 1901, 3¼ per cent.; July, 1902, 5 per cent.; July, 1903, 8 per cent.; July, 1904, 7 per cent.; July, 1905, 5 per cent. Dividends on ordinary: July, 1904, 1¼ per cent.; July, 1905, 2½ per cent.

Breach, L., A.M.I.E.E., assistant elec. engineer, Corporation, Liverpool; & 34, Russian Drive, Liverpool.

Brearley, Ralph, wire drawer & manufacturer, Woodland Wire Mill, Brighouse, Yorks.

Brebner, R. C., consulting electrical engineer, 28, Hermitage-gardens, Edinburgh. (Telegrams: "Harbour, Edinburgh.")

Brechin Electricity Works (North of Scotland Electric Light & Power Co., Ltd.), Granary-rd., Brechin. Manager & engineer, H. Hale, A.M.I.M.E., A.M.I.E.E.; resident engineer, H. Dixon.

Brecknell, Munro & Rogers, Ltd., electrical engineers, Thrissell-st. & Jacob-st., Bristol. (Telegrams: "Brecknell, Bristol." Telephone Nos. 467 & 1073.)

Breeden, Joseph, & Co., Ltd., electric light fitting makers, New Mill Works, Fazeley-street, Birmingham. (Telegrams: "Breeden, Birmingham." Telephone No. 1549.)

Breese, A., electrical engineer, 75, Aldermanbury, London, E.C. (Telegrams: "Breese, London." Telephone No. 420, Bank.)

Breeze, G. B., electrician & ironmonger, 182, Trongate, Glasgow. (Telephone No. 5087, Royal.)

Breffitts, Ltd., glass battery jar makers, 83, Upper Thames-st., London, E.C. (Telegrams: "Breffits, London." Telephone No. 843, Bank.)

Breitmeyer, L., London Wall-bldgs., E.C. Director Cape Electric Tramways, Ltd.; director Mexico Electric Tramway, Ltd.; director Lisbon Electric Tramway, Ltd.; director Chilian Electric Tramway & Light Co., Ltd.; director Cape Town Consolidated Tramways & Land Co., Ltd.

Bremner, Ashton, A.M.I.E.E., resident electrical engineer, Corporation, Burslem. Director Llangollen & District Electric Light & Power Co., Ltd.

Bremner, D. A., M.I.M.E., M.I.E.E., mechanical & electrical engineer, Crown-bldgs., Crown-ct, Old Broad-st., London, E.C. (P.O. Telephone No. 4440, Central.)

Bremner, H. M., A.I.E.E., Northfield, Balshagray, Partick, Glasgow.

Bremner, J., consulting engineer, Hellewell-bldgs. West, Liverpool. (Telegs.: "Crankshaft, Liverpool." Teleph. No. 7079.)

Bremner, J. A., & Co., oil & lubricant merchants, Albert-st., Manchester (Telegrams: "Roman, Manchester"); 3, Old Churchyard, Liverpool (Telegrams: "Marathon, Liverpool." Telephone No. 5432); & 79, Mark-lane, London, E.C. (Telegrams: "Dorunda, London.")

Bremner-Smith, E., engineer, Oswestry Electric Lighting & Power Co., Ltd., Oswestry. (Teleph. No. 0199.)

Brent & Co., exporters of electrical apparatus, 44, Great Tower-st., London, E.C. (Telegrams: "Cleomedon, London." Telephone No. 8773, Central.)

Brentford Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C. (Telegs.: "Partnership, London." Teleph. No. 2681, London Wall.) Registered June 29, 1904. Nominal capital: £1000 in £1 shares, 7 of which are issued. Directors: F. W. Reynolds, Esq.; F. E. Savory, Esq. Secretary, H. B. Renwick.

Brereton, C. A., consulting engineer, 21, Delahay-st., Westminster, London, S.W. (Telephone No. 24, Westminster.)

Brettell-Vaughan, E., F.C.S., F.S.SC., M.R.A.C., St. Antholin's House, 15, Queen-st., London, E.C. Analytical & electro-chemical laboratory: 8, St. Ann's-rd., Wandsworth, S.W. (Telegs.: "Electrolyt, London." Teleph. No. 992, Battersea.)

Brew, William, M.I.E.E., Dublin Corporation Electricity Supply, Fleet-st., Dublin.

Brewer, Philip J., electrical engineer, 20, Queen Anne-st., Cavendish-sq., London, W. (Teleph. No. 2448, Paddington.)

Brewer, W. S., director South of England Development Co., Ltd., 3, King's-ter., Southsea.

Brewer Bros. & Co., electric light contractors, Cardiff.

Brewer & Brunt, electrical engineers & contractors, Hoylake, Cheshire.

Brewer & Son, patent agents, 33, Chancery-lane, London, W.C. (Telegrams: "Infallible, London." Telephone No. 1308, Holborn.)

Brewster, E. H. G., A.M.I.C.E., M.I.M.E., consulting engineer & patent agent, 12, Dartmouth-st., Queen Anne's Gate, Westminster, London, S.W.

Brewster, Smith & Co., manufacturers of chemical apparatus, electrical & scientific instruments, 6, Cross-st., Finsbury, London, E.C.

Bridge, Admiral Sir Cyprian A. G., G.C.B., 1, Eaton-ter., S.W. Director Baker-st. & Waterloo Electric Railway.

Bridge Accumulator Syndicate, Ltd., accumulator makers, 78, York-rd., King's Cross, London, N.

Bridge, D., & Co., engineers, Castleton Iron Works, Castleton, Manchester. (Telegrams: "Coupling, Castleton, Manchester." Telephone No. 268, Rochdale.)

Bridge, G. E., & Co., makers of electro-medical apparatus, &c., Old Christchurch-rd., Bournemouth. (Telegrams: "Emergency, Bournemouth." Telephone No. 21.)

Bridgend District Council's Electricity Works, Bridgend, Glam. (Telephone No. 58, P.O.) Electrician, F. C. Williams.

Bridges, Walter, consulting engineer. *See* Hal Williams & Bridges.

Bridgwater, F., & Co., electrical, constructional & heating engineers, 78 & 80, York-rd., & Crinan-st., York-rd., King's Cross, N. (Teleph. No. 11200, Central.)

Bridgwater & District Electric Supply & Traction Co., Ltd., Mount-st., Bridgwater, Somerset. Registered Nov. 15, 1902. Nominal capital: £15,000 in £1 ordinary shares & £12,000 debentures. Issued: 12,150 ordinary shares, fully paid, & £12,000 debentures. Directors: A. Peace, Esq., J.P.; J. H. Waddon, Esq., J.P.; H. J. Van Trump, Esq. J.P.; A. West, Esq.; W. L. Machell, Esq.; W. T. Pressland, Esq. Engineer & secretary, H. Walker, A.M.I.E.E.

Bridlington Corporation Electricity Works, Royal Prince's-parade, Bridlington. (Teleph. No. 9 X.) A. J. Beckett, engineer.

Bridlington Electrical Engineering Co., Ltd., 30, Chapel-st., Bridlington.

Bridson, E. Ridgway, M.A., A.I.E.E., Staverton House, Oxford.

Brierfield Urban District Council Electricity Works, Brierfield, Lancs. Consulting engineer, W. A. Fraser.

Brierley, J., borough analyst, Municipal Offices, Southampton.

Brierley, R., electric bell fitter, 27, Fylde-st., Preston.

Brierley & Howard, patent agents, Penny Bank-chbrs., Waterhouse-st., Halifax. (Telegrams: "Patent, Halifax.")

Brigg, H. M., B.A., A.M.I.E.E., electrical engineer, Bodalaw, Llandudno. (Teleph. No. 125.)

Brigg, Wm. Marriner, Bôd Alaw, Llandudno. Chairman Electric Supply Co. of Western Australia, Ltd.

Briggs, A., assistant engineer, Electricity Works, Shipley, Yorks.

Briggs, F. H., engineer, Tyneside Tramways & Tramroads Co., Neptune Bank, Wallsend-on-Tyne.

Briggs, G. W., engineer, Newcastle-on-Tyne Electricity Supply Co., Ltd., Neptune Bank, Wallsend-on-Tyne.

Briggs, Wm., A.M.I.E.E., 90, Camperdown-rd., Scotstoun, Glasgow.

Briggs, Thomas (Manchester), Ltd., manufacturers of insulating manillas natural shade & colours, waterproof papers for insulating purposes, &c., 21, Major-st., Manchester (Telegrams: "Beela, Manchester." Telephone No. 72); & 2, Budge-row, London, E.C. (Telephone No. 1733, Bank.) Works: Salford, London & Rishworth.

Brighouse Corporation Electricity Works. A. Aspinall, engineer.

Bright, Charles, F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., consulting electrical engineer & electrician, 21, Old Queen-st., Westminster, London, S.W.

Bright, Charles, M.I.E.E., electrical engineer, 11, Queen Victoria-st., London, E.C.

Bright, J. Brailsford, M.A., negotiator of patents, 60, Gresham-st., London, E.C.

Bright, R., jun., wiring contractor, 5, Dinsdale-rd., Roker, Sunderland.

Bright, Stanley, M.I.E.E., Tilbury Dock, Essex.

Bright's Light & Power, Ltd., electrical & general engineers, 64, Cannon-st., London, E.C. Registered July 21, 1898. Capital: £200,000 in £1 shares (100,000 ordinary & 100,000 7 per cent. cumulative preference). Issued: 33,333 ordinary as fully paid & 66,667 with £1 per share called & paid. A first debenture for £6000, & a second debenture for £2000, both dated March 5, 1903, have been registered, also a third debenture for £2000 dated May 12, & a debenture for £2000 dated July 31, 1903. A fifth mortgage debenture, for £4000, dated Oct. 8, 1903, has been registered. Directors: C. J. Wharton, Esq.; T. Blair, Esq.; G. Wingfield, Esq.; J. S. Sawrey, Esq. Secretary, J. Angus Yule. Dividends: 1899, 9 per cent.

Brighton Corporation Electric Tramways. Engineer & general manager, Wm. Marsh.

Brighton Corporation Electricity Works (Arthur Wright, consulting engineer; John Christie, engineer & manager; C. C. Fowler, deputy manager), North-rd., Brighton. (Teleph. Nos. 358 & 359.)

Brighton Marine Palace & Pier Co., Brighton. Engineer, A. R. Spilsbury.

Brighton Municipal Technical College, Brighton. (Corp. Teleph. No. 1007.) *See* Schools.

Brighton & Rottingdean Seashore Electric Tramroad Co., Madeira-rd., Brighton. (Telegrams: "Volk, Brighton.") Incorporated July 27, 1893. Nominal capital: £8000 in 6 per cent. £10 preference shares, £20,000 in £10 ordinary shares & £7000 loans. Issued: All the ordinary & preference shares fully paid & £7000 in debenture bonds of £50 each. Directors: J. J. Clark, Esq., J.P. (chairman); Magnus Volk, Esq. (managing & secretary); E. J. W. Sang, Esq.; A. J. Clark, Esq.

Brighton & Shoreham Tramways (owned by the British Electric Traction Co., Ltd.), Donington House, Norfolk-st., Strand, W.C. Manager, J. Newcombe, Tramway Depôt, Southwick.

Brightside Foundry Co., iron founders, Newhall-rd., Sheffield. (Telegrams: "Castings, Sheffield." Telephone No. 373.)

Brightwell, Robert, electric light contractor, 34, King-st., Cheapside, E.C.; & 107, Queen's-rd., Bayswater, W.

Brill, J. G., Co., tram cars & trucks, 110, Cannon-st., London, E.C.

Brimelow, H. A., assistant electrical engineer, Corporation Electricity Works, Oldham. (Teleph. No. 269.)

Brimsdown Lead Co., Ltd., litharge & white lead, 37 & 38, Mark-lane, London, E.C. (Telegs.: "Hydration, London." Teleph. No. 1124, Avenue.)

Brind, Gillingham & Co., Ltd., ironmongers, electrical engineers, &c., Abingdon, Berks.

Brinkworth, W. H., electrotyper & stereotyper, Caledonian Works, Bell Barn-road, Birmingham. (Telegrams: "Brinkworth, Birmingham.")

Brisbane Electric Tramways Investment Co., Ltd., 52, Moorgate-st., London, E.C. (Telegs.: "Tramite, London." Teleph. No. 198, London Wall.) Nominal capital: £750,000 in 75,000 £5 ordinary shares & 75,000 £5 preference shares, all taken up & considered as paid, & £425,000 part of total authorized £500,000 in 4½ per cent. first mortgage debenture stock. An acknowledgment of indebtedness, dated Sept. 7, 1906, creating £25,000 further debenture stock (making with £425,000 already created a total of £450,000), & being supplemental to a trust deed of Nov. 21, 1900, covering £500,000 debenture stock, has been registered. Directors: J. B. Concanon, Esq.; H. R. Beeton, Esq.; A. P. Ledward, Esq.; A. M'Ilwraith, Esq.; Sir M. D. McEacharn. Secretary, H. S. M. Woodrow. Dividends: 1901 & 1902, 5 per cent. on preference shares.

Briscoe, Albert E., A.I.E.E., L.C.C. Education Department, Victoria Embankment, E.C.; & The Hoppet, Little Baddow, Chelmsford.

Briscoe, C. T., automobile & electrical engineer, Simmons-st., Blackburn. (Telegs.: "Briscoe, Simmons-st., Blackburn." Teleph. Nos.: 457, Private; 457A.)

BRISTOL, L., manufacturing electrician, Bristol Electric Safety Lamp Works, 40, Gt. Smith-st., Westminster, London, S.W. (Telegrams: "Luciferous, London.")

BRISTOL CO., THE, recording instruments, Waterbury, Conn., U.S.A. European agents: J. W. & C. J. Phillips, 23, College Hill, London, E.C.

Bristol Corporation Electricity Supply. Works: Temple Back & Avonbank. Offices: Temple Back, Bristol. (Telegs.: "Faraday, Bristol." Teleph. Nos.: 726, Private; 746, Temple Back; & 670, Avonbank.) Electrical engineer, H. Faraday Proctor, A.M.I.C.E., M.I.E.E.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Speciality: Portable accumulators & accumulator lamps. Offices & works: 40, Great Smith-st., Westminster, London, S.W. (Telegs.: "Luciferous, London." Teleph. No. 2047, Victoria.) *See* ACCUMULATORS—PORTABLE.

Bristol Electric Tramways Extension Association (secretary, C. H. Tucker), 6 & 7, St. Stephen-st., Bristol. (Telegrams: "Tucker, Bristol." Telephone Nos.: 907, Bristol; & 5686, Clifton.)

Bristol Tramways & Carriage Co., Ltd., Clare-st. House, Bristol. (Telegrams: "White, Bristol.") Works: Counterslip. Registered Oct. 1, 1887. Directors: Sir Geo. White, Bart. (chairman); Sir J. Clifton Robinson; J. H. Howell, Esq., J.P.; Saml. White, Esq., J.P. (managing director). Engineer, Sir J. Clifton Robinson; resident engineer, G. T. C. Edwards; secretary, H. F. Cooper. Nominal capital: £1,000,000, in 50,000 ordinary shares of £10 each; & 50,000 4 per cent. cumulative preference shares of £10 each; debenture stock, £333,333. Issued capital: £1,000,000, which is paid up. Debenture stock issued: £250,000. Dividends: 1901, 8½ per cent.; first half of 1902, 8½ per cent.; second half of 1902, 9½ per cent.; first half of 1903, 8½ per cent.; second half of 1903, 9½ per cent.; first half of 1904, 8½ per cent.; second half of 1904, 9½ per cent.; & first half of 1905, 8½ per cent.

Bristow, E. J., M.I.E.E., 1, Copthall-bldgs., London, E.C.

Britannia Electric Lamp Works (1905), Ltd., manufacturers of electric lamps, Seven Sister's-rd., South Tottenham, London, N. (Telegs.: "Utilicolim, London." Teleph. No. 1704, Tottenham.)

Britannia Engineering Co., Ltd., makers of electricians' & engineers' tools, Colchester; & 73, Queen Victoria-st., London, E.C. (Telegrams: "Britannia, Colchester." Telephone No. 47.)

Britannia Rubber & Kamptulicon Co., manufacturers of ebonite & vulcanized indiarubber, 9, Bradford-ave., Redcross-st., London, E.C. (Telegs.: "Britannia, London." Teleph. No. 12028, Central.)

British Accumulator Co., Ltd., Parliament Mansions, Victoria-st., S.W. (Telegrams: "Burghship, London." P.O. Telephone No. 919, Victoria. A.B.C. Code, 5th edition.)

British Aluminium Co., Ltd., metal manufacturers, 9, Victoria-st., London, S.W. (Telegrams: "Cryolite, London." Telephone No. 286, Westminster.) Works at Foyers, Lochness (Telegrams: "Aluminium, Foyers"); Larne Harbour (Telegrams: "Aluminium, Larne Harbour"); Milton, Staffs. (Telegrams: "Aluminium, Milton"); & Baker-st., Greenock. (Telegs.: "Aluminium, Greenock." Tel. No. 386.)

British Arc Lamp Co., Leysian-bldgs., 118, City-rd., London, E.C.

British Association for the Advancement of Science (general secretaries, Major MacMahon, F.R.S., & Prof. W. A. Herdman, F.R.S.), Burlington House, London, W.

British Automatic Telephone Syndicate, Ltd., 151–153, Dashwood House, New Broad-st., London' E.C.

British Battery Co., incorporated with Gent & Co., Ltd., Faraday Works, Leicester.

British Boiler Fluid & Engineers' Stores Co., Ltd., 10, Church-row, Limehouse, London, E. Sole manufacturers of "Dejecoline." (Telegrams: "Dejectedly, London." Telephone No. 3016, Eastern.)

British Boiler Water Circulator Synd., 2, Ashforth-st., Nottingham.

British & Colonial Insulating Co., Ltd., Century-bldgs., 31, North John-st., Liverpool.

British & Colonial Zoelly Turbine Syndicate, Ltd., mechanical, electrical & hydraulic engineers, Queen Anne's-chbrs., Westminster, London, S.W.

British Columbia Electric Railway Co., Ltd., Threadneedle House, 28–31, Bishopsgate-st. Within, London, E.C. (Telegrams: "Lassant, London." Atlantic Cable Directory code. Telephone No. 1039, Avenue.) Registered April 3, 1897. Nominal capital: £1,500,000 in £300,000 5 per cent. cumulative perpetual preference stock, £300,000 preferred ordinary stock, £400,000 deferred ordinary stock & 500,000 shares of £1 each. Issued: £1,000,000 in £300,000 5 per cent. cumulative perpetual preference stock, £300,000 preferred ordinary stock & £400,000 deferred ordinary stock. Debentures: £238,000 (original issue, £250,000) 4½ per cent. in bonds of £40 each. There is also an issue of £220,000 4½ per cent. Vancouver Power Debentures, ranking after the above-mentioned Mortgage Debentures, but secured by a first charge on the undertaking of the Vancouver Power Co., Ltd. Directors: R. M. Horne Payne, Esq. (chairman); G. P. Norton, Esq.; Hon. M. R. Gifford, C.M.G.; E. L. Evan Thomas, Esq.; T. Blundell Brown, Esq.; R. K. Sperling, Esq.; J. Buntzen, Esq. (managing). R. H. Sperling, general manager; B. H. Binder, secretary. Dividends on ordinary shares: 1898–99, 1899–1900, 1900–01 & 1901–02, 4 per cent.; 1902–03, 5 per cent.; 1903–04, 1904–05, 1905–06, 6 per cent.

British Continental Electricity Co., Ltd., 82, Victoria-st., London, S.W.; & San Remo, Italy Registered April 26, 1898. Nominal capital: £10,000 in £10 5½ per cent. cumulative preference shares, & £10,000 in £10 ordinary shares. Issued: 1000 preference & 906 ordinary shares fully paid. Directors: E. E. Berry, Esq. (chairman); C. H. C. Woodhouse, Esq.; R. Alioth, Esq.; H. W. Buddicom, Esq.; W. A. Brodie, Esq. (managing). Engineer, W. G. H. Cam; secretary, W. A. Brodie. Dividends on ordinary shares: 1903, 2 per cent.; 1904, *nil*.

British & Continental Patentees' Agency, Ltd., Fife House, Kingston-on-Thames. (Telegrams: "Patents, Kingston-on-Thames.")

British Eastern Electric Power Co., Ltd., 57½, Broad-st., London, E.C. Registered July 9, 1902. Nominal capital: £1000 in £1 shares. Issued: 1000 shares, of which 998 are fully paid. Directors: R. Miller, Esq.; J. Kincaid, Esq.; M. F. Armstrong, Esq.; W. P. Norton, Esq. Sec., T. F. Stevens.

British Electric Co., Ltd., electric fittings manufacturers, 116, High Holborn, London, W.C. (Teleph. No. 2332, Holborn.)

BRITISH ELECTRIC EQUIPMENT CO., LTD., engineers & contractors, 265, Strand, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt.* OVERHEAD LINE MATERIALS.

British Electric Light Wiring Co., Ltd., 14, Union-ct., Old Broad-st., London, E.C. Registered June 30, 1898. Capital: £10,000 in £1 shares. Issued: 156 shares. £1 per share has been called up on 149 & 10*s.* per share on 7 shares, resulting in the receipt of £152 10*s.*

British Electric Medical Co., electro-medical apparatus makers, Byron House, Fleet-st., London, E.C. (Teleph. No. 7315, Central.)

British Electric Plant Co., Ltd., The, electrical & mechanical engineers, Alloa, N.B. (Telegrams: "Electric, Alloa." Telephone No. 40, Alloa); & 144, St. Vincent-st., Glasgow. Registered May 26, 1900. Nominal capital: £100,000 in 2500 6 per cent. cumulative preference shares of £10 each & 7500 ordinary shares of £10 each. Subscribed: 1395 preference shares, £7 paid, & 6248 ordinary shares, fully paid. Directors: J. G. Stewart, Esq. (chairman); T. E. Lander, Esq.; W. R. Dick, Esq.; Jas. Guthrie, Esq. Secretary, J. Gilmour Williamson.

British Electric & Telephone Co., engineers & electricians, Queen Anne's-chbrs., Westminster, London, S.W. (Telephone No. 5369, Westminster,)

British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. (Telegrams: "Tramway, London." Telephone No. 6821, Gerrard, 2 lines.) Registered Oct. 26, 1896. Nominal capital: £2,000,000 in £10 ordinary shares & £2,000,000 in £10 preference shares. Issued: £1,333,010 in ordinary shares, £1,614,370 in preference shares, all fully paid, & £1,473,653 5 per cent. debenture stock & £528,936 4½ per cent. 2nd debenture stock, all fully paid. Particulars of a series of debentures, created by resolution of June 16, 1898, securing an amount equal to half the subscribed capital for the time being, have been filed. Directors: Sir Chas. Rivers Wilson, G.C.M.G., C.B. (chairman); Hon. Sir Chas. W. Fremantle, K.C.B.; J. S. Raworth, Esq.; E. Garcke, Esq. (managing); C. S. B. Hilton, Esq. (managing); W. L. Madgen, Esq. (managing). Secretary, C. H. Dade. Dividends: 1901–02, 9 per cent.; 1902–03, 8 per cent.; 1903–04, 1904–05, 6 per cent.; 1905–06, 3 per cent.

British Electric Transformer Co., Ltd., engineers & electrical contractors. Works & offices: Hayes, Middlesex. (Telegs.: "Transfundo, Hayes, Middlesex." A.B.C., 5th edit. & Engineering 2nd ed. Codes. P.O. Teleph. No. 12, Hayes.) City office: Suffolk House, Laurence Pountney Hill, E.C. (Teleph. No. 9556, Central.) Registered Feb. 10, 1903. Nominal capital: £125,000 in 50,000 6 per cent. cumulative preference shares of £1 each & 75,000 ordinary shares of £1 each. Issued: 60,000 ordinary shares, considered as fully paid, & 9424 ordinary, fully paid, & 30,490 preference shares, fully paid. Directors: A. M. Billington, Esq.; E. Phillips, Esq.; A. F. Berry, Esq.; J. F. Albright, Esq. Manager, J. Hetherington; secretary, J. C. Wrist. Dividends on ordinary shares: 1903, 7 per cent.; 1904 & 1905, 7½ per cent.

British Electrical Friendly Society, Donington House, Norfolk-st., W.C. (Telegs.: "Friendly, c/o Tramways, London." Teleph. No. 6821, Gerrard.) E. D. Turner, secretary.

British Electrical Superannuation Fund, Donington House, Norfolk-st., London, W.C. T. Bower, secretary. (Telegs.: "c/o Tramway, London." Teleph. No. 6821, Gerrard.)

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. "Trinidite" brand, Refined Trinidad Bitumen & Box Compound. Bitumen, Troughing for Cable Laying. Acid-proof Paint, Resin Oil, &c. (Telegs.: "Trinidite, London." Telph. No. 794, Deptford.)

BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.

British Ever-Ready Electrical Co., Ltd., portable electric specialities, Ever-Ready Works, Emerald-st., Theobald's-rd., London, W.C. (Telegs.: "Vesuvian, London." Teleph. Nos.: 2206, Holborn; & 5488, Central.) Registered Nov. 16, 1901. Nominal capital: £3000 in £1 shares.

British, Foreign & Colonial Automatic Light Controlling Co., Ltd., 63, Victoria-st., Bristol.

British Griffin Chilled Iron & Steel Co., Ltd., makers of chilled iron railway & tramway wheels, 139, Cannon-st., London, E.C. (Telegrams: "Treadwheel, London." Telephone No. 5922, Bank.)

BRITISH INSULATED & HELSBY CABLES, LTD. (in which is incorporated the businesses of the British Insulated Wire Co., Ltd., Prescot, & the Telegraph Manufacturing Co., Ltd., Helsby), electrical engineers, cable manufacturers & contractors for complete telephone installations, &c. Registered April 28, 1897. Nominal capital: 100,000 ordinary shares of £5 each, 100,000 preference shares of £5 each, £500,000 4½ per cent. first mortgage debenture stock. Issued: 100,000 ordinary & 100,000 preference shares, fully paid. All the debenture stock is issued & fully paid. Directors: E. K. Muspratt, Esq., J.P. (chairman); James Taylor, Esq., J.P. (vice-chairman); J. S. Harmood Banner, Esq., M.P.; S. Z. de Ferranti, Esq.; J. Carlton Stitt, Esq., J.P.; G. Crosland Taylor, Esq., J.P. General manager, D. Sinclair; engineer & manager (Prescot), G. H. Nisbett; manager (Helsby), J. Brotherton; engineer & manager (Liverpool), A. Whalley; secretary, W. Kerfoot. Dividends: 1901 & 1902, 6 per cent. on preference & 10 per cent. on ordinary shares; 1903, 1904 & 1905, 6 per cent. on preference & 8 per cent. on ordinary shares; 1906 (*interim*), at rate of 8 per cent. per annum on ordinary shares.

	Telegrams.	*Telephone Nos.*
Works: Prescot; Helsby; & Liverpool.		
Offices: Prescot, Lancs.; & Helsby, nr. Warrington.	Insulator, Prescot. Limited, Helsby.	8, Prescot. 4, Frodsham.
Branch Offices:		
London: Lennox House, Norfolk-st., Strand, W.C.	Airlike, London.	2995, Gerrard.
Belfast: 20, York-st.	Hind Bros., Belfast.	395, Belfast.
Birmingham: 19, Barwick-st.	Connectors, B'ham.	4949, Birmingham.
Cardiff: 1 & 2, Western Mail-chbrs.	Vigilant, Cardiff.	1055, Cardiff.
Glasgow: 177, West George-st.	Connectors, Glasgow.	2160, Argyle; 2160, Corp., Glasgow.
Liverpool: Milton-rd., Edge-lane.	Instrument, Liverpool.	2, Old Swan, Liverpool.
Manchester: 2, Parsonage, Blackfriars.	Vigorous, Manchester.	2044, Manchester.
Newcastle-on-Tyne: 8, Mosley-st.	Insulated, Newcastle.	417, Newcastle.

A1 & A.B.C. Codes. *See advt. under* CABLES.

British Johns-Manville Co., Ltd., insulating materials, &c., 81, Fenchurch-st., London, E.C. (Telegrams: "Asbestino, London." Telephone Nos. 1458 & 1437, Avenue.)

BRITISH L. M. ERICSSON MANUFACTURING CO., LTD., THE, Byron House, 82–85, Fleet-st., London, E.C. Works: Beeston, Notts. (Telegs.: "Ericsson, London." Tel. No. 5340, Holborn (2 lines). Western Union & A.B.C., 5th edition, Codes used.) *See advt.,* TELEPHONE APPARATUS MAKERS.

British Mannesmann Tube Co., Ltd., The, 110, Cannon-st., London, E.C. (Telegrams: "Tubulous, London.")

BRITISH MICA CO., LTD., mica merchants, Lebanon-rd. Works, Wandsworth, S.W. (Telegrams: "Micamini, London." Telephone No. 405, Putney.) *See advt.,* DYNAMO & ELECTRIC MACHINE MANUFACTURERS.

BRITISH PROMETHEUS CO., LTD., MANUFACTURERS OF ELECTRIC COOKING & HEATING APPARATUS. WORKS & REGISTERED OFFICES: SALOP-ST. WORKS, HIGHGATE, BIRMINGHAM. (TELEGS.: "COOKING, BIRMINGHAM." TELEPH. NO. 4236, CENTRAL.) LONDON SHOW-ROOMS: 109, OXFORD-ST., W. (ABOVE HENRY HEATH, LTD.). (TELEGS.: "REPRISAL, LONDON." TELEPH. NO. 8311, GERRARD.) H. Skipwith, director & general manager; N. E. Beves, director & London manager; W. H. J. Edwards, secretary. The "Prometheus" system is the only strip system on the market, no wire coils or embedded wires being used. Every description of Cooking Utensil & Heating Apparatus made at our Works, & all goods fully guaranteed. Convectors & Radiators a speciality. Manufacturers of Antique Copper Jugs, Asparagus Cookers, Beaten Copper Jugs, Bed Warmers, Billiard Table Irons, Brazing Pans, Cafe-au-Laits, Carving Dishes, Chip Potato Warmers, Chocolate Pots, Cigar Lighters, Coffee Pots, Coffee Machines, Combination Urns, Convectors of every description, Cooking Ranges, Copper Stills, Curling Tong Heaters, Curved Hot Plates, Dental Sterilizer, Domestic Irons, Drying Ovens, Egg Boilers, Fish Kettles, Flat Irons, Food Warmers, Foot Warmers, Frying Pans, Glazing Irons, Glow Lamp Radiators, Goose Irons, Glue Pots, Goffering Iron Heaters, Grills, Hair Drying Apparatus, Heating Irons, Hot Water Jugs, Hot Water Urns, Hot Cupboards, Immersion Heaters, Inhalation Apparatus, Ironing Machines, Jam Boiling Apparatus, Jersey Cans, Kettles, Kettle Table Stands, Kettle Floor Stands, Laundry Irons, Milk Jugs, Milk Sterilizers, Milk Warmers, Omelet Pans, Pastry Warmers, Plate Warmers, Potato Steamers, Pudding Boilers, Restaurant Coffee Urns, Water Urns, Tea Urns, Combination Urns, Bain Maries, Roasting Ovens, Russian Tea Machines, Russian Coffee Machines, Sand Baths, Saucepans, Shaving Pots, Samovars, Sealing Wax Heaters, Ship Radiators, Soap Boiling Apparatus, Soldering Irons, Soup Tureens, Sterilizing Apparatus of every description, Stew Pans, Stock Pots, Tailors' Irons, Tanks, Teapots, Tramcar Heaters, Vegetable Dishes, Vienna Coffee Machines, Water Baths, Cans & Jugs, Water-jacketed Cupboards. A THOROUGHLY UP-TO-DATE & COMPLETE SYSTEM. ALL SPECIAL APPARATUS QUOTED FOR IMMEDIATELY ON APPLICATION

British Railway Traffic & Electric Co., Ltd., 15, Victoria-st., London, S.W.

British Recovered Rubber Co., Ltd., reclaimed rubber manufacturers, Clayton, nr. Manchester.

British School of Telegraphy, 179, Clapham-rd., London, S.W. *See* SCHOOLS.

British Taxi-Motor Cab Co., Ltd., 40, Botolph-lane, London, E.C.

British Thomson-Houston Co., Ltd., electrical engineers & manufacturers. Registered May 18, 1896. Nominal capital: 40,000 ordinary shares of £10 each, fully paid; 40,000 4 per cent. cumulative preference shares of £10 each, fully paid; £212,000 4½ per cent. debenture stock, fully paid up. Directors: W. A. McArthur, Esq., M.P. (chairman); H. C. Levis, Esq. (managing); Charles Burrell, Esq.; C. A. Coffin, Esq.; G. Franklin, Esq.; Gen. E. Griffin; J. F. Nauheim, Esq.; E. W. Rice, jun., Esq.; Ernst Thurnauer, Esq.; O. Oliven, Esq.; O. H. Smith, Esq.; E. A. Carolan, Esq. F. Fraser, secretary; Alf. Clements, assist. secretary. Dividends: 1898–99, 10 per cent.; 1899–1900, 10 per cent.; 1900–01, 7½ per cent.; 1901–02 (15 months), 4 per cent.; 1902–03 (9 months), 4 per cent.

	Telegrams.	*Telephone Nos.*
Head Offices & Works: Rugby.	Asteroidal, Rugby.	54.
Registered Office: 83, Cannon-st., London, E.C.	Asteroidal, London.	375, 379 & 380 Bank.
Branch Offices:		
Birmingham: 115, Colmore-row.	Asteroidal, Birmingham.	3410, Central.
Glasgow: 91, Wellington-st.	Asteroidal, Glasgow.	829, Argyle.
Leeds: Greek-st.-chbrs.	Asteroidal, Leeds.	163 Y.
Manchester: Star Life-bldgs., 30, Cross-st.	Asteroidal, Manchester.	1297 & 6368.
Newcastle-on-Tyne: Collingwood-bldgs.	Asteroidal, Newcastle.	2343, Nat.; & 47, P.O.
Sheffield: 41, Church-st.	Asteroidal, Sheffield.	357.

Lieber's, A1 & A.B.C. Codes used.

British Trade Journal, in English, Spanish & Japanese (separate editions), 24, Mark-lane, London, E.C. (Telegs.: "British Trade Journal, London." Teleph. No. 8100, Central.)

British Tramways & General Construction Co., Ltd., 83, Cannon-st., London, E.C. Registered July 16, 1903. Nominal capital: £300,000 in £1 shares. Issued: 241,000 shares, fully paid. A memorandum of satisfaction in full of a charge, dated April 20, 1904, securing £120,000, has been filed. Directors: H. C. Levis, Esq.; B. C. Molloy, Esq.; E. A. Carolan, Esq. Secretary, Alfred Clements.

British United Engineering Co., Ltd., motor & electrical engineers, 75 & 77, Shaftesbury-ave., London, W.C. (Telegs.: "Brunenco, London." Teleph. Nos. 7837 & 8191, Gerrard.)

British Uralite Co., Ltd., 50, Cannon-st., London, E.C. (Telegs.: "Uranicos, London." Teleph. No. 5442, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., manufacturing electricians, electrical engineers & contractors. Registered offices: Westinghouse-bldg., Norfolk-st., Strand, London, W.C. (Telegs.: "Multiphase, London." Teleph. No. 3261, Gerrard.) Works: Trafford Park, Manchester. (Telegs.: "Westinghouse, Manchester." Teleph. No. 5222, Central.) Registered July 10, 1899. Nominal capital: £4,712,500, in 500,000 6 per cent. preference shares of £5 each & 75,000 ordinary shares of £10 each, & £1,462,500 debentures. 500,000 preference shares have been taken up, & 75,000 ordinary shares have been issued fully paid. The full amount has been called on 500,000 preference & £1,241,353 debenture stock. A deed, dated Aug. 2, 1904 (supplemental to trust deeds, dated Feb. 18, 1902, & Aug. 31, 1903), securing £225,000 debenture stock created by board resolution of July 22, 1904, has been registered. Directors: Geo. Westinghouse, Esq. (chairman); W. I. Buchanan, Esq.; J. H. Lukach, Esq.; Lieut.-Col. Montagu Cradock, C.B.; N. Carlton, Esq. Secretary, A. E. Scanes. Dividends: 1903, 6 per cent.

British Xylonite Co., Ltd., xylonite & celluloid manufacturers. Chief office: Hale-end, London. (Telegs.: "Xylonite, London." Teleph. Nos. 45 & 48, Walthamstow.)

Brittan, Thomas, telegraph & electrical engineer, 21, Hermes-st., & 34, Risinghill-st., Pentonville-rd., London, N.

Brittle, John Richard, M.I.C.E., F.R.S.E., M.I.E.E., WH.SC., "Farad Villa," Vanbrugh-hill, Blackheath. London, S.E.

Britton, H. E., A.I.E.E., Alburne, Campbell Drive, Bearsden, Glasgow.

Britton, R., superintendent Postal Telegraph Factory, Bovay-place, Holloway, London, N.

Britton, S. E., A.M.I.E.E., borough electrical engineer, Chester. (Teleph. No. 162.)

Broadbent, Denis Ripley, A.M.I.E.E., A.M.I.MIN.E., A.M.I.MAR.E., Royal Societies Club, 63, St. James-st., London, S.W. (Teleph. No. 2389, Gerrard.)

Broadbent, F., manager, Electrical Department, W. B. Haigh & Co., Ltd., Globe Iron Works, Oldham.

Broadbent, Frank, M.I.E.E., 4, Queen-st.-pl., London, E.C. (Telegs.: "Conspicio, London." Teleph. No. 8453, Bank.)

Broadbent, J. E., Colonel R.E., C.B., M.I.E.E., Fynesbury, Reading.

Broadbent, T. W., A.M.I.E.E., electrical engineer, East Parade, Huddersfield. (Telegrams: "Broadbent, Electrician, Huddersfield." Telephone No. 371.)

Broadbent, J. C., & Co., Ltd., slag wool & boiler covering manufacturers, 73, Basinghall-st., London, E.C. (Telegs.: "Unbleached, London." Teleph. No. 1411, Central); Redcar (Telegs.: "Broadbents, Redcar." Teleph. No. 16); & Hazlehead.

Broadbent, T., & Sons, Ltd., mechanical engineers, Chapel Hill, Huddersfield. (Telegrams: "Broadbent, Huddersfield." Telephone No. 102.)

Broadhurst, B., secretary & assistant manager to Brush Electrical Engineering Co., Ltd., Victoria Works, Belvedere-rd., London, S.E. (Telegrams: "Magneto, London." Telephone No. 1647, Hop.) Director Loughborough & District Electric Traction Synd., Ltd.

Broadhurst, E. T., director Manchester & Liverpool Electric Railway Syndicate, Ltd., 11, Cornhill, London, E.C.

BROADHURST & CO., LTD., indiarubber manufacturers, 126, Market-st., Manchester. (Telegrams: "Fidelity, Manchester." Telephone No. 862. A.B.C. 4th edition & A1 Codes.)

Brock, F. W., manufacturing electrical engineer, 287, Shirland-rd., St. Peter's-park, London, W.

Brock, F. W., Winnington Park, Hartford. Director Northwich Electric Supply Co., Ltd.

Brock, Stewart Nicholas de Saumarez, A.I.E.E., South Tower, Crystal Palace, Sydenham.

BROCKIE-PELL ARC LAMP, LTD., electric arc lamp manufacturers, 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) Reconstructed & registered July 12, 1900. Nominal capital: £80,000 in £1 shares. 79,751 shares issued; 17*s.* 6*d.* per share is considered as paid on 79,744 shares, & 2*s.* 6*d.* per share has been called up. Directors: H. W. Maynard, Esq. (chairman); Robt. Warner, Esq.; G. J. Somerville, Esq. Engineer, James Brockie; secretary & manager, W. J. G. FitzGibbon. Dividends: 1902, 3 per cent. *See* ARC LAMP MANUFACTURERS—ELECTRIC.

Brocklebank, H., 20, Bixteth-st., Liverpool. Director Liverpool Overhead Railway Co., Ltd.

Brocklebank, T., The Roscote, Heswall, Cheshire. Director Heswall Electric Light Co., Ltd.

Brocklehurst, E., director Fort William Electric Lighting Co., Ltd., Fort William.

Brodie, J. A., WH.SC., M.I.C.E., M.I.MECH.E., city engineer, Liverpool.

Brodie, J. S., borough engineer, Blackpool.

Brodie, P. M. S., A.I.E.E., India Rubber, Gutta-percha & Telegraph Works Co., Ltd., Silvertown, London, E.

Brodie, W. A., San Remo, Italy. Managing director British Continental Electricity Co., Ltd.

Brodrick, Hon. A. G., managing director African Direct Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.; director Eastern Extension, Australasia & China Telegraph Co., Ltd.; director Europe & Azores Telegraph Co., Ltd.; director Pacific & European Telegraph Co., Ltd.; director West African Telegraph Co., Ltd.

Brodrick, Rt. Hon. St. John, 34, Portland-pl., W. Director Western Telegraph Co., Ltd.

Brodrick, W. H., & Co., engineers, 37, Wellington-st., Hull. (Telegs.: "Ossian, Hull." Teleph. No. 985.)

Broekman, L., storage battery engineer, Standard-bldgs., City-sq., Leeds.

Bromell, J. H., brass push manufacturer, 68, Eglinton-rd., Bow, London, E.

Bromet, A., Lime Lodge, Pinner-rd., Watford, Herts. Director Tadcaster Electricity Co., Ltd.

Bromet, J., director Tadcaster Electricity Co., Ltd., Station-rd., Tadcaster.

Bromhead & Co., British & Foreign patent agents, 33, Cannon-st., London, E.C. (Teleph. No. 2536, P.O. Central); & at 121, Colmore-row, Birmingham.

Bromley, Batstone & Kirk, electrical engineers, 6, Churchfield-rd., Acton, London, W. (Telegs.: "Workpeople, London." Teleph. No. 180, Chiswick); & 24 & 26, Holborn, E.C. (Tel. No. 4839, Holborn.)

Bromley (Kent) Electric Light & Power Co., Ltd., electrical engineers & contractors, 1, West-st., Bromley, Kent. (Telephone No. 108, Bromley.) Registered Sept. 21, 1897. Nominal capital: £100,000 in £5 ordinary shares. £75,000 have been taken up & paid, & £70,000 4½ per cent. debentures, all issued, & paid up. An acknowledgment of indebtedness under seal, dated June 6, 1904, creating £20,000 further debenture stock (making, with £50,000 already created, a total of £70,000, & being supplemental to a trust deed dated July 7, 1902), has been registered. Directors: F. E. Gripper, Esq.; D. Grinsted, Esq.; F. Medhurst, Esq.; R. Taylor, Esq.; E. Charrington, Esq.; J. C. Wigham, Esq. Engineer & manager, R. R. Barker; assistant engineer, R. E. Turnbull; secretary, Chas. A. Maby, F.C.I.S. Dividends: 1901, 4½ per cent.; 1902 & 1903, 5 per cent.; 1904 & 1905, 5½ per cent.; 1906 (*interim*), Sept. 30, 4 per cent. per annum.

Brompton & Kensington Electricity Supply Co., Ltd., Richmond-rd., Earls Court, London, S.W. (Telegrams: "Transformer, London." Telephone No. 653, Kensington.) Registered Feb., 1888. Nominal capital: £300,000 in 40,000 ordinary & 20,000 preference shares, all of £5 each. 29,798 ordinary & 10,202 preference shares have been taken up; & £5 per share has been paid on each. T. J. Owens, F.C.I.S., secretary; H. W. Bowden, M.I.C.E., manager & chief engineer. Directors: H. R. Beeton, Esq. (chairman); W. R. Davies, Esq.; W. F. Leese, Esq.; Wm. Page, Esq. Dividends: 1901, 8 per cent. on ordinary, 7 per cent. on preference; 1902, 8 per cent. on ordinary, 7 per cent. on preference; 1903, 1904 & 1905, 10 per cent. on ordinary, 7 per cent. on preference; & first half of 1906, at rate of 9 per cent. on ordinary, 7 per cent. on preference.

Brook, Albert, A.I.E.E., Direct United States Cable Co., 50, Old Broad-st., London, E.C.

Brook, A. B., A.M.I.E.E., Carlton Range, Hyde-rd., Gorton.

Brook, Ernest, A.M.I.E.E., electrical engineer, Colne-rd., Huddersfield.

Brook, E., Ltd., electrical engineers, Colne-rd., Huddersfield. (Telegs.: "Brook, Electrician, Huddersfield." Teleph. No. 606.)

Brook Electrical Works Co., manfrs. of electrical accessories, The Crescent, Hockley Brook, Birmingham.

Brook, Hirst & Co., manufacturers of electrical switchgear, Northgate Electrical Works, Victoria-rd., Chester. (Telegrams: "Switches, Chester." Telephone No. 294.)

Brooke, Sir Wm. R., K.C.I.E., 62, Albert Gate Mansions, S.W. Director Indo-European Telegraph Co., Ltd.; director Black Sea Telegraph Co., Ltd.

Brooke, J. W., & Co., Ltd., engineers & founders, & makers of motors & motor cars, lifts, &c., Adrian Ironworks, Lowestoft. (Telegrams: "Brooke, Lowestoft." Nat. Telephone No. 80.)

Brooke-Hitching, Sir Thos., 11, Portland-pl., W. Chairman West London & Provincial Electric Supply Co., Ltd.

Brooker, Arthur, contracting telephone engineer, British Insulated & Helsby Cables, Ltd., Prescot, Lancs.

Brooker, W., first assistant, Lewes Electric Light Works, Lewes.

Brooker, Dore & Co., metal, hardware & tin plate merchants & agents, 5, Fenchurch-st., London, E.C. (Telegs.: "Brooker, London." Teleph. No. 64, Avenue.)

Brookes, J., managing director & secretary Ingleton Electric Lighting & Power Co., Ltd., Greta Printing Works, Ingleton, Yorks.

Brookes, Wm., & Son, consulting engineers & patent agents, 55 & 56, Chancery-lane, London, W.C. (Telegrams: "Aniline, London.")

Brookes-Edwards, H., consulting electrician, Cardigan Works, Wakefield, Yorks.

Brookfield, J. S., director North-West London Railway Co.

Brooking, A. J., electrical engineer, 69, Longbrook-st., & (works) 25, Richmond-rd., Exeter.

Brooking, J. H. C., A.M.I.E.E., M.I.M.E., 4, Moorfield, High West, Jesmond, Newcastle-on-Tyne.

Brooking & Co., electric light & motor engineers, 69, Longbrook-st., Exeter.

Brooks, D. G., A.I.E.E., 165A, West George-st., Glasgow.

Brooks, E. E., B.SC. (Lond.), electrician & instructor in electrical engineering at the Technical School, Leicester.

Brooks, H., chairman Colombo Electric Tramways & Lighting Co., Ltd., 11, St. Benet-pl., Gracechurch-st., London, E.C.

Brooks, H. B., manufacturing electrical engineer, Granville Works, Tennant-st., Birmingham. (Telegs.: "Commutator, Birmingham.")

Brooks, R., director Colombo Electric Tramways & Lighting Co., Ltd.

Brooks, W. S., M.SC., teacher of electricity, Municipal Technical Institute, Norwich.

Brooks, Wm. J., & Co., inventors' model makers, Letchworth, Herts.

Broom, G. H., A.M.I.E.E., electrical engineer, The Technical College, Huddersfield.

Broom & Wade, Ltd., mechanical & electrical engineers, High Wycombe, Bucks.

Broomhead, A., local manager National Telephone Co., Derby.

Brotherhood, P., high speed engine maker, 15 & 17, Belvedere-road, London, S.E. (Telegrams: "Brotherhood, London." Telephone No. 97, Hop.)

Brothers, Edwin J., A.M.I.E.E., 155, Friern-rd., East Dulwich, London, S.E.

Brotherton, John, conduit systems of house wiring, Wolverhampton.

Brough, Thos., & Sons, electrical fuse & apparatus agents, 66, South John-st., Liverpool, W.

Broughall, Geo., A.M.I.E.E., electrical engineer, 2, Queen Anne's-gate, London, S.W.

Broughton, F., assistant electrical engineer, Corporation Tramways, Manchester.

Broughton, Harold H., A.M.I.E.E., The Technical College, Richmond-ter., Brighton.

Broughton Copper Co., Ltd., copper merchants, Broughton Copper Works, Manchester (Telegrams: "Copper Co., Manchester." Telephone No. 638); 6, Broad-st.-pl., London, E.C.; & 49-51, Oswald-st., Glasgow. (Telegrams: "Copper Co., Glasgow." Telephone No. 1394.)

Broughty Ferry Corporation Electricity Works, Broughty Ferry, Forfarshire. Engineer & manager, Jas. L. Turnbull. (Nat. Telephone No. 118.)

Brousson, R. P., M.I.E.E., M.I.M.E., engineer & traffic manager, Great Northern & City Railway, 3, Highbury-pl., N. (Telegs.: "Rapidness, London." Teleph. No. 853, North.)

Browett, Thos., M.I.MECH.E., M.I.E.E., manager Diesel Engine Co., Ltd., 179, Queen Victoria-st., London, E.C.

Browett, Lindley & Co., Ltd., high-speed steam engine makers for electric lighting, traction & mill driving, Sandon Engine Works, Patricroft, Manchester (Telegrams: "Sandon, Patricroft." Nat. Telephone Nos. 10 & 82, Eccles.) Registered July 28, 1899. Nominal capital: £120,000 in 60,000 £1 ordinary & 60,000 £1 preference shares & £30,000 debentures. Issued: 50,000 ordinary, 50,000 preference shares, fully paid, & all the debentures. Directors: Franklin Hilton, Esq.; Alf. Tongue, Esq.; W. H. S. Craven, Esq.; W. Browett, Esq.; F. C. Gibbons, Esq. (managing). Secretary, Thos. C. Kay.

Brown, A. C., M.I.E.E., 7, Queen-sq., Finsbury-ave., London, E.C. (Telephone No. 10466, Central.)

Brown, A. G., electrical engineer, 23, King-st. West, Manchester. (Telegrams: "Brownish, Manchester." Telephone No. 4337.)

Brown, Alex. W., A.I.E.E., Stirling Districts Asylum, Larbert, N.B.

Brown, C. R., assistant superintendent engineer, Corporation Electricity Works, Valley-rd., Bradford.

Brown, C. S. Vesey, consulting electrical engineer, Milburn House, Newcastle-on-Tyne.

Brown, E. Eugene, M.I.E.E., electrical engineer, Gwydyr, Eardley-rd., Streatham, London, S.W.

Brown, E. G., A.I.E.E., 8, Freke-rd., Lavender Hill, London, S.W.

Brown, F., electrician, 11, Upper George-st., Bryanston-sq., London, W. (Tel. No. 2369, Paddington.)

Brown, Frederick, M.I.E.E., managing director Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall (Telegs.: "Electrical Walsall." Teleph. No. 45); & Streetley, Sutton Coldfield.

Brown, F. G., electrical & mechanical engineer, 42, North-st., Rushden, R.S.O., Northants.

Brown, F. W., electrical engineer, St. Anne's-on-Sea.

Brown, G. M., J.P., Moray-pl., Edinburgh. Director Falkirk Electric Construction Syndicate, Ltd.; director Falkirk & District Tramways Co.

Brown, H., director Isle of Thanet Electric Tramways & Lighting Co., Ltd.; director Buenos Ayres & Belgrano Electric Tramways Co., Ltd.

Brown, H., sectional engineer, Postal Telegraphs, Stafford.

Brown, H. G., electrical engineer, 75, The Avenue, Ealing. (Teleph. No. 768, P.O., Ealing.)

Brown, Harold Thomas, A.I.E.E., "Billinghay," Tottenham-lane, Hornsey, London, N.

Brown, Hugh Maxwell, A.M.I.E.E., c/o C. A. Parsons & Co., 99, Great Clyde-st., Glasgow. (Telegs.: "Smoothly, Glasgow." Nat. Teleph. No. 6800, Royal.)

Brown, H. W., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Brown, Herbert W., electrical engineer, 9, Seaview-ter., Plymouth.

Brown, James, A.M.I.E.E., resident electrical engineer, Electricity Works, Kilmalcolm Electric Lighting Co., Ltd., Kilmacolm, Renfrewshire.

Brown, J., caster of electric fittings in copper, brass or gun metal, & copper sections for commutators, 22, Loveday-st., Birmingham.

Brown, James A., electrical engineer, 59 & 60, Chancery-lane, W.C.

Brown, J. A., A.I.E.E., 27, Westbourne-rd., Penarth, nr. Cardiff.

Brown, J. Bryden, electrical engineer, Kynochs, Ltd., Birmingham.

Brown, J. Campbell, D.SC., professor of chemistry, University, Liverpool.

Brown, J. Fiddes, M.I.E.E., M.I.MECH.E., 24, Morella-rd., Wandsworth Common, London, S.W.; & engineer, Lacroze Tramway Co., Buenos Aires.

Brown, Jas. Hally, A.I.E.E., Moredun, Paisley, N.B.

Brown, John, A.M.I.E.E., F.R.S., Longhurst, Dunmurry, Belfast.

Brown, John S., electric light engineer, 21, 22 & 62, Oxford-st., Swansea. (Telegrams: "Motors, Swansea." Telephone No. 166.)

Brown, Jos., jun., consulting engineer, Mercantile-chbrs., Quayside, Newcastle.

Brown, J. M., director South of England Development Co., Ltd., 3, King's-ter., Southsea.

Brown, J. W., electrician, Corporation Electricity Works, Morley.

Brown, M. Walton, mining engineer & secretary of the Institution of Mining Engineers, & of the North of England Institute of Mining & Mechanical Engineers, Neville Hall, Westgate-rd., Newcastle-upon-Tyne. (Telegs.: "Moneo, Newcastle-upon-Tyne." Nat. Teleph. No. 2201, Central.)

Brown, S. G., M.I.E.E., 4, Great Winchester-st., London, E.C.

Brown, T. Blundell, director British Columbia Electric Railway Co., Ltd.

Brown, V. W., Balnagown, Rathmines, Dublin. Director Shannon Electric Power Syndicate, Ltd.; director Dublin Electric Lighting Syndicate, Ltd.

Brown, W., A.I.E.E., c/o Siemens Bros. & Co., Ltd., Woolwich, S.E.

Brown, W., B.SC., A.M.I.E.E., lecturer on electro-technology, Royal College of Science, Dublin.

Brown, William, A.I.E.E., 36, Woodland-gdns., Muswell Hill, London, N.

Brown, Wm., electrical engineer, 29, Whetstone-park, Lincoln's Inn Fields, London, W.C.

Brown, Wm., engineer-in-chief's office, G.P.O., London, E.C.

Brown, Wm., district manager, National Telephone Co., Ltd., 13, Panmure-st., Dundee.

Brown, W. Anderson, distributing engineer, St. Pancras Electricity & Public Lighting Dept., 57, Pratt-st., London, N.W.

Brown, W. Calder, electrical engineer, 7, Ebury-st., Grosvenor-gdns., S.W. (Teleph. No. 1233, Victoria.)

Brown, W. H., "Harts," Woodford Green, Essex. Director Metropolitan District Railway Co.

Brown, Wm. Howard, A.M.I.E.E., Associated Portland Cement Manufacturers, Ltd., Works Dept., Park House, Gravesend.

Brown, W. R., A.M.I.E.E., 18 & 20, Mill-st., Macclesfield. (Telegrams: "Brown, electrician, Macclesfield." Telephone No. 0172.)

Brown, Alex., & Co., engineers & electricians, 233, St. Vincent-st., Glasgow. (Telegrams: "Alex, Glasgow." Telephone No. 3064.)

Brown, Andrew, & Co., engineers & agents, 110, Cannon-st., London, E.C. (Telegs.: "Browpost, London." Teleph. No. 8168, Bank.)

Brown Bayley's Steel Works, Ltd., makers of steel castings for electricians, Attercliffe, Sheffield. (Telegrams: "Bayley, Sheffield." Telephone No. 2082.)

BROWN, BOVERI & CO., LTD., electrical and general engineers, Caxton House, Westminster, London, S.W. (Telegs.: "Reactance, London." Teleph. No. 506, Westminster.)

Brown Bros. & Co., Ltd., electrical & mechanical engineers, Rosebank Iron Works, Edinburgh.

Brown & Bye, electricians, 60, Stoke Newington-rd., London, N.

Brown & Co., cabinet work & wood work for electricians, Waterloo Saw Mills, 73 to 85, McAlpine-st., Glasgow (Telegs.: "Boxes, Glasgow." Nat. Teleph. Nos.: 566 & 567, Argyle; Corp. 567); & 27, Chancery-lane, London, W.C.

Brown, D., & Sons, gear-wheel cutters & pattern makers, Park Works, Lockwood, Huddersfield. (Telegrams: "Gearing, Huddersfield." Telephone No. 80.)

Brown, E. A., & Co., wire workers, Collyhurst Wire Works, Manchester. (Nat. Teleph. No. 5123.)

Brown, F. V., & Co., engineers, &c., 49, Deansgate, Manchester. (Telegs.: "Booster, Manchester." Teleph. No. 341 Y.)

Brown & Green, electrical & general engineers & founders, Windsor-st., Luton.

Brown, J., & Co., Ltd., acids, &c., Dewsbury.

Brown & Parsons, electrical & general engineers, 63, Parade, Leamington Spa. (Telegs.: "Brown, Electrician, Leamington." Teleph. No. 16 X. 2.)

Brown & Son, electrical & scientific instrument makers, 25, Charlotte-st., Caledonian-rd., London, N.

Brown, Thomas, & Co., electric light apparatus manufacturers, Royal Exchange, Middlesborough.

Brown, W. B., & Co. (Bankhall), Ltd., telegraph wire manufacturers, 67, Bankhall-st., Liverpool.

Brown & Ward, electrical & mechanical engineers, 34, Hockley-st., Birmingham. (Telephone No. 198 Y., Central.)

Browne, H. D., chairman Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, Old Broad-st., E.C.

Browne, Lord R. H., Leith Villa, London-rd., Reigate. Director London Platino Brazilian Telegraph Co., Ltd.; director Western Telegraph Co.; director Anglo-Argentine Tramways Co., Ltd.

Browne, Newnham, F.C.I.P.A., chartered patent agent, 73, Cheapside, London, E.C. (Telegrams: "Honeybee, London." Telephone No. 366, Bank.)

Browne, Rowland F., A.M.I.E.E., Clentfield, Victoria-rd., Harborne, Birmingham.

Browne, R. I., M.D., Hartford Beech, Northwich. Director Northwich Electric Supply Co., Ltd.

Browne, Sir B. C., D.C.L., Westacres, Newcastle-on-Tyne. Director Newcastle & District Electric Light Co., Ltd.

Browne, Wilfrid L., A.M.I.E.E., assistant elec. engineer, Corporation Electricity Works, Morley Yorks.

Browne-Martin, J., 28, Victoria-st., London, S.W. Director Central Electric Supply Co., Ltd.; chairman Power & Traction Co., Ltd.; director Westminster Electric Supply Corp., Ltd.; director Smithfield Markets Electric Supply Co., Ltd.

Browning, E. A., A.M.I.E.E., 27, Mansfield Grove, Nottingham.

Browning, J. J. McI., electrical engineer, 8, Harold-st., Camberwell, London, S.E.

Brownlee, Lord Provost, 52, Smalls Wynd, Dundee. Chairman Dundee, Broughty Ferry & District Tramways Co.

Brownlee, A., & Co., electric ship & street lamp makers, 33 & 34, Anderston Quay, Glasgow. (Telegrams: "Quay, Glasgow." Telephone No. 3420.)

Brownridge, Chas., borough engineer, Birkenhead.

Broxburn Oil Co., Ltd., mineral oil & wax manufacturers, 28, Royal Exchange-sq., Glasgow; Devonshire-chbrs., Bishopsgate-st., London, E.C.; Broxburn, Linlithgowshire; 21, Grainger-st. W., Newcastle-on-Tyne; & 6, Exchange-bldgs., St. Mary's Gate, Manchester. (Telegs.: "Broxburn," Glasgow, London, Broxburn, Newcastle-on-Tyne & Manchester. Teleph. Nos.: 2880, London Wall; 3, Broxburn; 616, Glasgow.)

Broxburn & Uphall Lighting Committee, Broxburn, N.B.

Bruce, Fred., A.I.E.E., 2, York-bldgs., Hastings. (Telegrams: "Bruce, Hastings." Telephone No. 39 Y.)

Bruce, George A., M.I.E.E., resident electrical engineer, Electric Light Works, Lowestoft. (Teleph. No. 87.)

Bruce, John Geo., A.I.E.E., resident electrical engineer, Willesden District Council, Salusbury-rd., Kilburn, London, N.W. (Nat. Teleph. No. 73, Hampstead.)

Bruce, Alex., & Co., telegraph poles, Bothwell-st., Glasgow.

Bruce, Duff, & Co., consulting engineers, 17, Victoria-st., London, S.W. (Telegs.: "Fuimus, London." Teleph. No. 5040, Westminster.)

Bruce, J., & Son, telegraph instrument makers (ships' chronometers, &c.), 60, South Castle-st., Liverpool.

Bruce Peebles & Co., Ltd. *See* PEEBLES.

Bruné-Turchi Telegraphic Co., Ltd., 31, Lombard-st., London, E.C. Registered July 15, 1905. Nominal capital: £30,000 in £1 shares.

Brunner, H. B., electrician & chemist, Winnington Park, Northwich, Cheshire. (Telephone No. 103.) Director Northwich Electric Supply Co., Ltd.

Brunner, L. F., representative of T. Baeuerle & Söhne, St. Georgen, Germany, 279, Romford-rd., Forest Gate, E.

Brunner, Mond & Co., Ltd., alkali manufacturers, Winnington, Northwich (Telegrams: "Crescent, Northwich." Telephone No. 1); & 39, Lombard-st., London, E.C. (Telegrams: "Sesqui, London." A1 & A.B.C. Codes used.)

Brunton, Sydney Linton, A.M.I.C.E., M.I.E.E., electrical engineer, British Westinghouse Co., Ltd., Trafford Park, Manchester.

Brunton, W., & Co., electric fuse makers, Cambrian Fuse Works, Wrexham.

Brunton, W. N., & Son, manufacturers of all classes of iron & steel wires & wire ropes, Musselburgh, Scotland. (Telegrams: "Wiremill, Musselburgh." Telephone No. 28.)

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE, manufacturing electrical engineers & contractors & builders of rolling stock, Victoria Works, Belvedere-rd., London, S.E.; & Loughborough, Leicestershire. (Telegs.: Secretary, "Magneto, London;" Works, "Falcon, Loughborough." Teleph. Nos. 1647, 1668 & 1669, Hop. A1 & A.B.C. Codes used.) Registered Aug. 10 1889. Nominal capital: £360,000 ordinary shares, £125,000 preference shares, £125,000 debentures & £125,000 second debentures. Issued capital: £211,462 in ordinary shares of £2 each; £300,000 preference shares of £2 each, both fully paid; £125,000 4½ per cent. perpetual debenture stock & £125,000 4½ per cent. perpetual second debenture stock, all fully paid. Directors: Lord Vaux of Harrowden (chairman); W. L. Madgen, Esq.; C. S. B. Hilton, Esq.; G. Cornwallis West, Esq. B. Broadhurst, Esq., assistant manager & secretary; J. J. Steinitz, chief engineer. Dividends: on preference shares, 1901, 3 per cent.; 1902, 1903, 1904, 1905, 6 per cent.; on ordinary shares, 1901–1904, *nil*; 1905, 2½ per cent.

Bryan, G. H., SC.D., F.R.S., professor of mathematics, University College of N. Wales, Bangor, N. Wales.

Bryant, A. E., assistant engineer, Corporation, Bristol.

Bryant, Edwin G., electrical engineer, Delphi-chbrs., Old Christchurch-rd., Bournemouth. (Telephone No. 01149.)

Bryant, Gordon, A.M.I.E.E., borough electrical & tramways engineer, Great Yarmouth.

Bryant, W. W., superintendent of Magnetic & Meteorological Depart., Royal Observatory, Greenwich, S.E.

Bryant & Sons, electrical engineers, &c., 58, Regent-st., Weston-super-Mare.

Bryant Trading Syndicate, Ltd., electrical merchants & manufacturers, 13, Broad-st.-ave., E.C. Lamp Factory: Clarendon-bldgs., Horsell-rd., Highbury, London, N. Fittings Dept.: 1, Oxford-pl., Leeds. (Teleph. Nos.: 5873, Central; & 1035, North.)

Bryce & Rumpff, chemical agents, 58, Fountain-st., Manchester. (Telegrams: "Rumpff, Manchester." Telephone No. 1104.)

Bryden, John, & Sons (Established 1809), domestic electricians, 90, Gloucester-rd., Queen's-gate, London, S.W.; at 16, Frederick-st., Edinburgh; 60, Renfield-st., Glasgow; & 32, Bell-st., Dundee.

Bryden, Wm., & Son, electric light engineers & bell & lightning conductor fitters, 206, Bath-st., Glasgow (Nat. Telephone No. 627, Douglas); & 55, George-st., Edinburgh. (Nat. Telephone No. 364.)

Brydges, J. K., A.M.I.C.E., M.I.E.E., electrical engineer, Corporation Electricity Works, Eastbourne.

Brynamman & District Electric Supply Co., Ltd., Brynamman, Carmarthenshire. Registered Nov. 29, 1904. Nominal capital: £4000 in £1 shares. Issued capital: £2040, fully paid. Directors: W. J. Williams, Esq. (chairman); Edw. Evans, Esq.; Evan W. Evans, Esq. (secretary); Thos. Bartholomew, Esq.; Jno. Morgan, Esq.; I. M. Price, Esq.; D. Hicks, Esq.

Bryson, Robert, jun., electric lighting contractor, 130, High-st., Kirkcaldy, N.B. (Telephone No. 7 X. 1.)

Bubb, Herbert James, A.I.E.E., Aluminium Castings Co., Ingleston Foundry, Greenock, N.B. (Telegrams: "Castings, Greenock." Telephone No. 85.)

Bubb, J. T., electric light engineer, St. James's-churchyard, Bristol.

Buchan, H., electro lamp & lustre manufacturer, 50, Oswald-street, Glasgow.

Buchan, Mathew, consulting electrical engineer, Buchan & Hogarth, 16, Rutland-sq., Edinburgh. (Telegs.: "Consulting, Edinburgh." Teleph. No. 2562, Central.)

Buchan & Hogarth, consulting electrical engineers, 16, Rutland-sq., Edinburgh (Telegs.: "Consulting, Edinburgh." Teleph. No. 2562); & Parliament-chbrs., Westminster, London, S.W. (Telegs.: "Advising, London.")

Buchanan, Harry, A.I.E.E., 36, Baldwin-st., Bristol.

Buchanan, John, D.SC., head of Electricity Department, Robert Gordon's College, Aberdeen.

Buchanan, J. Y., F.R.S., 26, Norfolk-st., W. Director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.

Buchanan, W. A., 23, Gt. Winchester-st., London, E.C. Director Kent Electric Power Syndicate, Ltd.; director Shropshire & Worcestershire Electric Power Co.; director Shropshire & Worcestershire Electric Power Syndicate, Ltd.; director Gloucestershire Electric Syndicate, Ltd.

Buchanan & Curwen, electrical engineers, 64, Victoria-st., London, S.W. (Telephone No. 485, Westminster); Queen Anne's-bldg., Baldwin-st., Bristol; & 9, Rectory-rd., Beckenham. (Teleph. No. 368, Bromley.)

Buchholtz Reversible Turbine Syndicate, Winchelsea-rd., Harlesden, N.W.

Buck, Morton W., electrical engineer, Newcastle-upon-Tyne Electric Supply Co., Ltd., Royal Exchange-bldgs., Newcastle-upon-Tyne. (Telegs.: "Supply, Newcastle." Nat. Teleph. Nos.: 882, 883, 884, Central; P.O., 530.)

Buck, C., & Co., electro-gilders & platers, 18–20, St. John's-lane, London, E.C. (Teleph. No. 12250, Central.)

Buck & Hickman, Ltd., electrical specialities makers, 2 & 4, Whitechapel-rd., London, E. (Telegrams: "Roebuck, London." Telephone Nos. 844, 845 & 867, Avenue.)

Buckell, Ald. Robt., J.P., Broad-st., Oxford. Director Oxford Electric Co., Ltd.

Buckell, L. E., A.M.I.E.E., electrical engineer, c/o Newcastle-on-Tyne Electric Supply Co., Royal Exchange-bldgs., Hood-st., Newcastle-on-Tyne.

Buckfastleigh Electric Supply Co. Electricity Works, Buckfastleigh, Devon. Engineer, S. A. Kirby; electrician, A. McKenzie.

Buckingham Electric Light (Gillies & Hornidge, engineers), Buckingham. (Telegrams: "Electric.")

Buckland, C. J., J.P., chairman General International Wireless Telgraph & Telephone Co., Ltd.

Buckland, W. A., electrical engineer, 63, Westover-rd., Wandsworth Common, S.W.

Buckler, C. Dugald, 47, Galveston-rd., Putney. Director East India Tramways, Ltd.

Buckley, G., Halifax. Director Madeira Electric Lighting Co., Ltd.

Buckley, M. J., A.M.I.E.E., electrician, 26, Bessboro'-ter., North Circular-rd., Dublin.

Buckley, Samuel, maker of tool steel, magnet steel, malleable iron & steel castings, Styrian Steel Works, Sheffield. (Telegrams: "Tungsten, Sheffield." Telephone No. 1109.)

Buckley & Beech, electrical contractors, Cale-st., Chelsea, S.W.

Buckley & Taylor, Ltd., makers of triple or compound electric light engines, Castle Ironworks, Oldham. (Telegrams: "Engines, Oldham." Telephone No. 8.)

Buckmaster, H. C., A.M.I.E.E., electrical engineer, c/o Dick, Kerr & Co., Preston, Lancs.

Bucknall, W. G., electric & gas lighting engineer, 121, Mount Pleasant, Liverpool. (Telephone No. 2252, Royal.)

Buckton, Wm. Woodyer, A.M.I.E.E., A.M.I.M.E., 72, Victoria-st., London, S.W. (Telegs.: "Crosshead, London." Teleph. No. 357, Vic.)

Budd, F., electrical engineer, c/o Messrs. Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate, Westminster, S.W.

Budden, R. W., superintendent, Commercial Cable Co., 18, Moult-st., Manchester.

Buddicom, H. W., Bordighera, Italy. Director British Continental Electricity Co., Ltd.

Budge, Joseph, Mains House, East Wemyss, Scotland. Chairman Wemyss & District Tramways Co., Ltd.

Buenos Aires Port & City Tramways, Ltd., 2, Broad-st.-pl., London, E.C. Registered July 29, 1905. Nominal capital: £200,000 in £5 shares.

Buenos Ayres & Belgrano Electric Tramways Co., Ltd., 52, Moorgate-st., London, E.C. (Telephone No. 198, London Wall.) Registered Feb. 5, 1898. Nominal capital: £500,000 in £5 ordinary shares, £200,000 in "A" preference shares of £5 each, £150,000 in "B" preference shares of £5 each, & £320,000 debentures, & £200,000 in second debentures. Issued: all the ordinary fully paid, all the "A" preference fully paid, £137,500 "B" preference fully paid, all the first debentures, & £160,000 second debentures. Directors: J. Anderson, Esq.; H. R. Beeton, Esq.; Hy. Brown, Esq.; J. B. Concanon, Esq.; W. Wilson, Esq. Secretary, H. S. M. Woodrow.

Buenos Ayres Electric Light Co., Ltd., electric light contractors, 2, East India-avenue, London, E.C. Nominal capital: £100,000, in 9986 £10 ordinary & 70 £2 founders' shares. The whole of the founders' shares have been taken up, & nothing has been either called or paid.

Buenos Ayres Electric Tramways (1901), Ltd., 78, Cornhill, London, E.C. Registered Aug. 24, 1901. Nominal capital: £125,000 in £5 ordinary shares & £125,000 in £5 6 per cent. preference shares. An issue of £185,000 5 per cent. debentures (part of £200,000 authorized redeemable at par Aug. 18, 1938) was secured by trust deed June 3, 1903, & an acknowledgment of indebtedness, dated Sept. 8, 1903, to secure £15,000 debenture stock, ranking *pari passu* with the issue of £185,000 has been registered. A trust deed, dated March 30, 1906, to secure £50,000 second or "B" debenture stock, has been registered. Directors: C. S. Grenfell, Esq.; Col. C. M. Davidson; F. Mallmann, Esq.; B. E. Greenwell, Esq.; Chas Lock, Esq. Secretary, C. A. Huni, F.C.I.S.

Buenos Ayres Grand National Tramways Co., Ltd., 62, London Wall, London, E.C. (Telegs.: "Grantrams, London." Teleph. No. 4753, Central.) Registered March 2, 1889, title changed to above Dec., 1889. Nominal capital: 125,000 £5 ordinary shares, 90,000 preference shares of £5 each, £150,000 in 5½ per cent. preference debenture bonds, £700,000 in 5 per cent. conversion debenture stock, £227,500 in 6 per cent. debenture bonds & £80,000 5 per cent. income debenture bonds. Issued: 113,436 ordinary & 90,000 preference shares, all fully paid, £150,000 5½ per cent. preference debenture bonds, £600,000 5 per cent. conversion debenture stock, £227,500 6 per cent. debenture bonds & £74,523 5 per cent. income debenture bonds. Directors: J. Irving Courtenay, Esq. (chairman); N. G. Burch, Esq.; W. H. Harris, Esq.; J. Parker, Esq.; C. M. Rose, Esq.; A. B. Scott, Esq.; T. N. Vail, Esq.: T. Frame Thomson, Esq. Secretary, Fortescue Thursby. Dividends: 1904, 1905 & first half of 1906, *nil.*

Buenos Ayres Grand National & La Capital Tramways Joint Committee, Ltd., 62, London Wall, London, E.C. (Teleph. No. 1022, London Wall.) Registered Dec. 20, 1905. Nominal capital: £1000 in £1 shares.

Buenos Ayres New Tramways Co., Ltd., 62, London Wall, London, E.C. (Telegs.: "Bivouac, London." Teleph. No. 1022, London Wall.) F. Thursby, secretary.

Buffoline Noiseless Gear Co., Ltd., Chapel-st., Levenshulme, nr. Manchester. (Telegs.: "Buffoline, Levenshulme." Teleph. No. 248, Rusholme.)

Bugler, J. U., Ltd., engineers & electric bell fitters, 35 & 37, High-st., Ashford, Kent. (Telegrams: "Bugler, Ashford." Telephone No. 048.)

Bulfin, I., B.A., A.M.I.C.E., M.I.M.E., A.M.I.E.E., borough electrical engineer, Bournemouth.

Bull, J. Cecil, F.C.I.S., A.I.E.E., director & secretary of the City of London Electric Lighting Co., Ltd., & director & secretary of the Electric & General Investment Co., Ltd., 1 & 2, Great Winchester-st., London, E.C.

BULLERS, LTD., manufacturers of telegraph & telephone material, poles, insulators of all kinds, castings, porcelain parts of ceiling roses, switches, &c., for electric lighting purposes, 3, Laurence Pountney Hill, London, E.C. (Telegs.: "Bullers, London." Teleph. No. 575, Bank.) Works: Tipton (Telegs.: "Bullers, Tipton." Teleph. No. 1); & Hanley. (Telegs.: "Bullers, Hanley." Teleph. No. 7.) Nominal capital: £200,000 in £10 ordinary shares, £200,000 in 5 per cent. preference shares of £10 each. Issued: £150,000 ordinary shares & £150,000 preference shares, both fully paid. Directors: J. T. Harris, Esq., J.P.; A. K. Tharp, Esq.; E. J. Chambers, Esq., J.P.; J. W. Harris, Esq.; E. H. Chambers, Esq. Secretary, T. H. Simmonds. Dividends on ordinary shares: 1902–03, 10 per cent. & 5 per cent. bonus; 1903–04, 10 per cent. & 2½ bonus; 1904–05, 10 per cent. & 5 per cent. bonus; 1905–06, three *interim* dividends of 2½ per cent. each. *See advt., page* 31.

Bullivant & Co., electricians, 70, Lees-rd., Oldham.

Bulloch, Wm. M., electrical engineer, 20, Calton-ter., Farsley, nr. Leeds.

Bullock, G. T., A.I.E.E., Surveyor's Dept., Union Assurance Society, 81, Cornhill, London, E.C.

Bullock, Thomas A., A.I.E.E., Eastern Telegraph Co., Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Signally, London.")

Bullock, W. J. W., A.M.I.E.E., chief engineer of the Contract Department, D. Bruce Peebles & Co., 1, London Wall-bldgs., London, E.C.

Bullocke, G. L., Marconi's Wireless Telegraph Co., 18, Finch-lane, Threadneedle-st., London, E.C.

Bullough, R. C., A.M.I.C.E., general manager & engineer, Corporation Tramways, Colchester. (Telegs.: "Bullough, Tramways, Colchester." Nat. Teleph. No. 92.)

Bulmer, Albert E., A.M.I.E.E., electrical engineer, 42, Cavendish-pl., Newcastle-on-Tyne.

Bumpus, B. E., electrical engineer, Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C.; & 103, Lansdowne-rd., Old Charlton, Kent.

Bumsted & Chandler, high-speed steam engine manufacturers, Cannock Chase Foundry, Hednesford. (Telegrams: "Bags, Hednesford.")

Bunbury, Sir H. C. J., Bart., The Woodlands, Mildenhall, Suffolk. Director Peking & North China Electrical Corporation, Ltd.

Buncle, James, electrical apparatus maker, 93, Shandwick-pl., Edinburgh. (Telephone No. 2200.)

Buncrana Electric Supply Co., Buncrana, nr. Londonderry. Station engr., J. K. Swan. (Telegs.: "Electric, Buncrana.")

Bunn, Wm., A.I.E.E., "Carshalton," Sydney-rd., New Southgate, London, N.

Bunny & Osborn, electrical & mechanical engineers, 4–6, York-rd., Welford-rd., Leicester.

Bunting, G. W., engineer, County of Northampton Elec. Power & Traction Co., Ltd., Wellingborough.

Bunting, J. H., A.I.E.E., 38, Killieser-ave., Streatham Hill, London, S.W.

Burbidge, A. H., A.M.I.E.E., engineer & tram manager, Corporation Electricity Works, Kilmarnock.

Burbridge, J., chief engineer, Leeds City Tramways, Leeds.

Burbury & Co., electric light & power contractors, 2, Earl-st., Coventry.

Burch, George J., D.SC., M.A., F.R.S., lecturer in physics, University College, Reading.

Burch, N. G., 31 & 32, King William-st., London, E.C. Director Buenos Ayres Grand National Tramways Co., Ltd.

Burden, C. B., A.I.E.E., 139, Queen Victoria-st., E.C.

Burdett, H. J., elec. engr., "Electra House," Regent-st., Rugby. (Telegs.: "Burdett, Rugby." Tel. No. 3 Y.1.)

Burdett, H. J., electric light & power contractor, Fleet-st., Coventry.

Burdett, Sir H. C., K.C.B., The Lodge, Porchester-sq., W. Director Great Northern & City Railway Co.

Burdis, Robt., electrical merchant, 10, Grosvenor-gdns., West Jesmond, Newcastle-on-Tyne.

Burdon, C. Barnard, A.I.E.E., 139, Queen Victoria-st., London, E.C. (Teleph. No. 5161, Bank.)

BURGER, —, manufacturer & agent for electrical accessories, fittings, main switches, & all electrical goods, Audrey House, Ely-pl., London, E.C. (Telegs.: "Automaton, London." Teleph. No. 9687 Central.)

Burgess, I., Hartford Bank, Northwich. Director Northwich Electric Supply Co., Ltd.

Burgess Hill & District Electric Supply Co., Ltd., Railway Approach, Burgess Hill, Sussex. Registered Aug. 29, 1905. Nominal capital: £5000 in 3000 ordinary £1 shares & 2000 5 per cent. non-cumulative preference shares. Issued: 1500 ordinary & 1000 preference shares, all fully paid. Directors: W. H. d'A. Findlay, Esq.; H. Aldrich, Esq.; A. G. Davey, Esq.; W. B. Welch, Esq., M.R.C.S.; O. S. Jacques, Esq. Manager, E. Prior; secretary, E. F. Hope.

Burgin, John, director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.

Burgoine, Alfred, Ltd., electric launch builders, Kingston-on-Thames; & Riverside, Hampton Wick. (Telegs.: "Burgoine, Kingston-on-Thames." Teleph. No. 26, Kingston.)

Burkinshaw, Henry, resident engineer, Lancashire Electric Power Co.'s Station, Radcliffe, nr. Manchester. (Teleph. No. 46, Whitefield.)

Burley, T., telegraph engineer, Midland Railway, Gloucester.

Burley & Strange, installation contractors, High-st., Folkestone.

Burly, F., wiring contractor, Birley-st., Blackpool.

Burmah Electric Tramways & Lighting Co., Ltd., 1, Queen Victoria-st., London, E.C. Registered Oct. 11, 1902. Nominal capital: £200,000 in 20,000 cumulative 6 per cent. preference shares of £5 each & 20,000 ordinary shares of £5 each. Issued: All the preference shares, fully paid, & 18,395 ordinary shares, considered as paid. Directors: E. C. Morgan, Esq. (chairman); F. C. Kennedy, Esq., C.I.E.; D. C. Ellis, Esq.; H. R. Kindersley, Esq. Engineers, Kincaid, Waller, Manville & Dawson; secretary, W. R. Elston.

Burmah Electric Works Syndicate, Ltd., 53 & 54, Chancery-lane, London, E.C. Registered Sept. 12, 1899. Nominal capital: £2000 in £1 shares, all issued. Directors: H. R. Kindersley, Esq. (chairman & secretary); M. F. Kindersley, Esq. (managing & agent); E. R. Kindersley, Esq. Consulting engineers, Kincaid, Waller & Manville.

Burmah Tramways Construction Co., Ltd., 1, Queen Victoria-st., London, E.C. Registered July 25, 1902. Nominal capital: £50,000 in £10 ordinary shares. Issued: 4000 shares, fully paid, & 1000 shares as paid. Directors: T. E. Smith, Esq.; E. C. Morgan, Esq. Secretary, W. R. Elston.

Burman, R. H., sheet metal worker & metal spinner, Windmill-st., Horse Fair, Birmingham. (Telegs.: "Reflection, Birmingham." Teleph. No. 3455.)

Burn, J., installation contractor, Longhill, West Hartlepool.

Burn-Murdoch, Lieut.-Colonel P. R., R.E., A.M.I.E.E., R.E. Office, 22, North Bridge, Edinburgh.

Burn's Patent Tram Car Lifeguard Syndicate, Ltd., manufacturers of & dealers in safety guards for electric tramcars, &c., 12, Bowlalley-lane, Hull.

Burnand, W. E., electrical engineer, 1, Raven-rd., Nether Edge, Sheffield.

Burnand, W. E., & Co., electrical engineers, Lowfield Works, Chippinghouse-rd., Heeley, Sheffield. (Teleph. No. 1671.)

Burnby, S., & Son, electricians, lighting & telephones, 20, Warner-rd., Camberwell, London, S.E. (Teleph. No. 2881, Hop.)

Burne, Oldbury, A.I.E.E., Wasing Rectory, Reading.

Burnet, C. D., city electrical engineer, Carlisle. (Teleph. No. 67A.)

Burnet, Lindsay, & Co., engineers & boiler makers, Moore Park Boiler Works, & Burnet's Siding (goods), Govan, Glasgow. (Telegs: "Burnet, Glasgow." Teleph. No. 52, Govan, Corp. & Nat.)

Burnett, F. C. E., A.I.E.E., 27, Crockerton-rd., Upper Tooting, London, S.W.

Burnett, H. R., A.M.I.E.E., borough electrical engineer, Barrow-in-Furness. (Telegrams: "Electricity Works, Barrow-in-Furness." Telephone No. 103.)

Burnham, R. H., A.I.E.E., assistant telegraph engineer to the South-Eastern & Chatham Railway, Tonbridge, Kent; & Craven House, 31, Gauden-rd., Clapham, London.

Burnie, W. B., B.SC., A.I.E.E., principal Corporation Polytechnic, Croydon.

Burnley Corporation Electricity Supply & Electric Tramways. Works: Aqueduct-st., Burnley. Chairman, Councillor Grey; electrical engineer, Jas. E. Starkie, A.M.I.E.E., A.M.I.M.E. (Teleph. No. 364.)

Burns, J., electric motor carriages, 44, Berners-st., London, W.

Burns, Joseph, lightning conductor fitter, 27, Whitevale-st., Glasgow.

Burns, J., A.I.E.E., Kennedy & Jenkin, 17, Victoria-st., London, S.W.

Burns, David, & Co., electric lighting contractors, electric bell & telephone fitters, &c., 18, Lowther-st., & 4, Fox-lane, Whitehaven. (Telegrams: "David Burns, Whitehaven." Telephone No. 31.)

BURNS, J., LTD., vulcanized fibre manufacturers & dealers in all kinds of electrical insulation specialities. Engineers' & Steamship Stores & Mill Furnishers. Manufacturers of Shapes, Stampings, Bushes, Washers, Screwed Work of every description, Gear Wheels, & a great variety of machined pieces in Vulcanized Fibre, Ebonite, Metal & other Materials, as used by General & Electrical Engineers, Steam & Electrical Railways, Electric Tramway Companies, Motor Car Builders, &c., 189, Central-st., London, E.C. (Telegs.: "Isolement, London." Teleph. No. 3176, London Wall.) *See* INSULATING MATERIAL MFRS. & VULCANIZED FIBRE.

Burnside, W., M.A., F.R.S., professor of physics, Royal Naval College, Greenwich.

Burr, W. J., A.I.E.E., chief assistant electrical engineer, Electricity Works, Croydon.

Burrell, C., 49, boul. Beausejour, Passy, Paris. Director British Thomson-Houston Co., Ltd.

Burrell, Fountaine M., A.I.E.E., 187, Byron-ave., East Ham.

Burrell, C., & Sons, Ltd., engineers, St. Nicholas Works, Thetford, Norfolk. (Telegs.: "Burrell, Thetford." Teleph. No. 6.)

Burroughes, W. J., & Sons, electrical engineers, 143, Queen Victoria-st., London, E.C. (Telegrams: "Illapse, London.")

Burrowes, R. B., A.M.I.E.E., Technical College, 38, Bath-st., Glasgow, N.B.

Burslem Corporation Electricity Works, Burslem, Staffs. Engineer, Ashton Bremner.

Burstall, F. W., professor of engineering, Mason College, Birmingham.

Burstall, H. R. J., M.I.E.E., consulting engineer, Burstall & Monkhouse, 14, Old Queen-st., S.W.; & Wargrave-on-Thames. (Telegrams: "Instructed, London." Telephone No. 771, Westminster.)

Burstall & Monkhouse, consulting engineers, 14, Old Queen-st., London, S.W. (Telegrams: "Instructed, London." Telephone No. 771, Westminster.)

Burt, Chas., director Anglo-American Telegraph Co., Ltd., Hillside House, Richmond, Surrey.

Burt, Charles Harley, electric light fittings maker, 195, Wardour-st., London, W.

BURT, N., & CO., LTD., manufacturers of electroliers, brackets & fittings, in classic French styles, Louis XIV., XV., XVI., Renaissance & Empire, 195, Wardour-st., W. (Telephone No. 2277, Gerrard.)

Burthem, Henry, electrical engineer, 163, Liverpool-rd., Warrington.

Burtles, Tate & Co., makers of electric light shades, Poland-st. Glass Works, Oldham-rd., Manchester. (Telegrams: "Burtles, Manchester." Telephone No. 3221.)

Burton, Algernon, A.M.I.E.E., 6, Beach-rd., Penarth, South Wales.

Burton, W. C., electrical engineer, J. G. White & Co., Ltd., 22A, College Hill, Cannon-st., London, E.C.

Burton, W. F., A.I.E.E., Pontvaen, Hay, *viâ* Hereford.

Burton & Ashby Light Railways Power Station, Swadlincote. (Teleph. No. 1, Swadlincote.) Engineer & manager, J. Toulmin. Midland Railway Co., proprietors.

Burton, C. W., Griffiths & Co., milling machines, lathes, drills, &c., 1, 2 & 3, Ludgate-sq., Ludgate-hill, London, E.C. (Telegrams: "Hibou, London." Telephone No. 5423, Bank.)

Burton-on-Trent Corporation Electricity Supply. Works: Wetmore-rd., Burton-on-Trent. (Teleph. No. 207.) Chairman, Alderman T. E. Lowe; electrical engineer & tramways manager, P. J. Pringle, M.I.E.E., M.I.M.E. (Nat. Teleph. No. 202)

Bury Corporation Electricity Supply & Electric Tramways. Works: Rochdale-rd., Bury. Chairman, Alderman Duxbury; electrical engineer, S. J. Watson, M.I.E.E. (Telephone No. 50.)

Bury Municipal Technical School, Bury. *See* SCHOOLS, CLASSIFIED SECTION.

Bury St. Edmunds Corporation Electricity Works, Bury St. Edmunds. Engineer, Sydney E. Day.

Busby, E., & Son, manufacturers of H.C. copper braided flexible & small arc lamp strands, Excelsior Wire Works, Dartmouth-st., Birmingham. (Telegrams: "Busby, Birmingham.")

Bush, H. W., engineer, Urban Electric Supply Co., Ltd., Newbury, Berks.

Bush, Montague, A.I.E.E., Berry Brow, Shanklin, I.W.

Bush, T. C., wiring contractor, Wells-rd., Bath.

Bush, E., & Co., electricians, 26, Sunbridge-rd., Bradford. (Telephone No. 02656.)

Buss & Co., art metal workers, 18, Berners-st., London, W. (Telegrams: "Hofraum, London." Telephone No. 1926, Gerrard.)

Butcher, Chas. E., electric lighting contractor, 7, Cochrane-st., Wellington-pl., St. John's Wood; & 273, Finchley-rd., South Hampstead, London, N.W.

Butcher, M. H., A.M.I.E.E., c/o F. A. Robinson & Co., 54, Old Broad-st., London, E.C.

Butcher, S., A.I.E.E., c/o Thos. Cook & Son, Banking Department, Ludgate Circus, London, E.C.

Butcher, W. M. H., A.M.I.E.E., 146A, Queen Victoria-st., London, E.C.

Butler, C. F., A.M.I.E.E., managing engineer, Lewes & District Electric Supply Co., Lewes.

Butler, C. McArthur, A.I.E.E., Staple Inn-bldgs. (South), Holborn, W.C.

Butler, E. M., The Park, Harrow. Director Harrow Electric Light & Power Co., Ltd.

Butler, J. B., A.I.E.E., electrical engineer, c/o John Butler, Alexandra Mill, Bolton.

Butler, Lord A., 7, Portman-sq., W. Chairman Isle of Thanet Electric Tramways & Lighting Co., Ltd.

Butler, W. B., 3, Gracechurch-st., London, E.C. Director Delagoa Bay Development Corporation, Ltd.

Butler, W. H., A.I.E.E., Postal Telegraphs, Central Station, General Post Office, London, E.C.

Butler Bros., makers of screws, terminals, &c., 4, Station-buildings, Haggerston, London, N.E.

Butler Bros., electrical engineers, Normanton-rd., Derby.

Butler, J., & Co., electric battery manufacturers, Stanningley, Leeds. (Telephone No. 47, Stan.)

Butler & Spragg, Ltd., screw, nut & terminal manufacturers, Cambridge-st., Birmingham. (Telegs.: "Butsprag, Birmingham." Teleph. No. 1927.)

Butt, J. M., & Co., lamp post manufacturers, Kingsholm Iron Works, Gloucester. (Telegrams: "Butt, Founder, Gloucester." Telephone No. 16.)

Buttenshaw, H. F., A.I.E.E., c/o Siemens Bros., Standard-bldgs., City-sq., Leeds.

Butterfield Bros., electricians, 48, Yorkshire-st., Oldham. (Telephone No. 0962.)

Butterley Co., engineers & contractors, Butterley Iron Works, Derby.

Butterworth, James F., electrical & manufacturers' agent, 28, Queen-st., London, E.C. (Telegrams: "Gridiron, London." Telephone No. 6616, Central.)

Butterworth Bros., Ltd., makers of all kinds of glasses for electrical apparatus, insulators, separators, gauge glasses, lubricators, &c., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Nat. Telephone No. 22, Failsworth.)

Butterworth, W., & Son, mechanical & electrical engineers, Albert Works, King-st. West, Manchester. (Telegrams: "Butson, Manchester." Telephone No. 3959.)

Button, F. S., M.INST.C.E., consulting engineer, Inglewood, Scott Park, Burnley, Lancs. (Teleph. No. 333.)

Button, T., electrician, London-rd., Kingston-on-Thames.

Buxton, Ernest A., A.I.E.E., c/o British Insulated & Helsby Cables, Ltd., Prescot, Lancs.

Buxton Urban District Council Electricity Works, Buxton. Engineer, W. J. Leeming, A.M.I.E.E. (Telegrams: "Electricity Works, Buxton." Telephone No. 135.)

Bygrave, W., electrical engineer, East Barnet-rd., & Triangle, New Barnet; also Hadley, Middlesex. (Telegs.: "Bygrave, New Barnet.")

Byng, Gustav, M.I.E.E., 71, Queen Victoria-st., London, E.C. Chairman General Electric Co., Ltd.

Byng, Max, M.I.E.E., electrical engineer, 71, Queen Victoria-st., London, E.C. Managing director General Electric Co., Ltd.; director Thomson Davis Telephone System, Ltd.; director Northwood Electric Light & Power Co., Ltd.

Byrt, A., jun., dealer in electrical supplies, 47, High-street, Shepton Mallet, Somerset.

Bytheway, P. C., Engineering Dept., General Post Office, Glasgow.

Cable, Matthew, A.I.E.E., 198, Oxford-rd., Reading.

Cable Accessories Co., Tividale, Tipton. (Telegs.: "Disconnect, Tipton." Teleph. No. 11 Y., Oldbury.)

Cable Makers' Association, Parliament Mansions, Victoria-st., London, S.W. A. H. Howard, secretary. (Telephone No. 5366, Westminster.)

Cable Trough Co., Canal-st., Nottingham.

Cadle, C., turbine & waterwheel maker, 39, Wellington Quay, Dublin. (Telegrams: "Cadle, Dublin." Telephone No. 02200.)

Caffyn, W. M., & Sons, electric light engineers, 43, Seaside-rd., & 12, The Colonnade, Eastbourne. (Telephone No. 0352.)

Cahen, A. A., B.SC., A.M.I.E.E., 28, Queen's-rd., Erith, Kent.

Caiger, G., electrician, 29, Radnor-street, Hulme, Manchester.

Caiger, H. J., consulting engineer, 51, Lime-street, London, E.C.

Caillard, Sir V., King William-st., London, E.C. Chairman Bath Electric Tramways, Ltd.

Caine, J. F., A.I.E.E., 34, Rutland Park Mansions, Willesden Green, London, N.W.

Caink, T., A.M.I.C.E., city engineer & surveyor, Guildhall, Worcester. (Telephone No. 32.)

Cairns, T. Munro, A.M.I.E.E., consulting engineer, Blackhall, Edinburgh. (Telegs.: "Cairns, Blackhall, Edinburgh." Teleph. No. 277 X. 1, Central.)

Cairns & Co., electrical engineers, 91, Queen Victoria-st., London, E.C.

Cakebread, Robey & Co., makers of tube clearing rods for cable work, 86, High-st., Stoke Newington, London, N. (Telegs.: "Splendour, London." Teleph. Nos. 236 & 10, Dalston.)

Calcott, John Henry, electric lighting contractor, "Carlton," Acton Vale, London, W.

Calcutta Electric Supply Corp., Ltd., Salisbury House, London Wall, London, E.C. Registered Jan. 15, 1897. Nominal capital: £500,000 in ordinary shares of £5 each. Issued: 80,000 shares, fully paid; & 20,000 shares (issued at a premium of 30*s.* per share), £2 paid in addition to the premium. Directors: Col. A. J. Filgate, R.E. (chairman); E. Boulnois, Esq., M.P.; P. V. Luke, Esq., C.I.E.; Sir Guildford L. Molesworth, K.C.I.E.; J. H. Glass, Esq., C.I.E. Secretary, F. R. Reeves; managing agents, Kilburn & Co., Calcutta. Dividends: 1902, 6½ per cent.; 1903, 7 per cent.; 1904, 8 per cent.; 1905, 8½ per cent.

Calcutta Tramways Co., Ltd., 1, Queen Victoria-st., London, E.C. (Telegs.: "Enshrine, London.") Nominal capital: £850,000 in 140,000 ordinary & 30,000 preference shares of £1 each. Issued: 105,000 ordinary (old) shares, 32,610 ordinary (new) & 30,000 preference shares. £185,100 is considered as paid; & £350,000 4½ per cent. first debenture stock. Directors: E. C. Morgan, Esq. (chairman); Sir Hy. Kimber, Bart., M.P.; J. G. B. Stone, Esq.; Col. Sir C. E. Howard Vincent, K.C.M.G., C.B., M.P. Secretary, W. R. Elston. Dividends: 1903, 6 per cent.; 1904, 1905, 8 per cent.

Calder, Lindsay & Co., electrical engineers, 84, Newington Causeway, E.C. (Teleph. No. 2275, Hop.)

Calderbank, H. W., patentee & manufacturers' agent, electrical fittings, 78, King-st., Manchester. (Telephone No. 08610.)

Caldwell, H. C., A.M.I.E.E., resident engineer, Altrincham Electric Supply, Ltd., Broadheath; & Stamford New-rd., Altrincham.

Caldwell & Co., electric light engineers, Inverkeithing, N.B.

Caledonian Electric Wire Co., Ltd., 65, Renfield-st., Glasgow.

Caledonian Wire Works, wire workers & wire cloth manufacturers, 28, Thistle-street, Glasgow.

Calisch, L., electrical engineer, 12, Pembridge-gdns., Bayswater, London, W.

Callander, J. C., A.I.E.E., 89, Claremont-rd., Forest Gate, London, E.

Callas, Sons & May, Ltd., electric bell fitters & electric light contractors, 68–76, Oxford-st., Reading. (Telegs.: "Callas, Reading." Teleph. Nos. 155 & 555.)

Callendar, H. L., M.A., LL.D., F.R.S., professor of physics, Royal College of Science, South Kensington, London, S.W.

Callender, J. O., A.I.E.E., Cameray, Burghley-rd., Wimbledon.

Callender, R. W., electrical engineer, Western Telephone Exchange, Cromwell-rd., London, S.W.

Callender, Thomas Octavius, M.I.E.E., electrical engineer, Hamilton House, Victoria Embankment, London, E.C. (Telephone Nos. 1910 & 1911, Holborn.) Managing director Callender's Cable & Construction Co., Ltd.; director Lancashire Power Construction Co., Ltd.; director Yorkshire Electric Power Co.; director North-Western Electricity & Power Gas Co., Ltd.; director Fife Electric Power Co., Ltd.; director British Power Co., Ltd.; director Thomas Bolton & Sons, Ltd.; director Chesham Electric Light & Power Co., Ltd.

Callender's Cable & Construction Co., Ltd., electric cable makers, Hamilton House, Victoria Embankment, London, E.C. (Telegrams: "Callender, London." Telephone Nos. 1910 & 1911, Holborn.) Registered July 24, 1896. Nominal capital: £500,000 in 60,000 ordinary shares of £5 each & 40,000 5 per cent. cumulative preference shares of £5 each. Issued: 35,000 ordinary, fully paid; 40,000 5 per cent. cumulative preference, fully paid; & £300,000 debenture stock, fully paid. Directors: H. Drake, Esq. (chairman); Sir D. Evans, K.C.M.G.; W. O. Callender, Esq. (special); C. H. McEuen, Esq.; Sir J. F. Flannery, Bart.; Major W. M. Mackenzie; T. O. Callender, Esq. (managing). Secretary, H. E. Harrison. Dividends: 1902, 10 per cent. & 5 per cent. bonus; 1903, 10 per cent. & 2½ per cent. bonus; 1904, 10 per cent. & 2½ per cent. bonus; 1905, 10 per cent. & 5 per cent. bonus. Carried forward to next year's account, £38,921 18*s.* 11*d.* Reserve fund, £100,000. *See* CABLES.

Callis, F. T., A.I.E.E., 19, Coquet-ter., Heaton, Newcastle-on-Tyne.

Callow, D. J., A.M.I.E.E., electrical engineer, 51, North John-st., Liverpool; & Round House, New Brighton, Cheshire.

Callow, Monté, & Co. *See* Monte-Callow & Co.

Calmon Asbestos & Rubber Works, Ltd., 1–3, Trinity-pl., Tower Hill, London, E.C. (Telegrams: "Arbusteno, London." Telephone No. 2675, Avenue.)

Calmont, S., & Co., Ltd., electrical engineers, 28, Basinghall-st., London, E.C.

Calver, W. G., chief inspector, Corporation Tramways, Reading.

Calverly, Batty & Co., electrical contractors, 27, Market-st., Burnley; & Nelson, Lancs.

Calvert, Ed., A.M.I.E.E., electrical engineer to the District Council, Finchley, N.

Calvert & Heald, electrical engineers, Tubal Works, Market-st., Lancaster. (Telephone No. 9.)

Cam, W. H., & Sons, electrical engineers & contractors, 32, Shambles, Worcester.

Camberley Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C. Registered June 29, 1904. Nominal capital: £1000 in £1 shares. Secretary, H. B. Renwick.

Camble, F., wiring contractor, 4, Castle-st., Exeter.

Camborne Electricity Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, London, S.W. Registered June 27, 1898. Nominal capital: £10,000 in £1 shares. Issued: £607, fully paid. Directors: H. Wolfenden, Esq. (chairman); F. E. Gripper, Esq.; W. Page, Esq.; E. Charrington, Esq.; H. B. Grotrian, Esq. Engineer, F. S. Hanning; secretary, C. H. Jones. *The whole of the capital is held by the Urban Electric Supply Co., Ltd.*

Camborne & Redruth Electricity Works & Tramways. Urban Electric Supply Co., Ltd., proprietors, Carn Brea, Cornwall. (Telegs.: "Electricity Works, Carn Brea." Nat. Teleph. No. 3, Camborne.) Engineer, F. S. Hanning, A.M.I.E.E.

Cambridge Electric Supply Co., Ltd. Registered offices: Thompson's-lane, Cambridge. (Telegrams: "Electric Supply, Cambridge." Telephone No. 43.) Registered May, 1892. Nominal capital: £100,000 in ordinary shares of £10 each. Issued: £94,230, £9 paid on each. The company issued 300 debentures of £100 each, £30,000, in November last, all of which has been paid up. Rate, 4½ per cent. redeemable at par in 1914 or earlier at £103. Directors: David Munsey, Esq. (chairman); A. A. Campbell Swinton, Esq. (managing); Hon. C. A. Parsons, C.B., F.R.S.; J. B. Simpson, Esq.; P. Wm. Latham, Esq., M.D. Electrical engineer, H. B. Harvey, A.M.I.E.E.; secretary, J. H. Taylor. Dividends: 1897, 6 per cent.; 1898, 1899, 1900, 1901, 1902, 1903 & 1904, 7 per cent. per annum; first half of 1905, at rate of 5 per cent.

Cambridge Electric Tramways Syndicate, Ltd., 66, Victoria-st., London, S.W. Registered Jan. 12, 1904. Nominal capital: £5000 in £10 shares. Directors: A. A. C. Swinton, Esq.; D. Munsey, Esq. Secretary, M. R. Hamilton.

Cambridge Scientific Instrument Co., Ltd., electrical & scientific instrument makers, Carlyle-rd., Cambridge. (Telegrams; "Instrument, Cambridge." Telephone No. 6.)

Cambridge University Engineering Laboratory, Cambridge, Prof. B. Hopkinson, M.I.C.E. (Teleph. No. 0268.)

Cambridge University Press Warehouse (C. F. Clay, manager), technical publishers, Fetter-lane, E.C. (Telegrams: "Cantabrigia, London." Telephone No. 6359, Central.)

Cambrook, John, secretary of the West African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Camburn, A. J., electric lighting contractor, 1, Dover-rd., Folkestone.

Cambuslang Electricity Works, Cambuslang, N.B. (Teleph. No. 4, Cambuslang.) Lanark County Council, proprietors. Engineer, A. J. Abraham, A.M.I.E.E.

Cameron, A., engineer, Blackpool & Fleetwood Electric Tramroad Co., Bispham, nr. Blackpool.

Cameron, H., electrical engineer, Penarth Electric Lighting Co., Ltd., Penarth.

Cameron, M. A., Major, R.E., A.I.E.E., Crown Agents' Office, Downing-st., London, S.W.

Cameron & Hogg, installation contractors, 31, Nicolson-st., Edinburgh.

Cammell Laird & Co., Ltd., steel manufacturers & engineers. Head office: Cyclops Works, Sheffield. (Telegs.: "Cammell, Sheffield." Teleph. No. 3800.) Steel Works: Grimesthorpe, nr. Sheffield; Penistone; & Workington. Iron Works: Maryport. Collieries: Barnsley. Shipbuilding & Engineering Works: Birkenhead.

Campart, César, electrical engineer, 21, Finsbury-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

Campbell, Albert, B.A., A.M.I.E.E., National Physical Laboratory, Teddington, Middlesex.

Campbell, Allan Chas., A.I.E.E., 15, Royal Mint, Tower Hill, E.

Campbell, Archibald, A.M.I.E.E., constructional material, electrical accessories & art metal work, 27, Chancery-lane, London, W.C. (Telegrams: "Unsubdued, London." A.B.C. Code. Telephone No. 7472, Central.)

Campbell, A. M., electrician, 58, Leinster-sq., London, W. (Telegs.: "Nauheim, London.")

Campbell, Colin F., 9, King William-st., E.C. Director Telegraph Construction & Maintenance Co., Ltd.

Campbell, Colin M., A.I.E.E., c/o Siemens Bros. & Co., Stafford.

Campbell, D. S., High-st., Montrose. Director North of Scotland Electric Light & Power Co., Ltd.

Campbell, Hon. H. W., 44, Charles-st., Berkeley-sq., W. Director Waterloo & City Railway Co.

Campbell, Hugh, A.I.E.E., Kingston, Halifax, Yorks.

Campbell, John, domestic electrician, 31, Stafford-st., Oban, N.B.

Campbell, John, electrical & mechanical engineer, Fountain House, Pitlochry, N.B.

Campbell, K. F., M.I.E.E., engineer, Duneira, Gledholt, Huddersfield.

Campbell, Peter, electric bell fitter & engineer, 68, George-st., Perth, N.B. (Nat. Teleph. No. 5 X. 4.)

Campbell, R. M., M.I.M.E., A.M.I.E.E., electrical engineer, 19, Klea-ave., Clapham Common, London, S.W.

Campbell, Donald, & Co., paraffin wax & ozokerite, 10, St. Mary Axe, London, E.C. (Telegrams: "Iscanus, London." Telephone Nos.: 404, Avenue; & 6342, Central.)

Campbell Gas Engine Co., Ltd., 114, Tooley-st., London, S.E. (Telegs.: "Enginery, London." Teleph. No. 2666, Hop.) Works at Kingston, Halifax. (Telegs: "Camgas, Halifax." Teleph. No. 92.)

Campbell & Isherwood, manufacturing electrical engineers, Raleigh-st., Bootle. (Telegrams: "Pressure, Liverpool." Telephone No. 402, Bootle.)

Campbell, Macmaster & Co., soft iron dynamo magnet forgings, armature discs, & eyebolts, 11 & 12, Clement's-lane, London, E.C. (Telegrams: "Duke, London." Telephone No. 2011, Avenue.)

Campbells & Hunter, Ltd., machine tool makers, Dolphin Foundry, Leeds. (Telegrams: "Dolphin, Leeds." Telephone No. 768, National.)

Campion, R. H., A.M.I.E.E., engineer, Corporation Electricity Works, Dewsbury.

Campion, J., & Co., electrical agents, Coventry House, South-pl., Finsbury, London, E.C.

Camps, H. E. J., & Co., consulting engineers, 6, Crosby-sq., London, E.C. (Telegrams: "Adiabatic, London." Telephone No. 8293, Central.)

Canadian Electric Traction Co., Ltd., 13, St. Helen's-pl., London, E.C. Registered Jan. 12, 1904. Nominal capital: £120,000 in £1 shares. Issued: 78,000 shares. Directors: C. Steel, Esq.; H. E. Hoare, Esq.; A. Hickling, Esq.; F. G. Rumball, Esq.; S. A. Chambers, Esq.; R. S. Portheim, Esq.; H. R. Hogg, Esq. Secretary, F. B. Fuller.

Canadian Electrical Insulations Co., mica merchants, 78, Long-lane, London, E.C.

Canadian Electrical News, 22, Great St. Helen's, London, E.C.

Canadian Industrial Co., Ltd., electric light & power contractors, 58, Lombard-st., London, E.C. Registered Nov. 6, 1905. Nominal capital: £50,000 in £1 shares.

Candler, Geo., & Son, electrical engineers, 258A, Brixton Hill, London, S.W. (Telephone No. 23, Brixton.)

Cann, Ltd., builders of electrical carriage bodies, &c., 12, 13 & 14, Miller-st., Camden Town, London, N.W. (Telegs.: "Cannablist, London." Teleph. No. 816, North.)

Cannell, Charles, electrical engineer, 83, Mill Hill-rd., Norwich.

Cannell, E. S., electric light engineer, City Asylum, Norwich. (Telephone No. 27.)

Canning, W., & Co., manufacturers of acids for accumulators, Bagot-st., Birmingham.

Canning, W., & Co., makers of electro-plating & depositing machines, 133, Great Hampton-st., & 88, Snow Hill, Birmingham. (Telegs.: "Materials, Birmingham." Teleph. Nos. 4301, 4302 & 4303.)

Cannington, Shaw & Co., Ltd., manfrs. of battery jars & cells, Sherdley Glass Works, St. Helen's, Lancs. (Telegs.: "Cannington, St. Helen's." Teleph. No. 11); 84, Silk-st., Manchester (Telegs.: "Cannington, Manchester"); 14, West Campbell-st., Glasgow (Telegs.: "Sherdley, Glasgow." Teleph. No. 4170); & L. & N.W.R. Depôt, Worship-st., E.C. (Telegs.: "Sherdley, London." Teleph. No. 1173, London Wall.)

Cannon, W. G., & Sons, Ltd., electric bell fitters & contractors, 106 & 107, London-rd., London, S.E. (Telegs.: "Radiators, London.")

Cant, B. C. C., electrical engineer, Wayland Electric Works, 154, Sandringham-rd., Dalston, London, N.E.

Canterbury Corporation Electricity Works, Northgate-st., Canterbury. C. A. Blascheck, engineer; F. E. Lewis, assistant engineer. (Telephone No. 2, Canterbury.)

Canterbury & Herne Bay Light Railway, 34, Waterloo-st., Birmingham. Engineer, R. Green, A.M.I.C.E. *Not yet constructed.*

"Cantie" Switch Manufacturing Co., switch manufacturers, 69, Mount-st., Nottingham. (Telegs.: "Cantie, Nottingham." Teleph. No. 91 Y.)

Cape Asbestos Co., Ltd., Guildhall Annexe, 23, King-st., Cheapside, London, E.C. (Telegs.: "Incorrupt, London." Teleph. No. 1298, London Wall.)

Cape Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C. (Telegrams: "Jaggedness, London." Telephone No. 2827, London Wall.) Registered Oct. 29, 1897. Nominal capital: £500,000 in £1 shares. 491,222 shares have been taken up & are fully paid. There are in addition £278,700 6 per cent. debentures secured by trust deed, & £140,000 5 per cent. debentures secured by trust deed. £200,000 5 per cent. debentures, created by resolution of Oct. 25, 1905, have been made, £150,000 of which have been issued. Directors: Col. Sir C. Euan Smith, K.C.B., C.S.I. (chairman); J. B. Taylor, Esq.; L. Breitmeyer, Esq.; Admiral Sir A. H. Markham, K.C.B.; F. Robinow, Esq.; Dr. F. Rutherfoord Harris; W. B. Rommel, Esq. Consulting engineer, Fearnside Irvine; secretary, S. W. Jameson. Dividends: 1899–1900, 1900–01, 12 per cent. per annum; 1901–02, 16 per cent.; 1902–03, 15 per cent.; 1903–04, 10 per cent.; 1904–05, 5 per cent.

Cape Peninsula Lighting Co., Ltd., 54, St. Mary Axe, London, E.C. (Telegrams: "Reposnos, London.") (Davis & Soper, agents.) Nominal capital: £125,000 in ordinary shares of £1 each, fully paid. 25,917 are held in reserve. Resident engineer, C. M. Read. Dividends: 1898, 6 per cent.; 1899, 5 per cent.; 1906, 2½ per cent.

Cape Town Consolidated Tramways & Land Co., Ltd., 1, London Wall-bldgs., London, E.C. (Telegs.: "Exaggerate, London." Teleph. No. 2827, London Wall.) Registered June 6, 1906. Nominal capital: £300,000 in £1 shares & £450,000 5 per cent. mortgage debentures. A trust deed, dated Aug. 14, 1906, to secure £450,000 debentures, created by resolution of July 10, 1906, has been registered. Directors: Dr. F. Rutherfoord Harris; G. Pauling, Esq.; L. Breitmeyer, Esq.; R. Littlejohn, Esq. Consulting engineer, Fearnside Irvine; secretary, S. W. Jameson.

Capel & Co., gas & oil engine & suction gas plant manufacturers, "Engine" Works, 168, Dalston-lane, London, N.E. (Telegrams: "Educate, London." Telephone No. 52, Dalston.)

Capell Fan Co., 13, Mosley-st., Newcastle-on-Tyne. (Telegs.: "Centrifuge, Newcastle." Nat. Teleph. No. 1858.)

Capilliform Telegraph Instrument Co., Ltd., electric apparatus manufacturers, 4, Trafalgar-sq., London, S.W.

Capito, Charles, M.I.M.E., M.I.E.E., 5, Eardley-cres., South Kensington, London, S.W.

Caplatzi, T. D., electrical sundries dealer, 18, Radipole-rd., Fulham, London, S.W.

Cappel, Sir Albert J. Leppoc, K.C.I.E., M.I.E.E., 27, Kensington-court-gardens, London, W. Director Eastern Extension Australasia & China Telegraph Co., Ltd.; director Eastern & South African Telegraph Co., Ltd.; director Eastern Telegraph Co., Ltd.; chairman Pacific & European Telegraph Co., Ltd.; trustee Submarine Cables Trust; director Black Sea Telegraph Co., Ltd.; director Globe Telegraph & Trust Co., Ltd.; director London Platino Brazilian Telegraph Co., Ltd.; director Western Telegraph Co., Ltd.; director West Coast of America Telegraph Co., Ltd.

Capper, D. S., M.A., M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer, professor of civil & mechanical engineering, King's College, Strand, London, W.C.; & 17, Victoria-st., S.W. (Telephone No. 5255, Westminster.)

Car & General Insurance Corporation, Ltd., 1, Queen Victoria-st., London, E.C. (Telegs.: "Insucar, London." Nat. Teleph. No. 8420, Bank.) F. Thoresby, general manager & secretary.

Caracas Construction Co., Ltd. Registered June 20, 1906. Nominal capital: £17,000 in £10 shares.

Carbone Arc Lamp Syndicate, Ltd., 78, King-st., Manchester.

Carbone, Le, manufacturers of electric light carbons, 17, Water-lane, E.C. (Telegrams: "Lacombe, London.") *See advts. under* DYNAMO BRUSH MANUFACTURERS & DYNAMO MANUFACTURERS.

Carden, E., general manager of Corporation Tramways, Dover. (Telegrams: "Tramways, Dover." Telephone No. 219D.)

Cardew, Philip, Major, R.E., M.I.E.E., Preece & Cardew, 8, Queen Anne's-gate, Westminster, London, S.W. (Telegrams: "Creephole, London." Telephone Nos. 420 & 446, Westminster.)

Cardiff Alkali Co., Ltd., Cardiff. (Telegrams: "Ammonia, Cardiff." Nat. Telephone No. 767.)
SPECIALITY: CRUSHED SALAMMONIAC CRYSTALS FOR LECLANCHÉ BATTERIES.

Cardiff Corporation Electricity Works & Electric Tramways, Hayes, Cardiff. A. Ellis, M.I.E.E., M.I.M.E., engineer & manager. (Telephone No. 1211.)

Cardiff Tin Stamping & Enamel Co., Ltd. (T. H. Starkey, agent), enamelled iron reflector makers, Rosebery-bldgs., 83, John Bright-st., Birmingham. (Telegrams: "Starkey, Birmingham." Telephone No. 883.)

Cardin, E., A.M.I.E.E., 108, Acomb-st., Manchester.

Carew-Gibson, C., A.M.I.E.E., Electricity Works, Oak Wharf, City-rd., London, E.C.

Carey, R. B., electrical engineer, 27, Charles-st., Cardiff.

Carlaw, John, A.I.E.E., 80, Barrington Drive, Glasgow.

Carlaw, David, & Sons, speed indicator makers, 11, Finnieston-st., Glasgow. (Telegrams: "Automaton, Glasgow." Telephone No. 363, Argyle.)

Carling, Gill & Carling, Ltd., electrical engineers, 59 & 60, High-st., Guildford (Telegs.: "Carling, Guildford." Teleph. No. 6); & Godalming. (Telegs.: "Carling, Godalming." Teleph. No. 6.)

Carlisle Corporation Electricity Supply Works, Carlisle. C. D. Burnet, engineer. (Telephone No. 67.)

Carlisle Electric Tramways. *See* City of Carlisle Electric Tramways Co., Ltd.

Carlisle Municipal Technical Institute, Carlisle. *See* SCHOOLS.

Carlmark, J. D., A.M.I.E.E., 89, Beeches-rd., West Bromwich, Stafford.

Carlton, N., director Clyde Valley Electrical Power Co.

Carlyle Bros. & Gumbrell, electrical engineers, 52, Corporation-st., Manchester.

Carmarthenshire Electric Power Co., Royal-chbrs., Park-place, Cardiff.

Carmichael, O., electrical engineer, High West-st., Gateshead.

Carmichael, J., & Co., Ltd., engineers, Ward Foundry, Dundee. (Telegrams: "Corliss, Dundee.")

Carnarvon Corporation Electricity Works, Carnarvon. Resident engineer, A. C. Goodman. (Teleph. No. 30.)

Carnarvonshire Electric Traction Syndicate, Ltd. *In voluntary liquidation.* Liquidator, F. B. Fuller, 18, St. Helen's-pl., E.C.

Carnegie, A. Q., A.I.E.E., electrical engineer, 31, Manor House-rd., Newcastle-on-Tyne.

Carnoustie Electricity Works. (Electric Supply Corporation, Ltd.)

Carolan, E. A., manager, London Office, General Electric Co. (New York), 83, Cannon-st., London, E.C. (Telegrams: "Oncometer, London." Telephone No. 5589, Bank.) Director Yorkshire Electric Power Co.; director Uddingston District Electric Lighting Co., Ltd.; director Lancashire Power Construction Co., Ltd.; director British Tramways & General Construction Co., Ltd.

Carpenter, F. W., glass accumulator induction coils, &c., 8, Cecil-ct., Charing Cross-rd., London, W.C. (Telegs.: "Manograph, London.")

Carpenter, T. R., electric light fittings manufacturer, Cranmer Works, 171–179, Bishop-st., Birmingham. (Telegrams: "Carford, Birmingham." National Telephone No. 05225.)

Carpenter & Mayfield, electrical engineers, Ilkeston.

Carpmael, H., A.M.I.E.E., 42, Barrow-rd., Streatham Common, S.W.

Carpmael & Co., patent agents, 24, Southampton-buildings, Chancery-lane, London, W.C. (Telegrams: "Carpmael, London." Telephone No. 4761, Holborn.)

Carr, A. E., A.I.E.E., Power House, Formby, nr. Liverpool.

Carr, Byrom, electrician, lecturer in electro-metallurgy, Technical School, Sheffield.

Carr, Charles, electric bell manufacturer, Woodland Works, Grove-lane, Smethwick, Birmingham. (Telegrams: "Bells Smethwick, Birmingham." Telephone No. 2018.)

Carr, E. R., A.M.I.E.E., electrician, 7, Hayter-rd., Brixton, London, S.W.

Carr, George Anderson, M.S.A., M.I.E.E., Colonel, R.E., Nymåns, Midhope-rd., Woking.

Carr, G. E., electrical & mechanical engineer, 46, Goldspink-lane, Newcastle-on-Tyne.

Carr, George M., M.I.E.E., superintending engineer, Postal Telegraphs, Leeds.

Carr, J. Martin, A.M.I.E.E., electric light engineer, 16, Elmbank-st., Glasgow. (Nat. Teleph. Nos. 222 Y. 1, Douglas; & 225 Y. 6, Langside.)

Carr, O., electrical engineer, Headingley, Leeds. (Telephone No. 2 X., Headingley.)

Carr, R. M., A.M.I.E.E., resident electrical engineer to the District Council, Leek, Stafford.

Carr, Wilson S., M.I.E.E., Vickers Sons & Maxim, River Don Works, Sheffield.

Carr & Parr, electrical contractors, 67, Edgware-rd., London, W.

Carr, Rowland & Co., ironfounders & lamp post manufacturers & contractors, 6 & 8, Lime-st.-sq., London, E.C. (Telegs.: "Smyrus, London." Teleph. No. 5726, Avenue. A.B.C. Code used.)

Carrick, John Hayton, A.M.I.E.E., Prospect House, Bramhope, nr. Leeds.

Carrick, Watson B., consulting electrician, 13, Balmoral-ter., Gosforth, Newcastle-on-Tyne. (Nat. Teleph. No. 01920, Gosforth.)

Carrick, James, & Sons, Ltd., engineers & crane builders, 108, Dalry-rd., Haymarket, Edinburgh. (Telegrams: "Derrick, Edinburgh." Telephone No. 1515, Central.) G. C. Robb, Esq., managing director & electrical engineer & secretary.

Carrick & Ritchie, engineers, crane & turbine manufacturers, Waverley Engineering Works, Norton Park, Edinburgh. (Telegrams: "Crane, Edinburgh." Telephone No. 853.)

Carrington & Button, electric lighting contractors, 31, High-st., Crewe. (Teleph. No. 29A.)

Carron Co., metal castings & electric radiators, Carron, Stirlingshire (Telegs.: "Carronade, Falkirk." Teleph. No. 37, Falkirk); & 15, Upper Thames-st., London, E.C. (Telegs.: "Carronade, London." Teleph. No. 890, Bank.)

Carruthers, J. H., & Co., Ltd., engineers & machinists, Polmadie Iron Works, Polmadie, Glasgow. (Telegrams: "Hoisting, Glasgow." Telephone No. 36, Nat. & Corp.)

Cars, B., electric lamps, fittings & accessories, 124–130, Tabernacle-st., & 91 & 93, Paul-st., Finsbury, London, E.C. (Telegrams: "Limelights, London." Telephone Nos.: 10331, Central; & 9134, London Wall.)

Carson, H. R., A.I.E.E., c/o Siemens Bros. & Co., Ltd., Westminster, London, S.W.

Carson & Evans, manufacturers of ebonite, vulcanite, asbestos, indiarubber & vulcanized fibre, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegrams: "Irishism, London." Telephone No. 2507, Avenue.)

Carter, A., director Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd., c/o Gill, Archer, Maples & Dun, 14, Cook-st., Liverpool.

Carter, Douglas, A.I.E.E., 17, Lavington-rd., Ealing, W.

Carter, Fred. S., A.M.I.E.E., 13, Milton Grove, Sunny Bank Park, Gorton, Manchester.

Carter, Frederick W., M.A., A.M.I.E.E., c/o British Thomson Houston Co., Rugby.

Carter, G. E., charge engineer, Leyton U.D.C. Electric Light Works, Cathall-rd., Leytonstone.

Carter, G. H., A.I.E.E., consulting & resident electrical engineer, District Council, Heckmondwike, Yorks.

Carter, George H., electrician, 65, Torriano-ave., London, N.W. (Telegrams: "Stepladder, London.")

Carter, H. Douglas, A.I.E.E., W. T. Jennings & Co., Argyll-rd., West Ealing, W.

Carter, J. H., consulting electrician, 82, Mark-lane, London, E.C. (Telegrams: "Milling, London." A.B.C. & Engineering Codes.)

Carter, R., electrician, Thetford Electricity Works, Thetford, Norfolk.

Carter, Thomas, A.M.I.E.E., electrical designer, 16, Heaton Hall-rd., Heaton, Newcastle-on-Tyne.

Carter, W., assistant electrical engineer, Corporation Electricity Works, Oldham. (Telephone No. 269.)

Carter, W. C., M.I.N.A., A.M.I.C.E., consulting mechanical & marine engineer, 23, Great St. Helen's, London, E.C. (Telegs.: "Tympanum, London." Teleph. No. 6199, Avenue.)

Carter, Wm. G., A.I.E.E., electrical engineer, 9, Warwick-st., South Belgravia, S.W. (Nat. Telephone No. 5328, Westminster.)

Carter & Aynsley, makers of electric light fittings castings, 54, Bishopsgate-st. Without, London, E.C. (Teleph. Nos.: 3302 & 3303, London Wall; 6233, Central.)

Carter, James, & Sons, fuel economiser makers, Atlas Works, Robinson-st., Stalybridge. (Telegrams: "Carter, Stalybridge." Telephone No. 106.)

Carter, J., Sons & Co., Ltd., engineers, tool makers, &c., New Bailey-st., Salford, Manchester. (Telegrams: "Carters, Engineers, Salford." Nat. Telephone Nos. 1875 & 4480.)

Cartmell, J. Monkhouse, dealer in second-hand electrical machinery, 64, Buchanan-st., Glasgow. (Nat. Telephone No. 6427, Royal.)

Cartwright, Selsey A., A.M.I.E.E., Midland Electric Corporation for Power Distribution, Ltd., Power Station, Ocker Hill, Tipton, Staffs.

Cartwright, Mead & Purvis, agents for machinery, brokers & dealers, 1B, Bishopsgate-st. Without, London, E.C. (Telegrams: "Chirsit, London." Telephone No. 964, Avenue. A.B.C. Code used.)

Carty, S. W., overhead superintendent, Corporation Tramways, Manors, Newcastle-on-Tyne. (Nat. Telephone No. 2891, Central.)

Carus-Wilson, Prof. C. A., M.A., M.I.E.E., 41, Old Queen-st., Westminster, London, S.W.

Carvalho, Dr. Jose Paesde, 7, rue Gustave Lambert, Paris. Director Para Electric Railways & Lighting Co., Ltd.

Carver, E. E., electrical contractor, Globe-chbrs., Walsall.

Carville & Wallsend Electricity Works, Wallsend-on-Tyne. Newcastle-on-Tyne Electric Supply Co., Ltd., proprietors. Power station superintendent, G. W. Briggs. (Telegrams: "Supply, Wallsend." Nat. Telephone No. 58.)

Casartelli, J., & Son, opticians & instrument makers, 43, Market-st., Manchester. (Nat. Tel. No. 09067.)

Cascade (1906) Power Co., Ltd., 695, Salisbury House, London, E.C. Registered Aug. 27, 1906. Nominal capital: £75,000 in £1 shares.

Casella & Co., mathematical, surveying, meteorological & electrical instrument makers, 11–15, Rochester-row, London, S.W. (Telegs.: "Escutcheon, London." Teleph. No. 5599, Westminster.)

Cash, H. J., A.M.I.E.E., Caxton House, Tothill-st., Westminster, London, S.W.

Cash, H. J., & Co., Ltd., electrical & heating engineers & contractors, Caxton House, Tothill-st., Westminster, London, S.W. (Telephone No. 243, Westminster.)

Cashmore & Co., Ltd., lead manufacturers, Victoria-st., Bristol. (Telegrams: "Cashmore, Bristol." Telephone No. 1443.)

Caslake & Co., art metal workers, Scrubb-lane, Willesden Junction, N.W. (Telegrams: "Tueiron, London." Telephone No. 102, Harlesden, N.W.)

Caspari, Dr. W. A., consulting chemist, 7, Idol-lane, London, E.C.

Casperd, H. A., & Co., electrical & general engineers, 18, Selsdon-rd., Croydon. (Teleph. No. 704, Croydon.)

Casperson & Co., electrical agents, Leeds.

Cass, Sir John, Technical Institute, Jewry-st., Aldgate, London, E.C. *See* Schools.

Cassel Self-Regulating Water Wheels, Ltd., 267, Dashwood House, New Broad-st., London, E.C. (Telegs.: "Meagreness, London." Teleph. No. 2686, Central.)

Cassell & Co., Ltd., publishers of electrical & scientific books, &c., La Belle Sauvage, Ludgate-hill, London, E.C. (Telegs.: "Caspeg, London." Teleph. No. 2550–1, Holborn.)

Cassells, R. D., & Co., Ltd., electrical engineers, 168A, St. Vincent-st., Glasgow. (Telephone Nos.: Nat. 437, Argyle; Corp., 1013.)

Casserley, S. W., LL.B., A.I.E.E., 7, Crown Office-row, London, E.C.

Cassier, Louis, Co., Ltd., The, 33, Bedford-st., Strand, W.C. (Telegrams: "Revolvable, London." Telephone No. 3807, Central.)

Cassier's Magazine, an engineering & electrical monthly (price 1*s.*; 12*s.* per. ann., including postage), 33, Bedford-st., Strand, W.C. (Telegrams: "Revolvable, London." Telephone No. 3807, Central.)

CASSIRER, DR., & CO. (lighting cables). London representatives: G. Straus & Co., Ltd., 211, Upper Thames-st., E.C. (Telegrams: "Merriness, London." Telephone No. 5645, Bank.)

Casson, S. H., A.M.I.E.E., electrical engineer, c/o Royce, Ltd., 1, Partickhill-rd., Glasgow.

Casson, Wm., A.M.I.MECH.E., A.M.I.E.E., electrical engineer, Underground Electric Railways Co., Lots-rd., Chelsea, S.W. (Teleph. No. 1691, Kensington.)

Castle & Co., compass makers & adjusters, English-st., Hull. (Telegs.: "Compass, Hull." Corp. Teleph. No. 484.)

Castle Rubber Co., Ltd., manufacturers, Dashwood House, New Broad-st., London, E.C. (Telegrams: "Rutulian, London.") Works: Warrington (Telegrams: "Castle, Warrington." Telephone No. 49); Waterloo-chbrs., 19, Waterloo-st., Glasgow; & 8, Triangle-chbrs., Union Passage, Birmingham.

Castner-Kellner Alkali Co., Ltd., 13, Abchurch-lane, London, E.C. (Telegrams: "Muidos, London." Telephone No. 5147, Bank.)

Catchpole, E., & Sons, manufacturers of coal pitch & mastic composition for insulating purposes; rosin oil; creosote; tar; pitch for sealing batteries, &c., Plough Bridge, Rotherhithe, London, S.E. (Teleph. No. 17, Deptford.)

Cateaux, John L., A.M.I.E.E., Maresfield, Clifton-rd., Rugby.

Cater, J. McIlvaine, A.M.I.MECH.E., A.M.I.E.E., Lahmeyer Electrical Co., Ltd., 109, New Oxford-st., London, W.C. (Telephone No. 2822, Gerrard.)

Cater, Stoffell & Fortt, Ltd., wiring contractors, High-st., Bath.

Cater-Scott, C. J., 109, Leadenhall-st., London, E.C. Director Underground Electric Railways Co. of London, Ltd.

Cathcart, C. H., & Co., electrical engineers, 3, Dorset-bldgs., Salisbury-square, Fleet-street, E.C. (Telegrams: "Coefficient, London." Telephone No. 5081, Holborn.)

Catley, Edward, A.I.E.E., Engineer-in-Chief's Office, G.P.O. (West), London, E.C.

Caton, Wm., electrician, 28, Peter-st., Oldham. (Telephone No. 6 X.)

Cattell, S. A., & Son, electrotypers & photo-zincographers, 1, Dorset-bldgs., Salisbury-sq., London, E.C. (Telegrams: "Etchers, London." Telephone No. 2947, P.O., Central.)

Catto, A. J. E., A.M.I.E.E., British Westinghouse Electric & Manufacturing Co., Trafford Park, Manchester.

Catton & Co., Ltd., makers of steel castings, Black Bull-st., Hunslet, Leeds. (Telegrams: "Cattons, Leeds." Telephone No. 561.)

Cauldon, Ltd., earthenware manufacturers, Cauldon Place Works, Shelton, Staffs.

Caunter, L. G. (Baxter & Caunter), 86, Charing Cross-rd., London, W.C.

Causer, W., M.I.M.E., consulting engineer, 48, St. Paul's-sq., Birmingham.

Causer, W., & Co., hydraulic & general engineers, 48, St. Paul's-sq., Birmingham. (Telegrams: "Causer, Birmingham.")

Causley, S. & C., casings & covers for electrical wires, 33, High-street, Kingsland, London, N.E.

Cavehill & Whitewell Tramway Co., 2, May-st., Belfast.

Caven, Robert, manager Bessbrook & Newry Electric Tramway Co., Bessbrook, co. Armagh. (Telegrams: "Tramway, Bessbrook.")

Caverhill, W. C., & Co., Ltd., electric bell fitters, Berwick-on-Tweed. (Telegrams: "Caverhill, Berwick." Telephone No. 099.)

Cawley, G., consulting engineer, 25, Victoria-st., Westminster, London, S.W. (Telegrams: "Conferring, London." A1 & A.B.C. Codes used. Telephone No. 26, Victoria.)

Cawthorn, F. W., A.M.I.E.E., 19 & 21, Westgate-rd., Newcastle-on-Tyne.

Cawthra, J. H., M.I.E.E., A.M.I.MECH.E., borough electrical engineer, South Shields. (Telephone No. 191.)

Central Electric Co., wholesale merchants, 26 & 28, Queen-st., Albert-sq., Manchester. (Teleph. No. 4242.)

Central Electric Supply Co., Ltd., 19, Carnaby-st., London, W. (Telegs.: "Licensable, London." Teleph. No. 5082, Gerrard.) Registered June 24, 1897. Capital: £100,000 in £5 shares, all taken up & fully paid, & £500,000 4 per cent. debenture stock, of which £336,876 has been issued. An acknowledgment of indebtedness under seal, dated March 6, 1905, creating £50,000 further debenture stock (making with £300,000 already created a total of £350,000 debenture stock, & being supplemental to a trust deed dated July 2, 1901, securing not more than £500,000), & an instrument of charge of even date under the Land Transfer Acts, 1875 & 1897, securing £55,000 with respect to the issue of said £50,000 stock, have been registered. Directors: E. Boulnois, Esq. (chairman); Col. E. J. A. Balfour (vice-chairman); W. Leaf, Esq.; R. W. Wallace, Esq., K.C.; J. Browne-Martin, Esq.; Bennett Fitch, Esq. Joint engineers, Sir A. B. W. Kennedy & S. T. Dobson; joint managers, F. J. Walker & L. H. Hordern; secretary, F. J. Walker. Dividends on ordinary shares: 1904, 5 per cent.; 1905, *nil.*

Central Electrical Co., Ltd., electrical engineers, Victoria-st., Great Grimsby.

Central London Railway Co., Oxford Circus Station, London, W. (Telegs.: "Rheomotor, London." Teleph. No. 4179, Gerrard.) Incorporated Aug. 5, 1891. Nominal capital: £3,150,000, loans £976,000. Issued: £1,911,568 ordinary stock, £544,216 preferred stock, £544,216 deferred stock, £871,536 loans. Directors: Sir H. Oakley (chairman); Rt. Hon. Viscount Esher, G.C.V.O., K.C.B.; Viscount St. Aldwyn; Rt. Hon. Lord Knollys, G.C.V.O., K.C.B, K.C.M.G.; the Hon. A. H. Mills; Rt. Hon. Lord Rathmore; H. Tennant, Esq.; R. Fleming, Esq. Consulting engineers, Sir B. Baker, K.C.M.G., B. Mott & H. F. Parshall; resident engineer, E. P. Grove; secretary, R. O. Graham.

Central Marine Engine Works, marine engineers, boiler makers, & forge masters, West Hartlepool. (Telegrams: "Central, Westhartlepool." Telephone Nos.: 18, P.O.; & 248, Nat.)

Central News, Ltd., telegraphic news agency (manager, John Moore), 5, New Bridge-st., Ludgate Circus, London, E.C. (Telephone Nos. 21, 29 & 32, Holborn.)

Central, The, magazine of the City & Guilds Central Technical College Old Students' Association (three times a year), Central Technical College, Exhibition-rd., London, S.W.

Central Technical College Old Students' Association. Hon. secretary, Dr. E. Frankland Armstrong, 55, Granville Park, Lewisham, London, S.E.

Chadburn's (Ship) Telegraph Co., Ltd., telegraph instrument makers, Cyprus-rd., Bootle, Lancs. (Telegs.: "Chadburn, Liverpool." Teleph. No. 275, Bootle.) Registered March 19, 1898. Nominal capital: 60,000 preference shares of £1 each & 60,000 ordinary shares of £1 each. Issued: 50,000 preference shares, fully paid, & 10,000 considered as paid; 50,000 ordinary shares, fully paid, & 10,000 considered as paid. Directors: W. Chadburn, Esq. (chairman); T. Bassnett, Esq.; R. R. Bevis, jun., Esq.; H. Muir, Esq.; T. R. Pennington, Esq. Secretary, C. S. Peterson.

Chadwell, C., C.E., electric traction engineer, Richmond-chbrs., Blackburn.

Chadwick, E. O., A.I.E.E., Strode & Co., 48, Osnaburgh-st., London, N.W.

Chadwick, J. M., electrician, Findhorn House, Forres, N.B.

Chadwick, R., 43, St. Martin's-lane, London, W.C. Director Charing Cross, West End & City Electricity Supply Corp., Ltd.; director Suppliers Construction Co., Ltd.

Chagford & Devon Electric Light Co., Ltd., Chagford, Devon. Registered Nov. 18, 1890. Nominal capital: £2000 in £1 shares. 324 shares have been taken up & fully paid, & 750 shares with £1 considered as paid. Directors: F. R. Reeves, Esq.; E. Eaton, Esq. Engineer & sec., G. H. Reed.

Challice, G., wiring contractor, 69, Sidwell-st., Exeter.

Challoner, T., & Sons, wiring contractors, Parker-st., Blackpool.

Chalmers, Alex. B., secretary, Oriental Telephone & Electric Co., Telephone Co. of Egypt, & China & Japan Telephone & Electric Co., Alderman's House, Alderman's Walk, Bishopsgate, London, E.C. (Telegrams: "Oakenpin, London." Telephone No. 2188, London Wall.)

Chalmers, A. D., A.M.I.E.E., A.M.I.MECH.E., Corporation Electricity Department, Gillingham, Kent. (Telephone No. 22, New Brompton.)

Chalmers, Wm., electric light & power contractor, 142, Bath-st., Glasgow. (Telephone No. 4724, Corp.)

Chalwin & Edwards, electric light fittings makers, 70, High Holborn, London, W.C. (Teleph. No. 5048, Holborn.)

Chamber of Commerce, The, London. *See* London Chamber of Commerce.

Chamber of Commerce Journal (monthly, 6*d.*; ann. sub., 6s.), Oxford-ct., Cannon-st., London, E.C. Editor, Kenric B. Murray. (Telegs.: "Convention, London." Teleph. No. 327, Bank.)

Chamberlain, A., J.P., 4, New Bartholomew-st., Birmingham. Chairman Midland Electric Light & Power Co., Ltd.

Chamberlain, W., mains superintendent, Corporation Electricity Works, Oldham. (Teleph. No. 269.)

Chamberlain & Hookham, Ltd., electrical engineers, New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") Re-registered Jan., 1899. Capital: £100,000 in 10,000 ordinary & 10,000 preference shares of £5 each. All the ordinary & 8000 preference have been taken up & fully paid. Directors: Arthur Chamberlain, Esq. (chairman); Geo. Hookham, Esq.; John Chamberlain, Esq. Secretary, J. Brown. *See advt.* ELECTRICITY METERS.

Chamberlin, Geo. M., St. Catherine's Close, Norwich. Director Norwich Electric Tramways Co.

Chambers, E., superintendent Western Union Telegraph Co., Penzance.

Chambers, G. K., electrical engineer, British Westinghouse Co., Central House, New-st., Birmingham.

Chambers, H., district manager National Telephone Co., Warrington.

Chambers, Joseph C., M.I.E.E., National Telephone Co., Commercial-bldgs., Leeds.

Chambers, J. L., A.M.I.E.E., engineer, Glasgow Post Office Telephone Service, 65, Renfield-st., Glasgow.

Chambers, M. S., M.I.E.E., c/o Preece & Cardew, 8, Queen Anne's Gate, Westminster, S.W.

Chambers, S. A., 96, Gresham House, Old Broad-st., E.C. Director Sunderland District Electric Tramways, Ltd.; director Canada Electric Traction Co., Ltd.

Chambré, J., Star Life-bldg., College Green, Dublin. Director Shannon Electric Power Syndicate, Ltd.; director Limerick Electric Tramways Co., Ltd.

Chameleon Signs, Ltd., manufacturers of electrical advertising devices, 318, Dashwood House, London, E.C. (Teleph. No. 12093, Central.)

Chamen, A. Dalby, A.M.I.E.E., Wyaston, Fairfield-rd., Woodford Green, Essex.

Chamen, C. H. K., A.M.I.E.E., electrician, c/o Lancashire Electric Power Co., 196, Deansgate, Manchester.

Chamen, W. A., M.I.E.E., engineer & general manager South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff.

Champion, A., electrical engineer, London County Council's Electrical Department, 42, Cranborn-st., Leicester-sq., London, W.

Champness, Thomas, electrical engineer (Mayfield & Co.), 63 & 63A, Cannon-st., E.C. (Telegrams: "Maichamp, London." Telephone No. 1440, Central.)

Chance Bros. & Co., Ltd., lighthouse engineers, Smethwick, Birmingham. (Telegrams: "Chance, Smethwick.")

Chance & Hunt, Ltd., manufacturing chemists, Alkali Works, Lea Brook, Wednesbury, Staffs. (Telegrams: "Alkali, Wednesbury." Nat. Telephone No. 6506.)

Chancellor & Peterkin, electrical engineers, 30, Frederick-st., Edinburgh.

Chandler, A. B., 253, Broadway, New York. Vice-president & director Commercial Cable Co.

Channon, A. S., chief assistant engineer, Corporation Electricity Works, Grimsby.

Channon, H. C., M.I.E.E., electrician, Greystead, Grove Hill, Woodford, Essex.

Chanter, F. W., chairman Airdrie & Coatbridge Tramways Co.; chairman Greenock & Port Glasgow Tramways Co.; director Rothesay Tramways Co., Ltd.

Chaplin, F. Hardress, A.M.I.E.E., 31, Emperor's Gate, S.W.

Chaplin Bros., dynamo brushes, Birmingham.

Chapman, A. B., electrical engineer, Corder-rd., Ipswich.

Chapman, Arthur E., telegraph engineer, Postal Telegraphs, Nottingham. (P.O. Teleph. No. 16.)

Chapman, Fitzroy Tozer, A.M.I.E.E., 2, Hesketh-ave., Kirkstall, Leeds.

Chapman, F. W. Morris, A.I.E.E., Peel Works, Adelphi, Salford.

Chapman, H., A.M.I.E.E., electrical engineer, Thomas A. Ashton, Ltd., 36, Norfolk-st., Sheffield.

Chapman, J. J., A.I.E.E., 90, St. Paul's-rd., Burdett-rd., London, E.

Chapman, J. R., general manager & chief engineer, Underground Electric Railways Co. of London, Ltd., 25, Hamilton House, Victoria Embankment, London, E.C. Director Great Northern, Piccadilly & Brompton Railway Co.

Chapman, J. W., electrical engineer, 13, Woodside Park, Gap-rd., Wimbledon, London, S.W.

Chapman, Walter, pitch merchant, 12, Theobalds-rd., Holborn, London, W.C. (Telegrams: "Expeller, London.")

Chapman, W. H., A.I.E.E., 82, Earl's Court-rd., London, S.W.

Chapman, A., & Co., electric light engineers, Temple-ter., Chatham.

Chapman, F., Deekes & Co., electrical agents, Hopetoun House, Lloyd's-ave., Fenchurch-st., E.C.

Chapman & Furneaux, makers of high-speed engines for electrical plant, Gateshead-on-Tyne. (Telegrams: "Blackthorn, Gateshead-on-Tyne.")

Chapman & Hall, Ltd., publishers of electrical & scientific books, 11, Henrietta-st., Covent Garden, London, W.C.

Chapman, J. C., & Co., chartered patent agents, 70, Chancery-lane, W.C. (Telegrams: "Powerful, London." Telephone No. 243, Holborn.)

Chapman Spencer, & Messel, Ltd., sulphuric acid manufacturers, 36, Mark-lane, E.C.; & Silvertown, London, E. (Telegrams: "Hydrochloric, London." Telephone Nos. 341, Avenue, & 12925, Central.)

Chappell, W. E., engineer, British Westinghouse Co., Trafford Park, Manchester.

Chapple, Frank J., A.I.E.E., power house & car shed superintendent, Potteries Electric Traction Co., Ltd., Tramway Depôt, Stoke-on-Trent.

Chapple, Thomas, electrical engineer, St. Leonard's-rd., Southend-on-Sea.

Chard & Co., electrical engineers, 8, Great Portland-st., Oxford-st., London, W.

Charing Cross, Euston & Hampstead Railway Co., Hamilton House, Victoria Embankment, E.C. (Telegrams: "Underneath, London.") Incorporated Aug. 24, 1893. Nominal capital: £4,326,000 in £10 shares, of which 323,097 shares have been issued. Authorized debentures: £1,442,000. Issued: £396,200. Directors: C. A. Grenfell, Esq. (chairman); E. Halsey, Esq.; W. T. Potts, Esq.; F. M. Ogilvy, Esq. Engineers, W. R. Galbraith & Sir D. Fox & Partners; secretary, W. E. Mandelick. *Under construction.*

Charing Cross, West End & City Electricity Supply Co., Ltd., 60, St. Martin's-lane, London, W.C. (Telegrams: "Luminator, London." Telephone Nos. 6826 & 6827, Gerrard.) Secretary, E. Wilmot Seale, F.C.I.S.; engineer-in-chief, H. W. Kingston. Registered June 12, 1889. Nominal capital: £2,100,000 in 130,000 preference, 130,000 ordinary, 80,000 "City Undertaking preference" & 80,000 "City Undertaking ordinary" shares of £5 each. £5 per share has been called up & paid on 80,000 preference, 80,000 ordinary & 80,000 "City Undertaking preference" shares. £350,000 is considered as paid on 70,000 "City Undertaking ordinary" shares. £533,333 4 per cent. debenture stock, £445,736 issued, & £500,000 "City Undertaking" 5 per cent. debenture bonds, £472,000 issued. A trust deed, dated June 17, 1904 (supplemental to trust deeds, dated respectively April 30, 1901, & Sept. 12, 1902), to secure a further £130,000 debenture stock, created by resolution of April 27, 1904, ranking *pari passu* with £250,000 & £150,000 debenture stock covered by said prior trust deeds, & making therewith a total of £530,000 debenture stock, has been registered. Temporary loans: £62,000. Directors: W. F. Fladgate, Esq. (chairman); George H. Brougham Glasier, Esq. (vice-chairman); Jno. M. Gatti, Esq., B.A. (managing); R. Chadwick, Esq.; R. Gatti, Esq. Dividends: 1901 & 1902, 10 per cent.; 1903 & 1904, 8 per cent.; 1905, 5 per cent.; on preference shares: 1904, 4½ per cent.; 1905, 4½ per cent.; & first half of 1906, 4½ per cent.

Charlesworth, S., consulting engineer, Werneth, Oldham.

Charlesworth, S., & Co., electrical engineers, 6, Clegg-st., Oldham, Lancs. (Telegs.: "Charlesworth, Engineers, Oldham." Teleph. No. 63.)

Charlton, A., electrical engineer, Kidderminster & District Electric Lighting & Traction Co., Ltd., Kidderminster; & Kidderminster & Stourport Electric Tramway Co., Donington House, Norfolk-st., Strand, W.C.

Charlton, Geo., managing engineer, Merthyr Electric Traction & Lighting Co., Ltd., Merthyr Tydfil.

Charlton, Wm. John, A.I.E.E., 31, Bede Burn-rd., Jarrow.

Charlton, R. B., & Co., domestic electricians, Manors Railway Station Works, Newcastle-on-Tyne. (Telegrams: "Charlton Manors, Newcastle-on-Tyne." Telephone Nos.: Nat. 1746; & P.O. 457.)

Charnock, Prof. G. F., A.M.I.C.E., M.I.M.E., headmaster electrical engineering department, Bradford Technical College, Bradford. (Telephone No. 321.)

Charrington, Edmund, A.M.I.C.E., electrical engineer, 63, Queen Victoria-st., London, E.C. (Nat. Teleph. No. 8009, Bank.) Director Chislehurst Electric Supply Co., Ltd.; director Urban Electric Supply Co.; director Bromley (Kent) Electric Light & Power Co., Ltd.; director Twickenham & Teddington Electric Supply Co., Ltd.; director Camborne Electricity Supply Co., Ltd.; director South American Light & Power Co., Ltd.

Chartered Institute of Patent Agents. Secretary & registrar: H. Howgrave Graham, Staple Inn-bldgs., London, W.C. (Teleph. No. 9450, Central.) President, J. C. Fell, Esq. Vice-president, W. Clark, Esq. Council: G. Barker, Esq.; J. E. Bousfield, Esq.; G. Brewer, Esq.; E. Carpmael, Esq.; H. Cheetham, Esq.; W. Clark, Esq.; D. Clerk, Esq.; G. B. Ellis, Esq.; W. Fairweather, Esq.; J. C. Fell, Esq.; G. G. M. Hardingham, Esq.; T. A. Hearson, Esq.; O. Imray, Esq.; J. Y. Johnson, Esq.; P. M. Justice, Esq.; W. R. Lake, Esq.; P. A. Newton, Esq.; Sir W. Lloyd Wise.

Charters, J., electrical engineer, 261, West George-st., Glasgow. (Telegrams: "Kilowatt, Glasgow." A.B.C. Code used. Telephone No. 231, Corp.)

Chartres, C. B., A.I.E.E., c/o Baird & Tatlock, Higham Lodge, Blackhorse-lane, Walthamstow.

Chatham & District Light Railways Co., 83, Cannon-st., London, E.C., & Chatham. Nominal capital: £303,000 in shares of £10 each, & £101,000 loan capital. Issued: 10,550 ordinary shares, 10,550 5 per cent. preference shares, £50,000 debentures, all fully paid. Directors: A. R. Monks, Esq. (chairman); W. B. H. Martindale, Esq.; J. F. Nauheim, Esq.; H. C. Levis, Esq. Secretary, A. Clements; resident engineer, W. Jensen.

Chatham Dockyard Power Station, Chatham. Admiralty, props. Engineer-in-charge, F. Purser Fletcher, A.M.I.MECH.E., A.M.I.E.E.

Chatterton, George, M.A., M.I.C.E., A.I.E.E., 6, The Sanctuary, Westminster, London, S.W. (Teleph. No. 1948, Victoria.)

Chattock, A. P., M.I.E.E., Professor of Physics, University College, Bristol.

Chattock, R. A., M.I.E.E., city electrical engineer, 14, Dale End, Birmingham.

Chatwin, Thos., engineers' tool maker, Great Tindal-st., Birmingham. (Telegrams: "Chatwin, Birmingham.")

Chatwood, Arthur B., B.SC., A.M.I.C.E., M.I.E.E., M.I.MECH.E., consulting engineer, 12, Exchange-st., Manchester (Nat. Telephone No. 131 Y.); & Prudential-bldgs., Bolton. (Nat. Telephone No. 205.)

Chauvin, G. von, M.I.E.E., 12, Queen Anne's Gate, London, S.W. Director West India & Panama Telegraph Co., Ltd.; managing director Siemens Bros. & Co., Ltd.; director Rand Central Electric Works, Ltd.

Cheeld & Co., electrical engineers, Chesham, Bucks. (Telegrams: "Cheeld, Chesham.")

Cheesbrough, F. J., patent agent, 15, Water-street, Liverpool.

Cheetham, A., electric light contractor, 287, Upper-st., Islington, London, N. (Telephone No. 1961, North.)

Cheetham, George, M.I.E.E., superintending engineer, Northern District Postal Telegraphs, Belfast.

Cheetham, Howard, chartered patent agent, 18, St. Ann's-st., Manchester. (Telegrams: "Discovery, Manchester." Nat. Telephone No. 148.)

Cheetham, W. H., 20, St. Helen's-pl., E.C. Director Indian Elec. Supply & Traction Co., Ltd.

Chelmsford Electric Lighting Co., Ltd., Salisbury House, London Wall, London, E.C.; & Anchor-st., Chelmsford, Essex. Registered March 30, 1892. Nominal capital: £50,000 in ordinary shares of £1 each. Issued: £50,000 fully paid ordinary shares. F. R. Reeves, secretary; K. A. Scott Moncrieff, general manager; A. H. French, electrical engineer. Directors: C. F. Tufnell, Esq. (chairman); Col. H. Wood, C.B.; Home Gordon, Esq.; J. G. B. Stone, Esq.; Major C. Heaton-Ellis. Dividends: 1902, 4 per cent.; 1903, 4 per cent.; 1904, 6 per cent.; 1905, 6 per cent.

Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gardens, Chelsea, London, S.W. (Telegrams: "Economy, London." Telephone No. 363, Kensington.) Registered November 18, 1884, but capital not subscribed until end of 1888. Issued capital: £247,180 in ordinary shares of £5 each; £30,000 in 6 per cent. preference shares of £5 each, both fully paid; £175,000 in 4½ per cent. debenture stock, fully paid. Percy Still, A.M.I.C.E., M.I.E.E., chief engineer; S. J. Cluer, F.C.I.S., secretary. Directors: J. Irving Courtenay, Esq. (chairman); W. R. Davies, Esq.; Wm. Page, Esq.; Major W. F. Woods. Dividends: 1902, 6 per cent. on preference & 4½ on ordinary; 1903, 6 per cent. on preference & 5½ per cent. on ordinary; 1904, 6 per cent. on preference & 6 per cent. on ordinary; 1905, 6 per cent. on preference & 6 per cent. on ordinary; 1906, for half-year to June 30, interim on ordinary 4½ per cent. per annum.

Cheltenham Corporation Electric Works, Arle-rd., Cheltenham. Offices: 335, High-st., Cheltenham. (Telephone No. 331.) W. J. Bache, M.I.E.E., engineer.

Cheltenham & District Tramways, Cheltenham. Engineer & manager, H. J. McCormick.

Chemical & Electrolytic Syndicate, Ltd., 24, Craven-st., London, W.C.

Chemical News (weekly, price 4*d.*), 16, Newcastle-st., Farringdon-st., London, E.C.

Chemical Society, Burlington House, Piccadilly, London, W.

Chemical Trade Journal, 265, Strand, W.C. (Telegrams: "Trepex, London." Teleph. No. 13692, Central.)

Chennell, B., Foley House, Newmarket. Director Newmarket Electric Light Co., Ltd.

Chepstow Electric Lighting & Power Co., Ltd., Nelson-st., Chepstow. Registered June 27, 1901. Nominal capital: £10,000 in £1 shares, of which 1350 shares have been issued. £1000 first mortgage debentures issued Oct. 7th, 1905. Directors: C. O. Liddell, Esq.; S. W. Yockney, Esq.; T. V. Ellis, Esq.; G. C. Francis, Esq.; W. Shoolbred, Esq. Secretary, Wm. Thomas; resident engineer, W. H. Scott.

Chesham Electric Light & Power Co., Ltd., Higham-rd., Chesham. Registered Nov. 16, 1906. Nominal capital: £25,000 in £1 shares. Directors: T. O. Callender, Esq., R. Franklin, Esq. Resident engineer, R. J. Jocelyn Swan, A.M.I.E.E.

Cheshire Lines Committee, Railway Elec. Light Station, Manchester. Electrician in charge, F. W. Lyth.

Chester, J. Ernest, electrical engineer & instructor in metal work, Central Secondary School, Sheffield.

Chester Corporation Electricity Works & Tramways, Chester. (Nat. Telephone No. 162.) Engineer, S. E. Britton, A.M.I.E.E., A.M.I.M.E.

Chester School of Science & Art, Chester. *See* SCHOOLS.

Chesterfield, Right Hon. Earl of, 41, Grosvenor-sq., S.W. Director International Ethiopian Railway Trust & Construction Co., Ltd.

Chesterfield Corporation Electricity Works, Chatsworth-rd., Chesterfield. (Telephone No. 78.) R. L. Acland, borough electrical engineer & tramways manager.

Chesterman, James, & Co., Ltd., measuring tape, rule & gauge makers, Bow Works, Sheffield. (Telegrams: "Chesterman, Sheffield." Telephone No. 1942.)

Chesters, T., & Son, Ltd., electrical engineers, 17, Dean-st., Waterloo, Lancashire. (Teleph. No. 74 X., Waterloo.)

Chesterton, Jones & Co., fittings manufacturers, 44, Littleton-st., Walsall.

Cheston, E. C., Clarence-rd., Walmer, Kent. Director Para Electric Railways & Lighting Co., Ltd.

Chew, William, M.I.E.E., Trafalgar House, Lytham-road, Blackpool.

Chew, James, & Co., Brookhouse Brass & Copper Works, & Albion Works, Blackburn. (Telegrams: "Chew, Blackburn." Telephone No. 163.)

Chichester & District Electric Supply Co., Ltd., Donington House, Norfolk-st., London, W.C. Registered Oct. 12, 1903. Nominal capital: £20,000 in £1 shares. Issued: 7 shares. Directors: G. J. Somerville, Esq. (chairman); G. Ratcliffe Hulme, Esq.; G. Offor, Esq. Secretary, H. A. Stagg. Dividends: *nil.*

Chichester Electric Light & Power Co., Ltd. Registered Dec. 23, 1905. Nominal capital: £20,000 in £1 shares.

Child, A. B., A.M.I.E.E., engineer & manager St. Austell Electric Lighting & Power Co., Ltd., St. Austell, Cornwall.

Childs, J. G., & Co., Ltd., electric lift & crane makers, Hawthorn-rd., Willesden Green, London, N.W. (Telegs.: "Kwik, London." Teleph. No. 113, Harlesden.) Show-room: 73A, Queen Victoria-st., E.C.

Chili Telephone Co., Ltd., 42, Old Broad-st., London, E.C. (Telegrams: "Chiliadal, London." A1 Code. Telephone No. 9343, London Wall.) Registered June, 1899. Nominal capital: £250,000 in £5 shares. Issued: £220,000 in ordinary shares of £5 each, fully paid up, & £12,000 in debentures of £100 each. Edmund Petley, F.C.I.S., secretary. Directors: George Keith, Esq. (chairman); Hon. Herbert Allsopp; & Frank W. Jones, Esq. Dividends paid, 1901–02, 5 per cent., £7986 carried to reserve; 1902–03, 6 per cent., £11,088 carried to reserve; 1903–04, 7 per cent., £14,010 carried to reserve; 1904–05, 8 per cent., £15,360 carried to reserve; 1905–06, 8 per cent., £16,119 carried to reserve. Reserve fund, £95,000.

Chilian Electric Tramway & Light Co., Ltd., 1, London Wall-bldgs., London, E.C. (Telegrams: "Viajar, London." Telephone No. 2827, London Wall.) Registered May 3, 1898. Capital: £1,150,000 in 650,000 6 per cent. preference shares of £1 each & 500,000 ordinary shares of £1 each. 5 per cent. debentures, £500,000. Issued: All the ordinary shares, fully paid, 600,000 preference shares, fully paid, & all the debentures. Directors: J. Wernher, Esq. (chairman); Col. Sir C. Euan-Smith, K.C.B., C.S.I.; E. Rathenau, Esq.; H. de Backer, Esq.; G. Zwilgmeyer, Esq.; Sir G. Fitz-Gerald, K.C.M.G.; L. Breitmeyer, Esq. Consulting engineer, Fearnside Irvine; secretary, S. W. Jameson.

China Furniture & Electrical Fittings Manufacturers' Association (secretary, W. A. Addinsell), 112, Edmund-st., Birmingham. (Telegrams: "Addinsell, Birmingham." Telephone No. 551.)

China & Japan Telephone & Electric Co., Ltd., Alderman's House, Alderman's Walk, Bishopsgate, London, E.C. (Telegs.: "Oakenpin, London." Teleph. No. 2188, London Wall.) Nominal capital: £1 shares, £20,000; issued capital, £14,761 considered as paid; £12,500 7 per cent. debentures. Alex. B. Chalmers, secretary. Directors: H. Grëwing, Esq. (chairman); Thos. Lloyd, Esq.; H. Johnstone Grewing, Esq.

Ching, Comyn & Co., Ltd., electric light & bell fitters, &c., 54, 56 & 58, Castle-st., Long Acre, London, W.C. (Telegrams: "Comyn Ching, London." Telephone No. 2918, Gerrard.)

Chisholm, A. H., A.I.E.E., electrician & engineer, 162, Abbey-st., Jamaica-rd., Bermondsey, London, S.E.

Chisholm, G. S., electrical engineer, Siemens Bros. Dynamo Works, Ltd., Manchester.

Chislehurst Electric Supply Co., Ltd., Electricity Works, Chislehurst. Registered Jan. 22, 1897. Capital: £15,000 in £5 ordinary shares. All issued & paid up. £10,000 in 5 per cent. debenture stock has been issued to Bromley Co. Directors: F. E. Gripper, Esq. (chairman); R. Taylor, Esq.; D. Grinsted, Esq.; F. Medhurst, Esq.; Edmund Charrington, Esq.; J. C. Wigham, Esq. Secretary, Chas. A. Maby; managing engineer, R. Raine Barker; resident engineer, A. E. Darlington. Dividends free of tax: 1904, 3½ per cent.; 1905, 3½ per cent.

Chiswick Electricity Supply Corp., Ltd., The, 14, Ironmonger-lane, London, E.C. Secretary, O. Wyatt Williams. Registered May 13, 1893, as The Bourne & Grant Electricity Supply Co., Ltd. Nominal capital: £99,900 in £1 ordinary shares & 100 founders' shares of £1 each. Issued: 59,400 ordinary & all the founders' shares, all fully paid. Borrowing powers, £100,000; 4½ per cent. first debentures. Issued: £50,000. For directors, *see* West London & Provincial Electric Supply Co., Ltd., which holds all the shares in this Co. Engineer at Aberystwyth, E. P. Perkins; at Chiswick, A. W. Money.

CHLORIDE ELECTRICAL STORAGE CO., LTD.

	Telegrams.	*Telephone Nos.*
Head Offices & Works: Clifton Junction, nr. Manchester.	Accumulate, Pendlebury.	1638, Manchester; & 11, Pendleton.
London Office: 39, Victoria-st., Westminster, S.W.	Chloridic, London.	597, Westminster; & 417, Victoria.
Northern Office: Standard-bldgs., City-sq., Leeds.	Chloridic, Leeds.	3698.

A.B.C., Lieber & A1 Codes used. Registered Dec. 12, 1891. Nominal capital: £135,250. £62,000 6 per cent. cumulative preference shares & 33,250 ordinary shares, all of £1 each, taken up & fully paid; 40,000 shares being unissued. Directors: Wm. Bannister, Esq., J.P. (chairman); E. Hopkinson, Esq., M.A., D.SC. (vice-chairman); Sir Bache Cunard, Bart.; Herbert Lloyd, Esq.; Jno. R. Williams, Esq.; Robert E. Lloyd, Esq.; J. de Berniere Smith, Esq. Engineer, W. S. Naylor; secretary, Daniel P. Dunne, F.C.I.S. Dividends: 1902, 1903, 1904, 1905, 6 per cent. on preference shares, less tax, & 8 per cent. on ordinary shares, free of tax; 1906, 6 per cent. on preference shares, less tax, & 10 per cent. on ordinary shares, free of tax. *See advt. under* ACCUMULATORS.

Chloride of Silver Dry Cell Battery Co., John L. Sardy & Co., agents, Saracen-chbrs., Snow Hill, London, E.C. (Telegrams: "Poristical, London." Telephone No. 1312, Holborn.)

Chorley, I. J., & Co., electrical engineer, 2, Clare-rd., Cardiff. (Nat. Telephone No. 972.)

Chorlton, A. E. L., A.M.I.E.E., Oak House, Audenshaw, Lancs.

Chree, C., LL.D., F.R.S., superintendent of Observatory Department of National Physical Laboratory, 25, Mount Ararat-rd., Richmond.

Christchurch Electricity Works (Bournemouth & Poole Electricity Supply Co., Ltd.), Christchurch, Hants. Resident engineer, C. McCausland.

Christian, E. A., A.I.E.E., Engineer's Officer, Mersey Railway, Central Station, Birkenhead.

Christie, E. J. H., A.I.E.E., The Park, Eccles, Manchester.

Christie, J. A., The Chantrey, Stanmore, Middlesex. Director City of Birmingham Tramways Co., Ltd.

Christie, Jas. Watson, A.I.E.E., 37A, Electric-ave., Brixton, London, S.W.

Christie, John, engineer & manager, Corporation Electricity Works, Brighton.

Christie, John C., electric light engineer, 3 & 5, Mansell-st., London, E. (Telegs.: "Subsolary, London." Teleph. No. 4384, Avenue.)

Christie, Reginald, electrical engineer, Woodside, Tynemouth.

Christie, Sir W. H. M., K.C.B., M.A., D.SC., F.R.S., Astronomer Royal, Royal Observatory, Greenwich, London, S.E.

Christie, W., M.B., C.M., Woodside, Aberdeen. Director Aberdeen Suburban Tramways Co.

Christie & Co., manufacturers' agents, 134, Upper Thames-st., E.C. (Telegs.: "Chrismatis, London." Teleph. No. 10913, Central.)

Christie, George, Ltd., brass & copper wire drawers & weavers, Ladywell Wire Works, Broomloan-rd., Govan, Glasgow (Telegs.: "Ladywell, Glasgow." Teleph. Nos.: 182, Nat.; & 19, Post Office, Govan); & 10 & 11, Bishopsgate-st. Within, London, E.C. (Telegs.: "Stibium, London.")

Christie, W., & Co., manufacturers of carbon brushes & metal packing, 50, Wellington-st., Glasgow.

Christopher, J., & Sons, leather belting manufacturers, 39, 41 & 43, Clerkenwell-rd., London, E.C. (Telephone No. 1948, Holborn.)

Christophersen, N. C., electrician, Great Northern Telegraph Co., Ltd., Newcastle-on-Tyne.

Christy, Frank, M.I.E.E., Broomfield-rd., Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.) Director Milford-on-Sea Electric Supply Co., Ltd.

Christy, Leonard F., A.M.I.E.E., Broomfield-rd., Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

CHRISTY BROS. & CO., LTD., electrical engineers, Broomfield-rd. Works, Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

Chrystal, Prof. G., experimenter & writer on electrical subjects, 5, Belgrave-crescent, Edinburgh; & University of Edinburgh.

Chubb, Isaac William, A.M.I.E.E., 103, Honeybrook-rd., Clapham-park, London, S.W.

Chubb & Son's Lock & Safe Co., Ltd., electric lock mfrs., 128, Queen Victoria-st., E.C.; & 68, St. James's-st., Pall Mall, S.W. (Telegrams: "Chubb, London." A.B.C. & A1 Code. Telephone No. 5305, Bank.)

Chuck, Lockett & Co., zinc merchants, 10, Norton Folgate, London, E. (Telegrams: "Plummet, London." Telephone No. 2795, London Wall.)

Church, G. H., M.I.E.E., chief electrician, Works Department, Royal Arsenal, Woolwich.

Church, William, A.I.E.E., Buckingham Palace, London, S.W.

Church Stretton Electric Supply Co., Ltd., Church Stretton, Salop; & 18, Adam-st., Strand, W.C. Registered May 24, 1904. Nominal capital: £10,000 in £1 shares. Issued: 8054 shares fully paid. A trust deed, dated May 19, 1904, to secure £5000 debentures, created May 13, 1904, has been registered. Directors: Hon. H. P. Mostyn (chairman), Hon. G. E. Hill Trevor, G. H. Dorrell, Esq. Engineer, G. Payne; secretary, H. Bourdillon.

Churchill, Arthur, electrical engineer, manager Purchasing Dept., British Thomson-Houston Co., Rugby.

CHURCHILL, CHAS., & CO., LTD., importers of American machinery, engineers & manufacturers, 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 2, Charlotte-st., Mosley-st., Manchester; Albion-bldgs., St. James's-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow. (Telegrams: "Opodeldoc." Lieber's & A.B.C., 4th edition, Codes used. Telephone Nos.: London, 1191, London Wall, & 2974, Central; Birmingham, 2117; Manchester, 4285 & 4220; Glasgow, Nat. 733, Argyle; Corp. 2730; Newcastle, 1093.) Registered March 15, 1897. Nominal capital: £10,000 in ordinary shares of £5 each, £40,000 in preference shares of £5 each & £10,000 in pre-preference shares of £50 each; all shares of each class have been issued & are fully paid. Directors: Chas. Churchill, Esq. (chairman); W. Chamberlain, Esq.; Chas. H. Churchill, Esq.; J. W. W. Gabriel, Esq.

Churchill, J. & A., technical publishers, 7, Great Marlborough-st., London, W. (Telegs.: "Churchill, Publishers, London." Teleph. No. 13114, Central.)

Churton, T. Harding, A.I.E.E., Atlas Works, Water-lane, Leeds.

Churton, T. Harding, & Co., electrical & general engineers, manufacturers & contractors, Atlas Works, Water-lane, Leeds. (Telegs.: "Magnet, Leeds." Nat. Teleph. No. 933.)

Chutter, G. F., A.M.I.E.E., Farnleigh, Rockingham-rd., Kettering.

Cinque Ports Light Railway, Ltd., 165, Queen Victoria-st., London, E.C. Registered June 16, 1900. Nominal capital: £25,000 in £1 shares, of which £19,907 has been issued as fully paid. Directors: E. Phillips, Esq.; H. C. Hall, Esq. Secretary (*pro tem.*), R. Hunter.

City of Birmingham Tramways Co., Ltd., Donington House, Norfolk-st., London, W.C. (Telegs.: "c/o Tramway, London." Teleph. Nos. 6821 & 6822, Gerrard.) Registered Sept. 29, 1896. Nominal capital: £600,000 in ordinary shares of £5 each, £400,000 in preference shares of £5 each & £500,000 debentures. Issued: 6047 fully paid ordinary shares, 53,953 ordinary shares with £1 per share paid, 40,000 fully paid preference shares & £300,000 debentures. A mortgage or charge, dated Jan. 8, 1903, supplemental to a trust deed, dated Jan. 29, 1897, to secure £500,000 debentures created by resolution of Sept. 30, 1896 (£300,000 of which have been issued), has been registered. Directors: E. Garcke, Esq. (chairman); Wm. Neale, Esq.; J. A. Christie, Esq.; G. C. Cuningham, Esq., M.I.C.E.; C. S. B. Hilton, Esq.; J. A. Lycett, Esq. (managing). Secretary, B. Kingsford; engineering manager, G. Conaty; traffic manager, R. W. Cramp. Dividends: 1900, 1901, 1902, 1903, 1904 & 1905, 10 per cent. on ordinary & 5 per cent. on preference per annum.

City & Brixton Railway Co., 9 & 10, King-st., Cheapside, E.C. Incorporated July 1, 1898. Nominal capital: £1,000,000 shares, £333,300 loans. Issued: *nil.* Directors: C. S. Grenfell, Esq.; J. Crowther, Esq.; S. B. Heward, Esq. Secretary, P. Lonergan.

City of Buenos Ayres Tramways Co. (1904), Ltd., 1, Great Winchester-st., London, E.C. (Telephone No. 484, London Wall.) Registered Oct. 6, 1904. Nominal capital: £1,240,000 in £5 shares, & £174,000 4 per cent. debenture stock, all issued & fully paid. Trust deed registered Dec. 8, 1904. Directors: J. Heaton, Esq.; E. Clapham, Esq.; W. Hutchinson, Esq.; S. Rostron, Esq.; E. H. Woods, Esq. Secretary, F. C. Crawley. Dividends: 1905, 5 per cent.; first half of 1906, at the rate of 5 per cent. per annum.

City of Carlisle Electric Tramways Co., Ltd., The, 1, Warwick-rd., Carlisle. (Telegrams: "Cook Tramways, Carlisle." Telephone No. 0180.) Registered June 16, 1899. Capital: £60,000 in £1 ordinary shares, all taken up & fully paid, & £40,000 debentures. Directors: T. D. Lingard, Esq. (chairman); R. B. Barningham, Esq.; G. Readman, Esq.; R. Creighton, Esq.; J. Barber Glenn, Esq. Secretary, Geo. Cook; electrician, J. B. Wilson. Dividends: 1901 & 1902, *nil.*

City Electric Lamp Supply Co., 18, Canal-st., Nottingham.

City Electrical Co., engineers & contractors, 5, Tottenham-st., W. (Telephone No. 4736, Gerrard.)

City of Ely Electric Light & Power Co., Ltd., 66, Victoria-st., S.W. Registered July 31, 1905. Nominal capital: £5000 in £1 shares. Directors: L. Milne, Esq.; E. J. Owen, Esq. Secretary, E. E. Smith.

City & Guilds Central Technical College, Exhibition-rd., London, S.W. *See* SCHOOLS, &c.

City & Guilds of London Institute, H.M. the King, patron & visitor; The Rt. Hon. Earl of Halsbury, chairman of the Council; Sir John Wolfe Barry, K.C.B., chairman of the Executive Committee; S. S. Gladstone, treasurer; Sir John Watney, hon. sec.; A. L. Soper, assist. sec. Head office: Gresham College, London, E.C. Colleges: City & Guilds Central Technical College, Exhibition-rd., S.W.; & City & Guilds Technical College, Finsbury, E.C.

City & Guilds Technical College, Leonard-st., Finsbury, London E.C. *See* SCHOOLS, &c.

City Ignition Co., ignition coil & accumulator makers, 14, Spencer-st., Goswell-rd., London, E.C.

City Importing Co., dealers in accumulators, &c., 53, Curtain-rd., London, E.C. (Telegs.: "Cyclicus, London." Teleph. No. 3293, Central.)

City of London College, White-st. & Ropemaker-st., Moorfields, London, E.C. *See* SCHOOLS.

City of London Electric Lighting Co., Ltd., 1, Great Winchester-st., London, E.C. (Telegrams: Offices, "Lumen, London;" Works, "Ripariolum, London." Telephone Nos.: Offices, 9329, London Wall; Works, 1967, Hop.) Nominal capital: £800,000 in ordinary shares of £10 each, £400,000 in 6 per cent. preference shares of £10 each, £400,000 5 per cent. debenture stock, £400,000 4½ per cent. second debenture stock, & further borrowing powers for £100,000. Subscribed capital: £705,950 in fully paid ordinary shares, £400,000 in fully paid preference shares. £400,000 first debenture stock & £300,000 4½ per cent. second debenture stock, all subscribed & fully paid. Dividends: period ended Dec. 31 for 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905 & first half of 1906, at rate of 6 per cent. per annum on preference shares; & 1900, *nil*, 1901, 1902, 1903, 5 per cent., 1904, 1905, 6 per cent., & at rate of 5 per cent. per annum for first six months of 1906 on ordinary shares. Directors: J. B. Braithwaite (chairman); F. W. Reynolds (deputy-chairman); P. D. Tuckett; Frank Bailey, M.I.C.E., M.I.E.E.; J. Cecil Bull, F.C.I.S. (joint managing); A. F. Harrison, F.C.I.S. (secretary).

City of London, Corporation of, Public Health Department, Electrical Laboratory, Guildhall, London, E.C. (Telephone Nos.: 1750, Holborn; & 371, Wall.) (A. A. Voysey, electrical engineer, & electric inspector under the City of London Electric Lighting Orders.)

City of London Wood Wool Co., Gainsborough-rd., Homerton, London, N.E. (Telegs.: "Isotropic, London." Teleph. No. 3328, Eastern.)

City of Oxford Electric Tramways, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered Dec. 6, 1906. Nominal capital: £150,000 in £1 shares.

City & South London Railway Co., Ltd., 71, Finsbury-pavement, London, E.C. (Telegrams: "Subway, London." Telephone No. 1675, London Wall); & 195, Clapham-rd., London, S.W. (Telegrams: "Abstruse, London." Telephone No. 334, Hop.) Issued capital: ordinary stock, £1,480,000; preference stock, (1891) £150,000 & (1896) £200,000; (1901) £300,000; debenture stock, £561,247; all stocks being paid up in full. W. F. Knight, secretary; P. V. McMahon, engineer; Thomas C. Jenkin, general manager. Directors: Rt. Hon. C. B. Stuart Wortley, K.C., M.P. (chairman); Charles Seymour Grenfell, Esq.; S. Barclay Heward, Esq.; Harvey Ranking, Esq.; Edwin Tate, Esq. Dividends: June, 1902, 3 per cent. per annum; Dec., 1902, 3½ per cent. per annum; June, 1903, 2¾ per cent. per annum; Dec., 1903, 2 per cent. per annum; June, 1904, 2½ per cent. per annum; Dec., 1904, 1¾ per cent. per annum; June, 1905, 2 per cent. per annum; Dec., 1905, 1¾ per cent. per annum; June, 1906, 2¼ per cent. per annum.

City & Surrey Electric Railway Co., Ltd., 66, Victoria-st., London, S.W. Registered May 17, 1902. Nominal capital: £150,000 in £10 shares. Secretary (*pro tem.*), F. Clifford Goodman; engineers, Sir B. Baker, K.C.M.G., D. Hay & B. Mott.

City of Wellington Electric Light & Power Co., Ltd., New Broad-st. House, New Broad-st., London, E.C. (Telegrams: "Sparkful, London.") Registered Dec. 20, 1890, as the New Zealand Electrical Syndicate, Ltd. Name changed in 1903. Nominal capital: £50,000 in £5 ordinary shares, £50,000 in 7 per cent. £5 preference shares & £100,000 debentures. Issued: 7000 ordinary shares fully paid (less 50 shares forfeited) & 4900 preference shares. £75,000 registered first debentures. London directors: H. R. Savory, Esq. (chairman); J. Bradford, Esq.; H. E. Salt, Esq.; J. A. Kelman, Esq. (managing). Wellington directors: Hon. C. J. Johnston; J. P. Maxwell, Esq.; F. J. Dyer, Esq. Engineer in N.Z., C. S. S. Maben; secretary, H. Yuill. Dividends: 1900–1901, 2½ per cent.; 1902, 10 per cent.; 1903, 7½ per cent.

City of York Tramways Co., Ltd., 29, Great George-st., S.W.

Civil & Mechanical Engineers' Society (W. B. Esson, M.I.C.E., M.I.M.E., president; A. S. E. Ackermann, B.SC. (Eng.), A.C.G.I., A.M.I.C.E., M.R.S.I., hon. sec.), 25, Victoria-st., London, S.W. (Teleph. No. 244, Victoria.)

Civil Service Supply Association, Ltd., dealers in electric light fittings, 136 & 138, Queen Victoria-st., E.C. (Telegs.: "Stores, London." Teleph. No. 654, Bank); & Bedford & Chandos-sts., Strand, W.C.

Clack, Chas. Wm., A.I.E.E., telephone engineer, Western Electric Co., North Woolwich, London, E.

Clack, Jas. Gifford, A.I.E.E., 4, Trafalgar-rd., Twickenham.

Clacton Urban District Council Electricity Works, Clacton, Essex. (Teleph. No. 9.) Engr., H. W. Everitt.

Cladingbowl, G. A., assistant engineer, District Council's Electricity Works, Aldershot.

Clague, T. M., A.I.E.E., 11, Grey-st., Newcastle-on-Tyne.

Clamp, Ernest John, electrical engineer, 19, The Circus, Greenwich, S.E.

Clapham, C. F., A.I.E.E., 71, Frant-rd., Tunbridge Wells.

Clapham, E., 1, Cushion-crt., London, E.C. Director City of Buenos Ayres Tramways Co. (1904), Ltd.

Clare, Herbert H., A.M.I.E.E., 52, Wrottesley-rd., Plumstead.

Claremont, E. A., M.I.E.E., M.I.MECH.E., electrical engineer & managing director of W. T. Glover & Co., Ltd.; director Royce, Ltd.; director Trafford Power & Light Supply (1902), Ltd., Manchester.

Claret, Wm. Edward, A.M.I.E.E., Tottenham House, Moulton, Northamptonshire.

Clark, A. J., director Brighton & Rottingdean Seashore Electric Tramroad Co., Madeira-rd., Brighton.

Clark, C., electrical & mechanical engineer, 2, Moorgate, Retford.

Clark, Chas. O., A.M.I.E.E., 48, Sydney-rd., Ealing, London, W.

Clark, E. J., engineer & general manager, Hart Accumulator Co., Ltd., Marshgate-lane, Stratford, London, E. (Telegrams: "Hartmossel, London." Telephone No. 823, East.)

Clark, H. Ade, WH.SC., A.I.E.E., A.M.I.M.E., head of Engineering Dept., Northern Polytechnic, Holloway, N.

Clark, J. J., J.P., Goldstone House, Fonthill-rd., Hove. Chairman Brighton & Rottingdean Seashore Electric Tramroad Co.

Clark, J. P., A.M.I.E.E., 19, Hessle View, Leeds.

Clark, Robert, electrician, Taybank, Errol, N.B.

Clark, Thomas, A.I.E.E., chief electrician, Telegraph Construction & Maintenance Co., Ltd., Enderby's Wharf, East Greenwich.

Clark, Thomas, A.I.E.E., electrician, 62, Roselea Drive, Dennistoun, Glasgow.

Clark, W. H., electric lighting contractor, St. Laurence's-lane, Norwich.

Clark, Walter, M.I.E.E., Electrical Power Storage Co., Ltd., Millwall, E.; & Enslin, Ermine-rd., Lewisham, S.E.

Clark, A. M. & W., patent agents, 53, Chancery-lane, London, W.C. (Telegrams: "Klarcam, London." P.O. Telephone No. 9436, Central.)

Clark, A. W., & Co., installation contractors, 8½, Douglas-st., Glasgow.

Clark, Bunnett & Co., engineers, 22, Queen-st., Cheapside, London, E.C. (Telegrams: "Hoisters, London." National Telephone No. 5554, Bank.)

Clark & Co., electrical engineers, 22, Cheapside, Spennymoor, co. Durham.

Clark, Fisher & Wadsworth, mechanical and electrical engineers, Gordon Works, Ealing, London, W. (Telegs.: "Galvo, London." P.O. Teleph. No. 306, Ealing.)

Clark, Forde & Taylor, consulting electrical engineers, 4, Great Winchester-st., London, E.C. (Telegrams: "Curbed, London." Telephone No. 640, London Wall.)

Clark, Hunt & Co., Ltd., iron & steel merchants, 159, 160, High-st., Shoreditch, London, E. (Telegrams: "Clark Hunt, Shoreditch, London." Telephone Nos.: 2547, Wall; 6758, Central; & works, 1795, London Wall.)

Clark, Matthew, & Willmott, electric fittings, Norton Works, Easter-rd., Edinburgh (Telegs.: "Lightning, Edinburgh." Teleph. No. 1205, Central); & 217, St. Vincent-st., Glasgow. (Telegs.: "Luminous, Glasgow." Teleph. No. 1478, Argyle.)

Clark, R., & Co., engineers & electricians, 22, Cheapside, Spennymoor. (P.O. Teleph. No. 7.)

Clark, Sons & Co., manufacturers of patent indiarubber felt, Failsworth, Manchester.

Clark, T. & C., & Co., makers of enamelled reflectors, Wolverhampton. (Telegrams: "Clark, Wolverhampton.")

Clark, W. T., & Co., metal spinners, 5, Green-ter., Rosebery-ave., London, E.C.

Clarke, Albert Bernard, A.M.I.E.E., 29, Rathgar-ave., Ealing, London, W.

Clarke, C. A., wholesale & export agent for Mix & Genest, Ltd., & International Electric Co., 26, Seymour-rd., Crumpsall, Manchester. (Telegs.: "Genest, Manchester." Teleph. No. 130, Cheetham Hill.)

Clarke, Dumont, director Commercial Cable Co.

Clarke, E. J., A.M.I.E.E., Inglewood, Dover-st., Ryde, I.W.

Clarke, Edward R., A.I.E.E., 11, King's Bench Walk, Temple, London, E.C.

Clarke, G. E., borough surveyor & electrical engineer, Boston, Lincs.

Clarke, Joseph, A.I.E.E., Oak Lodge, Bycullah Park, Enfield.

Clarke, Percival Bailey, A.I.E.E., 31, Wellington Park, Clifton, Bristol.

Clarke, T. J., electrical & mechanical engineer, Havelock Works, Leicester. (Telegs.: "Clamac, Leicester." Teleph. No. 04007.)

Clarke, Thos. T., consulting electrical engineer, 41, Fleet-st., Dublin. (Teleph. No. 58x.)

Clarke, Wm. Barton, A.M.I.E.E., M.S.C.I., electro-chemist, Edison & Swan United Electric Light Co., Ltd., Ponders End, Middlesex.

Clarke, W. E., assistant electrical engineer, *Daily News*, Bouverie-st., E.C.

Clarke, W. F., C.E., Esker House, Lucan. Director Dublin & Lucan Electric Railway Co.

Clarke, W. H., electrical engineer, "Isawood," Chermside-rd., Aigburth, Liverpool.

Clarke, Adam, & Co., electrical engineers, 274, Cooksey-rd., Birmingham.

CLARKE, CHAPMAN & CO., LTD., general & manufacturing electrical engineers, Victoria Works, Gateshead-on-Tyne (Telegrams: "Cyclops, Gateshead." Telephone Nos.: P.O. 137; Nat. 1070 & 1073); 50, Fenchurch-st., London, E.C. (Telegrams: "Cyclops, London"); Tower-bldgs., Water-st., Liverpool (Telegrams: "Ardoch, Liverpool"); 81, St. Vincent-st., Glasgow (Telegrams: "Ardoch, Glasgow"); 22 & 23, Arcade-chbrs., St. Mary's Gate, Manchester (Telegs.: "Cyclops, Manchester." Teleph. No. 3430); & 21, Mount Stuart-sq., Cardiff. (Telegs.: "Cyclops, Cardiff." Teleph. No. 962.) Registered June 14, 1893. Nominal capital: £130,000 in ordinary shares of £10 each, £70,000 in preference shares of £10 each & £100,000 debentures. Issued: 12,546 ordinary & 6900 preference shares, both fully paid. Directors: H. R. Chapman, Esq. (chairman); H. Walker, Esq.; R. Scope, Esq.; W. I. Taylor, Esq. Secretary, Jas. L. Thompson.

Clarke, J. F., & Sons, electrical engineers, 49, Moorgate-street, London, E.C.

Clarke, R., & Co., turbine manufacturers, Union Iron Works, Queen's-rd., Manchester.

Clarke, T., & Co., electrical engineers, 129, Sloane-st., London, S.W.

Clarkson Bros., Ltd., electrical, hydraulic & general engineers, 8 & 12, Little Hamilton-st., Glasgow.

Clatworthy, Walter A., A.M.I.M.E., M.I.E.E., c/o J. H. Holmes & Co., Newcastle-on-Tyne.

Claxton, R. Heywood, A.I.E.E., National Telephone Co., The Temple, Dale-st., Liverpool.

Claxton, Wm. Newman, manufacturing electrician, Station-rd., Alford, Lincolnshire. (Telegrams: "Claxton, Alford, Lincolnshire.")

Clay, C. B., M.I.E.E., M.I.MECH.E., Salisbury House, London Wall, London, E.C. (Teleph. No. 101, London Wall.)

Clay, R. C., A.I.E.E., electrical engineer, c/o E. Wingfield Bowles, 28, Victoria-st., London, S.W.

Clay Bros. & Co., electrical engineers, Western Mail-chbrs., Cardiff. (Telegrams: "Clay, Cardiff." Telephone No. 727.)

Claycross Co., economiser manufacturers, Claycross, Derbyshire.

Claye, S. J., Ltd., mechanical & electrical engineers, Railway Wagon Works, Long Eaton (Telegs.: "Claye, Long Eaton." Teleph. No. 23); & London-rd., Derby. (Telegs.: "Claye, Derby." Teleph. No. 253.)

Claypoole, Walter, A.M.I.E.E., c/o J. Swinburne, 82, Victoria-st., London, S.W.

Clayton, Chas. E., A.I.E.E., City of London Asylum, Dartford, Kent.

Clayton, Fred., & Co., electrical engineers, 53, Old Dover-rd., Blackheath, London, S.E.

Clayton, Goodfellow & Co., Ltd., engineers & ironfounders, Atlas Works, Blackburn. (Telegrams: "Goodfellow, Blackburn." Telephone No. 27.)

Clayton & Shuttleworth, Ltd., steam engine makers, Stamp End Iron Works, Lincoln. (Telegrams: "Claytons, Lincoln." Telephone No. 43, Nat. A.B.C. & Private Codes used.)

Clayton, Son & Co., Ltd., constructional engineers & boiler makers, Moor-end, Hunslet, Leeds; & 60, Queen Victoria-st., London, E.C. (Telegs.: "Gas, Leeds." Teleph. Nos. 542 & 543.)

Cleary, Thos., electrical contractor, 56A, Haverstock Hill, N.W. (Telegs.: "Clearecto, London." Teleph. No. 246, Hampstead, P.O.)

Cleave, W. H. R., wholesale supplies, 6, Bristol Bridge, Bristol.

Cleaver, R., 71, St. Giles-st., Northampton. Director Northampton Electric Light & Power Co., Ltd.

Cleckheaton District Council Electricity Works & Tramways, Cleckheaton, Yorks. Engineer, A. Pickersgill. (Telephone No. 16, Cleckheaton.)

Clegg, A. W., chief assistant engineer, Corporation Electricity Works, Accrington.

Clegg, H., Plas Llanfair, Anglesey. Director Snowdon Mountain Tramroad & Hotels Co., Ltd.

Clegg, Herbert, F.C.I.S., secretary Rochdale Electric Co., Ltd., Shawclough, Rochdale.

Clegg, Stanley, M.I.E.E., city electrical & tramway engineer, Corporation Electricity Works & Tramways, Lincoln. (Telegs.: "Stanley Clegg, Lincoln." Teleph. No. 109.)

Clegg, W. H., A.M.I.C.E.I., engineer & representative for Ireland of National Electric Construction Co., Ltd., 31 & 32, Nassau-st., Dublin (Teleph. No. 01635); & 30, Charlemont-st., Dublin.

Clegg, B. W., & Sons, patent agents, 18, Belinda-street, Hunslet, Leeds.

Clemens, E. T., electric bell fitter, 187, Union-st., Plymouth.

Clement, A. F., telegraph superintendent, North British Railway, Edinburgh. (Local Teleph. No. 53.)

Clements, F. G., electrical contractor, 106A, Fenchurch-st., London, E.C.

Clements & Son, electricians & electrical stores, 106A, Fenchurch-st., E.C. (Teleph. No. 909, Central.)

Clementson, J. J., supervisor, Telegraph Factory, Mount Pleasant, London, E.C.

Clementson Bros., earthenware manufacturers, Phœnix Works, Broad-st., Hanley.

Clephan, T. J. S., electrician, colliery & mill furnisher, 22 & 24, Standishgate, Wigan. (Teleph. No. 0362.)

Clerk, Dugald, M.I.C.E., F.C.S., consulting engineer & patent agent, 18, Southampton-bldgs., London, W.C. (Telegrams: "Cleradam, London." Telephone No. 1518, Holborn.)

Cleveland, Admiral, Bolton Crofts, Richmond, Yorks. Director Northern Counties Electricity Supply Co., Ltd.

Cleveland & Durham County Electric Power Co., Hinton's-bldgs., Middlesbrough. Incorporated by Acts of Parliament, 1901 & 1903. Nominal capital: £1,000,000 in £10 shares. Debenture stock: £333,000. Issued capital: £216,572, fully paid, & 1 share with £2 paid, & £70,853 debenture stock. Directors: Hon. R. James; Chas. Emmott, Esq.; M. L. Bell, Esq.; Jas. Falconer, Esq.; A. Scholefield, Esq. Engineers, Messrs. C. H. Merz & W. McLellan: manager, A. B. Gridley; secretary, P. Greenough.

Cleveland & Durham Electric Power, Ltd., Hinton's-bldgs., Middlesbrough. Registered July 18, 1906. Nominal capital: £1,000,000 in £5 shares (70,000 5 per cent. cumulative preference, with priority as to capital; 70,000 6 per cent. participating ordinary entitled to moiety of profits after such 6 per cent., and with priority as to capital over deferred shares; and 60,000 deferred).

Cleveland Trust, Ltd., Electric Light & Power Supply Co., Saltburn-by-the-Sea; & Royal Exchange, Middlesbrough. (Telegrams: "Veritatem, Middlesbrough." Telephone Nos.: 63, Saltburn; 26, Middlesbrough.) Registered Aug. 1, 1891. Nominal capital: £99,500 in £5 ordinary shares & £500 in founders' shares of £5 each. All the ordinary & founders' shares are issued & £2 per share has been paid. Directors: C. A. Head, Esq. (chairman); Sir Th. Fry, Bart. (vice-chairman); W. Hustler Hopkins, Esq.; J. Milner Lennard, Esq.; A. F. Pease, Esq.; J. Wilson Watson, Esq. P. E. A. Warren, engineer; A. Gordon Hood, A.C.A., secretary. Dividends: 1900, 10 per cent. on ordinary; 1901, 8 per cent. on ordinary; 1902, 7 per cent.; 1903, 6 per cent.; 1904, 6 per cent.

Cliff, J., & Sons, telegraph insulator manufacturers, 2 & 4, Wharf, Great Northern Goods Station, King's Cross, London, N.W.; & Baltic Wharf, Waterloo Bridge, S.E. (Telegrams: "Cliffs, London." Telephone No. 631, Hop.)

Cliffe, J. E., director Bogota Telephone Co., Ltd., 110, Cannon-st., London, E.C.

Clifford, Arthur, A.M.I.E.E., assistant engineer, Electricity Department, Talbot-st., Nottingham.

Clifford, C. W., The Red House, Market Drayton. Director Market Drayton Electric Light & Power Co., Ltd.

Clifford, D., local manager, National Telephone Co., Limerick.

Clifford, Charles, & Son, Ltd., brass & copper tube makers & wire drawers, screw rod & metal rollers, Fazeley-st., & Dog Pool Mills, Birmingham. (Telegs.: "Clifford, Birmingham." Teleph. No. 43.)

Clift, E. Hollocombe, electrical & mechanical engineer & motor car & launch builder, 51, Sinclair-rd., West Kensington, London, W. (Telegs.: "Exhausters, London." Teleph. No. 1005, Hammersmith.)

Clift Manufacturing Co., Ltd., switches, switchboards & electrical accessories, Dacre House, Victoria-st., S.W. *In voluntary liquidation.* Liquidator, — Harper, 27, Chancery-lane, W.C.

Clifton, G. B., M.I.MECH.E., Electrical Engineer's Department, Great Western Railway, Paddington, London, W.

Clifton, R. B., professor of experimental philosophy in the University of Oxford, The Clarendon Laboratory, Oxford.

"Clincher" Patent Plug Co., 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Lieber's Code. Teleph. No. 8114, Bank.)

Clinker, R. C., A.I.E.E., electrical engineer, 257, Clifton-rd., Rugby.

Clinton, W. C., A.M.I.E.E., 52, Claremont-rd., Highgate, London, N.

Clirehugh, S. V., M.I.C.E., M.I.E.E., consulting engineer, Mansion House-bldgs., 4, Queen Victoria-st., London, E.C.; & at College Land, Manchester.

Clitheroe, Capt. Stacey, director International Ethiopian Railway Trust & Construction Co., Ltd.

Clive & Co., electrical engineers, Mill-st., Sutton Coldfield. (Telegs.: "Primary, Sutton Coldfield." Teleph. No. 2 Y. 1.)

Clontarf & Hill of Howth Tramroad Co., 39, Dame-st., Dublin. (Telegs.: "c/o Railways, Dublin." Teleph. No. 917, Dublin.) Nominal capital: £50,000 in £10 ordinary shares, £25,000 debentures. All the ordinary shares are issued & fully paid up, & £25,000 debentures. Directors: Sir F. W. Brady, Bart.; M. F. Mahony, Esq.; J. E. Martin, Esq.; W. L. Murphy, Esq. Secretary, J. P. Chapman.

Close, A. F., electrical engineer, Ushers Quay, Dublin.

Close, F. W., A.M.I.E.E., electrician, 147, Waterloo-rd., Wolverhampton.

Close, Capt. Francis Morton, R.E., A.I.E.E., R.M. Academy, Woolwich, S.E.

Clothier, Henry Wm., A.M.I.C.E., A.M.I.E.E., 101, Park-rd., Wallsend-on-Tyne.

Clothier, J. H., electrical engineer & manager to the Urban District Council, Electric Light Works, St. Anne's-on-Sea. (Telephone No. 12.)

Clothier, T. D., A.M.I.E.E., borough electrical engineer, Bootle.

Clough, Alfred, A.M.I.C.E., resident electrical engineer, Corporation Electricity Works, Liverpool.

Clough, F. H., A.I.E.E., A.M.I.C.E., electrical engineer, British Thomson-Houston Co., Rugby.

Clough, Norman, A.I.E.E., electrician, 22A, College Hill, Cannon-st., London, E.C.

Clough, Wm., general manager Corporation Tramways, Bury.

Clowes, Prof. Frank, D.SC., F.I.C., chemical adviser to the London County Council, County Hall, Spring-gardens, London, S.W.

Clubbe & Southey, Ltd., electrical & mechanical engineers, 13, Elm-st., Gray's Inn-rd., W.C. (Teleph. No. 2151, Holborn.)

Cluer, S. J., A.I.E.E., F.C.I.S., Chelsea Electricity Supply Co., 19, Cadogan-gardens, London, S.W.

Clunas, Wm., & Co., merchants & manufacturers of marble & slate, 15, Annandale-st., Edinburgh. (Telegrams: "Clunas & Co., Edinburgh.")

Clutterbuck, H. F., The Old Bank, Bath. Director Bath Electric Tramways, Ltd.

Clyde Model Dock Yard & Engine Depôt, model yacht builders, engineers, electricians, &c., Argyle Arcade, Glasgow.

Clyde Valley Electrical Power Co. Manager & head office: D. A. Starr, 53, Bothwell-st., Glasgow. (Telegs.: "Valley, Glasgow." Teleph. No. 1504, Argyle.) Incorporated 1901. Nominal capital: £900,000. Borrowing powers: £300,000. Capital subscribed: £600,000. Directors: Sir David Richmond (chairman); F. Elgar, Esq., LL.D.; Chas. M. King, Esq.; J. H. Lukach, Esq.; N. Carlton, Esq.; O. H. Baldwin, Esq. Consulting engineers, Strain & Robertson; secretary, Jas. Mackenzie. *Stations at Motherwell & Yoker in operation.*

Coaker, Wm. F., A.I.E.E., Carr Hill House, Gateshead.

Coalbrookdale Co., Ltd., ironfounders & engineers, 15 & 16, Rathbone-pl., Oxford-st., London, W. (Telegs.: "Severndale, London." Teleph. Nos.: 6125, Central; & 7650, Gerrard.)

Coales, J. D., B.SC., A.M.I.E.E., senior lecturer & demonstrator in elect. engineering, University, Birmingham.

Coatbridge & Airdrie Electric Supply Co., Ltd. (H. B. Renwick, manager & secretary), Electricity Works. Coatbridge, N.B. (Telegs.: "Electric, Coatbridge"); & Moorgate-ct., Moorgate-pl., London, E.C. Engineer, J. A. Donachie. Nominal capital: £30,000 in £10 shares. Directors: A. Ayres, Esq.; F. E. Savory, Esq.; P. Murray, Esq.

Coatbridge Electricity Works, Coatbridge. Coatbridge & Airdrie Electric Supply Co., Ltd., proprietors. J. A. Donachie, resident engineer.

Coatbridge Technical School, Coatbridge, N.B. *See* SCHOOLS.

Coates, E., A.I.E.E., c/o Charing Cross, West End & City Electric Supply Co., Ltd., Bow Generating Station, London, E.; & 7, Warwick-rd., Romford-rd., West Ham, London, E.

Coates, F., electrical engineer, A. Reyrolle & Co., Ltd., Hebburn Works, Hebburn-on-Tyne.

Coates, H., Pitcullen House, Perth. Chairman Tayside Electric & Gas Light Co., Ltd.

Coates, H. J., A.M.I.E.E., electrical engineer, c/o The General Electric Co., Ltd., Peel Works, Adelphi, Salford, Manchester.

Coates, J. F., electrical engineer, 18, Hebrew-rd., Burnley.

Coates, M. Clavering, A.M.I.E.E., Suffolk House, Cannon-st., London, E.C.

Coates, Wm., & Son, Ltd., electric light & power engineers, 1–11, Fountain-st., Belfast (Telegs.: "Megavolt, Belfast." Teleph. No. 244); & 5, Leinster-st., Dublin. (Telegs.: "Megavolt, Dublin." Teleph. No. 1584.)

Coats, James, A.M.I.E.E., 362, Maxwell-rd., Glasgow.

Cobb, Percy R., A.M.I.E.E., engineer, Eversheds & Vignoles, Ltd., Acton-lane Works, Chiswick, W.; & 18, Craven Hill-gdns., London, W.

Cobbett, W. Willson, Ltd., "Scandinavia" & "Saturn" textile beltings, 59, Southwark-st., London, S.E. (Telegs.: "Scandinavia, London." Teleph. Nos.: Nat. 2001, Hop.; P.O. 979, Central. A.B.C. Code.)

Cobbetts, white wood for electrical fittings, &c., 66, 68 & 70, Virginia-rd., London, E. (Telegrams: "Stupendous, London." Telephone No. 9664, London Wall.)

Cochran, A. & R., specialities in globes for electric lighting, 46A, Holborn Viaduct, London, E.C.

Cochrane, J., manufacturer of high speed engines, pumps, etc., Barrhead, Scotland (Telephone No. 6); & 20, Bucklersbury, London, E.C.

Cochrane, The Hon. Thos., M.P., director Direct United States Cable Co., Ltd., 50, Old Broad-st., E.C.

Cockayne, T. B. & W., electrical contractors, Angel-st., Sheffield.

Cockburn, A. C., F.C.S., M.I.E.E., Otley Grange, Otley, nr. Ipswich; & 156, Willesden-lane, London, N.W.

Cockburn, G. E., electrical engineer, 35, Gt. Pulteney-st., London, W. (Teleph. No. 10600, Central.)

Cockburn High School, Leeds. *See* SCHOOLS.

Cockburn, M., & Co., lamp post manufacturers, Gowan Bank Iron Works, Falkirk, N.B. (Telegrams: "Springfield, Falkirk." Telephone No. 56.)

Cocks, Jas. Mitchell, electrical engineer, 231, Elgin-ave., Maida Vale, London, W.

Cocks, Ltd., screws & terminals, 78, High-st., Marylebone, London, W.

Codd, Ll. B., A.M.I.E.E., electrician, Standard Works, Dame Agnes-st., Nottingham.

Codd, Mortimer A., A.I.E.E., 167, Oakwood-ct., Melbury-rd., Holland Park, W. (Tel. No. 594, Western.)

CODD ARC LAMP CO., LTD., manufacturing electrical engineers, Standard Works, Dame Agnes-st., Nottingham.

Coe, Geo., engineer, Harrington Electric Light Co., Ltd., Long Eaton, Derbyshire.

Coffin, H. L., electrician, 16, Mortlake-rd., Kew.

Coghlan, J. T., assistant engineer, Corporation Electricity Works, Bedford.

Cohen, B. S., telephone engineer, National Telephone Co., Telephone House, Victoria Embankment, London, E.C. (Teleph. No. 60, Head Office.)

Cohen, A. & E., patentees & manufacturers of the Frédureau patent light diffusing globes, 2, Bury-st., St. Mary Axe, London, E.C. (Telegrams: "Wuttenkirk, London." Telephone No. 5688, Avenue.)

Cohen, Morris, & Co., Ltd., screws, terminals, &c., Hunslet Mills, Leeds. (Telegs.: "Vulcan, Leeds." Teleph. No. 1688, Central.)

Colchester Corporation Electricity Works & Electric Tramways. (Telephone No. 87.) A. R. Sillar, M.I.E.E., A.M.I.MECH.E., engineer.

Cole, F. G., M.I.E.E., 28, Tivoli-rd., Crouch End, London, N.

Cole, Henry A. B., consulting engineer, 50, Lime-st., London, E.C. (Telegrams: "Carbuncle, London." Telephone No. 1750, Avenue.)

Cole, John A., manufacturing electrician, 15, Gloucester-st., West Norwood, London, S.E.

Cole, John R., electric bell manufacturer, 61, Freeman-street, Great Grimsby, Lincolnshire.

Cole, Philip H., A.M.I.E.E., 16, Loraine Mansions, Holloway, London, N. (Teleph. No. 860, North.)

Cole, Wm., electrician & installation contractor, 20, Greenhill-parade, Harrow.

Cole, Marchent & Morley, Ltd., steam engine & condensing plant makers, Prospect Foundry, Bradford. (Telegrams: "Cole, Bradford." Telephone No. 690.)

Cole, T. & W., Ltd., engineers & boiler makers, Park Road Ironworks, St. Ann's-rd., Burdett-rd., London, E. (Telegrams: "Slidevalve, London." Telephone No. 277, East.)

COLEBY & CO., electrical engineers & contractors, 6, Princes-st., Cavendish-sq., London, W. (Teleph. No. 3224, Paddington.)

Coleman, A., M.I.E.E., Provincial Supt., Midland Province, National Telephone Co., Ltd., Telephone-bldgs., 19, Newhall-st., Birmingham. (Telegs.: "National Telephone, Birmingham." Teleph. No. 24.)

Coleman, Arthur C., electrical engineer, Clifton House, Forest Hall, Northumberland.

Coleman, C., electrician, Corporation Electricity Department, Hastings.

Coleman, G. T., electrician, 9, Cheapside, Leicester. (Nat. Telephone No. 990.)

Coles, H., A.I.E.E., electrical engineer, Electricity Works, Hillingdon Heath.

Coles, W. J., A.M.I.E.E., 3, Park-ter., Beverley, Yorks.

Coles Bros., electrical engineers, High-st., Margate.

Collard, F. B., electrical engineer, Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, London, E.C.

Collard, J. Filmer, A.M.I.E.E., "Granville," Tilford-rd., Farnham.

Colledge, Roy & Co., oil manufacturers & refiners, Brown-street, Red Bank, Manchester. (Telegrams: "Friction, Manchester.")

College of Science & Technology, 53, Frederick-st., Edinburgh.

Collet, C., civil engineer, 51, South John-st., Liverpool. (Telegs.: "Navire, Liverpool." Tel. No. 5537.)

Collett, A. E., electrician, 1, Reginald-ter., Leeds.

Colley's Patents, Ltd., telegraph paper makers, 3–12, Marine-st., Bermondsey, London, S.E. (Telegs.: "Overeager, London." Teleph. No. 2987, Hop.)

Collier, W. H., Greystoke, Hale, Cheshire. (Tel. No. 305, Altrincham.) Chairman Railway Lighting, Ltd.

Collier, John, & Co., electrical engineers, King-st. West, Manchester. (Telegrams: "Ampere, Manchester." Telephone No. 3806.)

Collieries Electric Power Development Synd., Ltd., 34 & 36, Gresham-st., London, E.C. Registered Nov. 8, 1906. Nominal capital: £10,000 in £1 shares.

Colliery Power Supply Syndicate, Ltd., for the supply of electrical power for hauling pumping & coal cutting, 11 & 12, Finsbury-sq., E.C. (Teleph. No. 9669, London Wall.) Managing director, Maunsell Mercier, A.I.E.E., 252, Chapel-st., Salford, Manchester. (Telegs.: "Wenham, Manchester." Teleph. No. 6116.) Registered March 8. 1897. Nominal capital: £25,000 in 23,000 "A" shares of £1 each & 2000 "B" shares of £1 each, & £1000 debentures. Directors: Fredk. Lees, Esq. (chairman); J. G. Lorrain, Esq.; W. V. M. Popham, Esq.; Maunsell Mercier, Esq. Secretary, Clarence Thompson. Dividends: 1900, 1901 & first half of 1902, *nil.*

Collinge, Robert Foster, A.M.I.E.E., 23, Queen Victoria-st., London, E.C.

Collings, J. B., Bonamy House, Grange, Guernsey. Director Guernsey Railway Co., Ltd.

Collings, W. A., electrical engineer, Messrs. Siemens Bros. & Co., Ltd., York Mansions, Westminster, S.W.

Collins, Adrian C., A.M.I.C.E., A.I.E.E., 61, Old Broad-street, London, E.C.

Collins, B. H., M.I.E.E., Liverpool Corporation Electric Supply Works, 15, Highfield-street, Liverpool.

Collins, C. J., 29, Suffield-rd., Newington, London, S.E.

Collins, E. T., 28, Baldwin-st., Bristol. Director Keynsham Electric Light & Power Co., Ltd.

Collins, Henry, Friar-st., Reading. Chairman Reading Electric Supply Co., Ltd.

Collins, Percy, 81–83, Cheapside, London, E.C. Director Frinton-on-Sea & District Electric Light & Power Co., Ltd.

Collins, Thomas, superintendent Postal Telegraph Office, Brighton.

Collins, Tom C., A.I.E.E., 35, Montpelier Vale, Blackheath Village, Blackheath, S.E.

Collins, W., district representative Crompton & Co., Temple-st., Bristol.

Collins, Wm., A.M.I.C.E., A.M.I.E.E., Wargrave, Cavendish-rd., Westbury-on-Trym.

Collins Bros., electrical engineers, 35, Montpelier Vale, Blackheath, London, S.E. (Teleph. No. 249, Lee Green.)

Collins & Co., electrical engineers, 31, Whittall-st., Birmingham.

Collins & Price, electrical engineers, 28, Market-st., Hoylake, Liverpool. (Telephone No. 36 X., Hoylake.)

Collinson, Vibert, tramway engineer, 15, Leadenhall-st., London, E.C. (Teleph. No. 65, Central.)

Collinson Bros., electrical engineers, 3, Millergate, Bradford.

Collis, A. B., electrical engineer, West Quay Iron Works, Southampton.

Collis, F. J., electrician, Accumulator Industries, Ltd., Woking.

Collis, W. H., M.I.E.E., A.K.C., A.M.I.C.E., deputy resident electrical engineer, Liverpool Corporation Electric Supply Department, 15, Highfield-st., Liverpool.

Collis & Co., electrical & mechanical engineers, West Quay Ironworks, Southampton.

Collum, J. E., & Co., electrical contractors, Tanners-lane, Ipswich.

Colne Borough Electricity Works, Colne. (Telephone Nos.: 61; Engineer's House, 62.) A. G. Cooper, A.M.I.E.E., engineer.

Colne & Trawden Light Railways Co., Albion Works, Armley-rd., Leeds; & Colne, Lancs. (Telegrams: "Trams, Colne." Telephone No. 30, Colne.) Mgr. & engr., Marten Turner; secretary, J. B. Peck.

Colombo Electric Tramways & Lighting Co., Ltd., 11, St. Benet-pl., London, E.C. Registered Feb. 21, 1902. Nominal capital: £150,000 in £10 ordinary shares & £120,000 5 per cent. first mortgage debenture stock. £130,840 in ordinary shares has been issued & is fully paid. Directors: H. Brooks, Esq. (chairman); H. Ansell, Esq.; I. M. Boustead, Esq.; R. Brooks, Esq.; Herbert Brooks, Esq. Secretary, P. Pears. Dividends: 1902, 1 per cent.; 1903, 2½ per cent.; 1904, 1 per cent.

Colonial Agents in London. *See* CLASSIFIED SECTION.

Colquhoun, J. S., A.M.I.E.E., chief of Test Dept., Browett, Lindley & Co., Ltd., Patricroft, Manchester.

Colquhoun, Wm., manufacturers' agent, 11, Queen Victoria-st., E.C.

Colquhoun, S. M., & Co., installation contractors, 9, West-st., Bridgeton, Glasgow.

Colson, A., M.I.C.E., M.I.E.E., electrical engineer, Leicester Corporation, Leicester. (Telegrams: "Gas, Leicester." Telephone No. 433.)

Colson, T. M., A.M.I.E.E., engineer & manager, Electricity Works, Hamilton.

Colthurst-Vesey, Capt. C., J.P., D.L., Lucan House, Lucan. Director Dublin & Lucan Electric Railway Co.

Colton, C. S., electrical engineer, c/o British Westinghouse Co., Norfolk-st., London, W.C.

Column Printing Co., Ltd., electrical news distributors, 14, James-st., Haymarket, London, S.W. (Telephone No. 5430, Gerrard.)

Colville, David, & Sons, Ltd., iron & steel manufacturers, Motherwell, N.B. (Telegs.: "Colville, Motherwell.")

Colvin, Sir Auckland, K.C.S.I., &c., Earl Soham Lodge, Framlingham, Suffolk. Chairman Oriental Telephone & Electric Co., Ltd.; chairman Telephone Co. of Egypt, Ltd.

Colwyn Bay Urban District Council Electricity Works. (Telegrams: "Tudman, Colwyn Bay." Telephone No. 63.) Engineer & manager, A. R. Tudman, A.M.I.E.E.

Combe Barbour, branch of Fairbairn, Lawson, Combe Barbour, Ltd., engineers & machinists, Falls Foundry, Belfast. (Telegs.: "Combe, Belfast." Teleph. No. 18.) London office: 81 & 83, Knightrider-st., E.C. (Telegs.: "Gordolobo, London." P.O. Teleph. No. 1674, Central.)

Combe, G., & Co., consulting electrical engineers, Castle-lane-pl., Belfast. (Telegrams: "Potential.")

Comber, T., director Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st. Within, E.C.

COMBINATION METALLIC PACKING CO., LTD., Hillgate, Gateshead-on-Tyne. (Telegrams: "Combination, Gateshead." Telephone No. 2364.)

Commans, R. E., M.I.C.E., mining engineer, 6, Queen-st.-pl., E.C. (Telegs.: "Adelaide, London." Teleph. No. 815, Bank.)

Commercial Cable Co., The, 23, Royal Exchange (Telegraphic address: "Yakcam, London." Telephone No. 1146, Avenue); Stock Exchange Office, 1, Shorter's-ct., & 6, Throgmorton-st., The Baltic (Telephone No. 7436, Central); 1, Northumberland-ave., W.C. (Telephone No. 5145, Gerrard); 11, Duke-st., London Bridge, S.E. (Telephone No. 878, Hop); 16, Mark-lane, London, E.C. (Telephone No. 2164, Avenue); East India Avenue, Leadenhall-st., E.C. (Telephone No. 1146, Avenue.) General offices: 55 & 56, Bishopsgate-st. Within, E.C. (Telephone No. 2789, London Wall.) Head office: New York. Authorized capital: ordinary, $25,000,000, of which $15,000,000 have been issued, & $20,000,000 4 per cent. gold bonds or 4 per cent. debenture stock, all of which have been issued. President, Clarence H. Mackay, Esq.; George G. Ward, Esq., vice-president & general manager. Directors: George G. Ward, Esq. (chairman); Clarence H. Mackay, Esq.; Charles R. Hosmer, Esq.; A. B. Chandler, Esq.; E. C. Platt, Esq.; Sir W. C. Van Horne, K.C.M.G.; the Right Hon. Lord Strathcona & Mount Royal; James Gordon Bennett, Esq.; Thomas Skinner, Esq.; Col. Wm. Jay; Dumont Clarke, Esq.; E. Hawley, Esq.; J. I. Waterbury, Esq.; W. S. Webb, Esq.; T. J. Coolidge, jun., Esq. Secretary, Albert Beck, Esq. Electrician, Charles Cuttriss, Esq., New York. Consulting electrician, John Gott, Esq., London. Manager in England, Fred. Ward, Esq. Quarterly dividends of 6 per cent. per annum were paid on Jan. 1, April 1, July 1 & Oct. 1 in 1890. On Jan. 1, 1891, the rate was increased to 7, & this rate was paid quarterly (at the above dates) to Jan. 1, 1903; while on Jan. 1 of each of the six years to 1903 a bonus of 1 per cent. was paid, making the total distribution for each of the six years to 1902 8 per cent. Beginning with April 1, 1903, the quarterly dividends have been at the rate of 8 per cent. per annum.

Commercial Contract Corporation, Ltd., electrical & general contractors, 58, Lombard-st., London, E.C. (Telegrams: "Earliness, London." Telephone No. 159.)

Commercial Electric Co., Wellington-chbrs., 2, Victoria-st., Manchester (Telegs.: "Filament, Manchester." Teleph. No. 08520); & 28, East Parade, Leeds.

COMMERCIAL ELECTRO-CHEMICAL ANALYSIS CO., 15, Queen-st., London, E.C. (Telegs.: "Electrolyte, London." Teleph. No. 7608, London Wall.) *See advt., page* 15.

Commercial Engineering Co., dynamo, motor, motor car & gas, oil & petroleum engine makers, Highfield-rd., Blackburn. (Telephone No. 31A.)

Commercial India Rubber Manufacturing & Supply Co., Ltd., 585, Commercial-rd., London, E.

Commissioners of H.M. Works & Public Buildings, Storey's-gate, London, S.W. (Telegrams: "Travaux, London." Telephone Nos. 905 & 1705, Victoria.)

Compagnie des Magnetos Simms-Bosch, Ltd., Kimberley-rd., Kilburn, N.W. Registered March 3, 1899. Nominal capital: £15,000 in £1 shares. Issued: 14,000 shares considered as paid & 1000 shares fully paid. Directors: F. R. Simms, Esq. (chairman); R. Bosch, Esq.; Harry J. Donkin, Esq. Secretary, H. M. Scott.

Compagnie Française de Charbons pour l'Electricité, 13, Idol-lane, London, E.C. (Teleph. No. 133, Avenue.)

Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange, London, E.C. (Telegs.: "Telepany, London." Teleph. No. 2237, Avenue); 2, Mincing-lane, London, E.C. (Teleph. No. 2208, Avenue); 5, New Bridge-st., E.C. (Teleph. No. 5952, Central); Baltic Exchange, E.C. (Teleph. No. 7335, Central); 24, Hop Exchange, S.E. (Teleph. No. 12007, Central); & 44, Broad-st., New York, &c.

Compagnie Internationale pour le Chauffage des Chemins de Fer Systéme Heintz, Ltd., 82, York-rd., King's Cross, London, N.

Compensating Gearing Syndicate, Ltd., 10 & 11, Jermyn-st., London, W. (Teleph. No. 6534, Gerrard.)

Comtelburo, Ltd., telegraphic agents, 11, Tokenhouse-yard, London, E.C. (Telegrams: "Comtelburo, London." Telephone No. 1827, London Wall. Private Code used.)

Conacher, J., general manager Metropolitan Electric Supply Co., Ltd., 16, Stratford-pl., London, W.

Conaty, George, engineering manager, Birmingham & Midland Tramways Joint Committee, Power Station, Downing-st., Smethwick, Staffs.

Concanon, J. B., 28, Austin Friars, London, E.C. (Telegs.: "Concanon, London." Teleph. No. 2150, London Wall.) Chairman Buenos Ayres & Belgrano Electric Tramways Co., Ltd.; director Brisbane Electric Tramways Investment Co., Ltd.; director Anglo-Argentine Tramways Co., Ltd.; director Brisbane Tramways Co., Ltd.

Concentric Condensers, Ltd., 22, Henrietta-st., W.C.

Concentric & General Contract Co., electrical engineers & contractors, 52, Queen Victoria-st., London, E.C.

Concordia Electric Wire Co., Ltd., electric wire manufacturers & dealers, 34, Queen-st., Cheapside, E.C. (Telegrams: "Polianite, London." Telephone No. 8448, Bank.)

Conder, E. R., A.I.E.E., electrical inspector, National Boiler & General Insurance Co., Ltd., 22, St. Anne's sq., Manchester.

Conduit & Insulation Co., Ltd., manufacturers of insulating conduits for improved electric wiring. (Telegs.: "Conduits, London." Teleph No. 157, Battersea.) Conduit Works: Summers Town, S.W. Nominal capital: £40,000 in £1 shares. 33,871 have been taken up & are fully paid. Directors: A. Holland, Esq. (chairman); W. R. Comings, Esq.; Addison A. Righter, Esq. Dividends: 1900–01, 6 per cent.; 1901–02, 5 per cent.; 1903–04, 3 per cent.

CONDUITS & FITTINGS, LTD., manufacturers of CONREX electrical steel conduits & patent fittings, "Conrex" tube bender, &c., Conduitrex Works, Salusbury-rd., Kilburn, London, N.W. (Telegs.: "Mabercon, London." Teleph. No. 1560, Paddington.) *See advt. under* CONDUITS & CULVERTS.

Conference of Railway Telegraph Engineers & Superintendents. Hon. secretary, G. A. Neale, Hull & Barnsley Railway, Hull.

CONGDON & POWELL, manufacturers of enamelled slate & marble for electrical purposes, switchboards, switches, starters, &c., Bravington-rd. Works, Harrow-rd., London, W. (Telephone No. 1507, Paddington.)

Coninck-Westenberg, D. J. L., A.M.I.E.E., Wychwood, 90, Wavendon-ave., Chiswick, London, W.

Connal, Allan R., district manager, Alliance Electrical Co., Ltd., Northern Assurance-bldgs., Albert-sq., Manchester.

Connal, D. L., & Co., electric light & power contractors, Hunter-pl., Greenock.

Connell, F. R., A.M.I.E.E., electrical engineer, Thanet House, Temple Bar, London, W.C.

Conner, Henry, A.I.E.E., Ballybricken, Monkstown, co. Cork.

Connett, A. N., M.I.C.E., M.I.E.E., chief engineer, J. G. White & Co., 9, Cloak-lane, Cannon-st., London, E.C. (Telegs.: "Connett care Whiterick, London." Teleph. No. 3306, London Wall.)

Conning, Walter Day, A.M.I.E.E., 26, Southwold-rd., Clapton, N.E.

Connolly, H., electrician & director, Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester.

Connolly, James, M.I.E.E., electrical engineer, director & secretary Connolly Bros., Ltd., Blackley, Manchester.

CONNOLLY BROS., LTD., insulated wire & cable makers, Blackley Vale Mills, Blackley, Manchester. (Telegrams: "Connollys, Blackley." Telephone No. 2361.) London agents: C. F. Quicke & Co., 315, Euston-rd., N.W. (Telegrams: "Quicongo, London." Telephone No. 4226, Gerrard.) Registered June 1, 1895. Nominal capital: £30,000 in £5 shares & £30,000 debentures. Issued: £19,810 & all the debentures, all fully paid. Directors: Jas. Connolly, Esq. (secretary); H. Connolly, Esq. (electrician). *See* CABLES.

Consett Electricity Works. Cleveland & Durham Electric Power Co., Ltd., proprietors. (Telegs.: "Unit, Consett." Teleph. No. 2, Consett.) General manager, A. B. Gridley; northern manager, C. W. Fairweather; resident engineer, F. H. McLoughlin.

Consol Electric Lamps, 17, Victoria-st., London, S.W. (Telephone No. 75, Westminster.)

Consolidated Accessories Co., electrical engineers, Craven House, Kingsway, London, W.C. (Telegs.: "Inbrake, London." Teleph. No. 12392, Central.)

Consolidated Electrical Co., Ltd., Broad-st. House, London, E.C. (Telegs.: "Goldsandes, London." Teleph. No. 9080, London Wall.) Registered April 16, 1903. Nominal capital: £125,000 in £1 shares (15,000 of which are cumulative 6 per cent. preference). All subscribed. The company holds 72,267 shares in the Anglo-Portuguese Telephone Co., Ltd. (out of an issued total of £100,000), besides shares & debentures in other companies. Directors: Herbert Allen, Esq. (chairman); J. H. S. Thomson, Esq.; Charles Woolley, Esq. Secretary, T. Taunton, F.I.C.S.

Consolidated Engineering Co., Ltd., friction clutch manufacturers & general engineers, Slough, Bucks. (Telegrams: "Gotha, Slough." Telephone No. 7.)

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Constable, Ernest J., A.M.I.E.E., Electricity Works, Bloom-st., Manchester.

Constable, J. A., resident engineer, Generation Dept., South Metropolitan Electric Light & Power Co., Ltd., 37, Tranquil Vale, Blackheath.

Constable, Archibald, & Co., Ltd., publishers of electrical & general engineering & scientific books, 16, James-st., Haymarket, London, S.W. (Telegrams.: "Dhagoba, London." Telephone No. 12432, Central.)

Constans, Philip, electrician, 303, High Holborn, London, W.C.

Constantine, C., electrical engineer, 90 & 92, Fargate, Sheffield.

Continuous Rail Joint Co. of Great Britain, Ltd., 20, King William-st., London, E.C. (Telegrams: "Junctionis, London." P.O. Telephone No. 5002, Central.)

Coode, Son, & Matthews, consulting engineers, 9, Victoria-st., London, S.W. (Telegrams: "Penlee, London." Telephone No. 47, Westminster.)

Cook, David, M.I.C.E., M.I.E.E., consulting engineer, 165, Queen Victoria-st., E.C. (Telegrams: "Nasibwali, London." Telephone No. 5143, Bank); & 30, Lancaster Park, Richmond, Surrey.

Cook, E. B., A.I.E.E., 110, Cleveland-rd., Sunderland.

Cook, Ernest H., D.SC. (LOND.), A.R.C.S., F.I.C., consulting electrician, analytical & consulting chemist, Clifton Laboratory, 27, Berkeley-sq., Bristol. (Telephone No. 439.)

Cook, Ernest Rider, A.I.E.E., "Cecilhurst," Uplands Park, Enfield.

Cook, G., secretary & general manager Electric Tramways Co., Ltd., 1, Warwick-rd., Carlisle. (Telephone No. 0180.)

Cook, S. H., director Leatherhead & District Electricity Co., Ltd., 28, Victoria-st., S.W.

Cook, T., superintendent Commercial Cable Co., Edinburgh.

Cook, W. G. R., electrical engineer, 29, Clarendon-rd., Redhill.

Cook, William W., A.M.I.E.E., Nutwell, Shortlands, Kent. (Telephone No. 33, Bromley.)

Cook, Charles E., & Son, telegraph, telephone & electrical tool makers, Ashton-in-Makerfield.

Cooke, A. G., M.A., A.M.I.E.E., principal Paddington Technical Institute, Saltram-cres., London, W.

Cooke, C. J., electrical engineer, 8, Grange-ter., Station-rd., Wood Green, London, N.

Cooke, Conrad W., M.I.E.E., consulting electrical engineer, 28, Victoria-street, Westminster, S.W.

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.

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(Telegraphic Address: "HIDES, MANCHESTER." Tel. No. 1544.)

Cooke, F. W., M.I.E.E., assistant telegraph superintendent, Gt. Northern Railway Co., Retford.

Cooke, John, concrete for engine beds, &c., Folly Hall, Huddersfield. (Telegrams: "Compo, Huddersfield." Telephone No. 395.)

Cooke, W. Cozens, A.M.I.E.E., Edison & Swan United Electric Light Co., Ltd., Ponder's End, N.

Cooke, W. H., A.M.I.E.E., Corporation electrical engineer, Luton.

Cooke, J., & Son, electrolier manufacturers, Midland Davy Lamp Works, 203, Lawley-st., Birmingham. (Telegrams: "Clanny, Birmingham.")

Cooke, W., & Co., electrical engineers, Queen-st. Arcade, Cardiff.

Cookes & Swinnerton, steel hoop & wire manufacturers, Barrow Steel Wire Works, Barrow-in-Furness.

Cookman, J. J., chief engineer, Junior Army & Navy Stores, Regent-st., London, S.W.

Cooksey, D. F., A.M.I.C.E., M.I.E.E., consulting engineer, 5, Maitland-rd., Reading.

Cookson, W. A., Laverock Bank, Seaforth. Director Liverpool District Lighting Co., Ltd.

Cookson, W. R., electrician, Binfield-park, Bracknell, Berkshire.

Cookson & Co., Ltd., lead manufacturers & antimony refiners, Milburn House, Dean-st., Newcastle-on-Tyne. (Telegrams: "Cookson, Newcastle-on-Tyne.")

Coolidge, T. Jefferson, jun., St. Ann's-bldgs., Boston, Mass. Director Underground Electric Railways Co. of London, Ltd.; director Commercial Cable Co.

Coombs, A. M., A.M.I.E.E., electrical engineer, 6, Oakhill-rd., Surbiton Hill.

Coombs, D. H., electrical engineer, Whitchurch & Pangbourne Electric Supply Co., Ltd., Whitchurch, Oxon.

Coon, J. M., consulting electrical engineer, St. Austell.

Cooney, F. G., electrical engineer, 130, Stephens Green, Dublin.

Coop, G. H., electrical engineer, 298, Stamford-st., Ashton-under-Lyne.

Cooper, A. G., A.M.I.E.E., borough electrical engineer, Colne, Lancs. (Telephone No. 62.)

Cooper, Arthur R., A.M.I.C.E., A.M.I.E.E., Chief Engineer's Office, Central London Railway, Caxton-rd., Shepherd's Bush, London, W.

Cooper, C. J., 14, Gloucester-rd., S.W. Director National Provincial Electricity Corporation, Ltd.

Cooper, G. P., A.M.I.E.E., May Bank, Clarendon-rd., Wellington, Surrey.

Cooper, J. N., A.M.I.E.E., 56, Morshead Mansions, Morshead-rd., London, W.

Cooper, John, electrician, 333, Gray's Inn-rd., King's Cross, London, W.C. (Teleph. No. 310, North.)

Cooper, J. S. S., M.A., B.SC., electrical engineer, c/o British Westinghouse Co., Trafford Park, Manchester.

Cooper, R., 53, Coleman-st., London, E.C. Director Mersey Railway Co.

Cooper, R. Elliott, joint engineer, Manchester & Liverpool Electric Express Railway Co., 41, Coleman-st., London, E.C.

Cooper, Robert G., A.M.I.E.E., electrical engineer, 6, Dogo-st., Cardiff.

Cooper, S. W., Albert-rd., Bournemouth. Director Penzance & District Electric Supply Co., Ltd.

Cooper, T., M.A. (Cantab), A.M.I.C.E., M.I.M.E., M.I.E.E., Metropolitan Asylums Board, Victoria Embankment, E.C. (Telegs.: "Engineer, Asylum Board, London." Teleph. No. 2461, Holborn.)

Cooper, T. L. Reed, M.I.M.E., Johnson-Lundell Electric Traction Co., Ltd., Southall, Middlesex.

Cooper, V. B. D., A.M.I.C.E., M.I.E.E., 22, Buckingham-gate, Westminster, London, S.W. (Telegrams: "Megohm, London." Telephone No. 134, Westminster.)

Cooper, Wm. J., A.M.I.MECH.E., A.M.I.E.E., Bourne House, Whyteleafe, Surrey; & 5, Sun-st., Finsbury, London, E.C. (Telegs.: "Irruption, London." Teleph. No. 1446, London Wall.)

Cooper, William Ranson, M.A., B.SC., A.I.C., M.I.E.E., consulting electrical engineer, Swinburne, Cooper & Baillie, 82, Victoria-st., London, S.W. (Teleph. No. 292, Westminster.)

Cooper, C., & Co., electrical engineers, Albert-rd., Bournemouth; & 14, Gloster-rd., London, S.W.

Cooper & Cunningham, electrical engineers & contractors, 32, Market-pl. & Market Gates, Great Yarmouth. (Teleph. No. 80.)

Cooper, Edwin, & Co., engineers, 86, Leadenhall-st., London, E.C. (Telegrams: "Endure, London.")

Cooper, Geo., & Son, electric bell fitters, Park-st., Windsor.

Cooper, J. K., & Son, electrical engineers, Castle Hill, Maidenhead.

Cooper, W. G., & Co., electrical & motor engineers, Bourne House, Whyteleafe, Surrey.

Coopers, Matkin & Lauson, Ltd., artistic electric lighting, 9, Grafton-st., Bond-st., London, W. (Telegs.: "Kinsonite, London." Teleph. No. 1485, Gerrard.)

Coote, Alfred W., district superintendent of the Edison & Swan United Electric Light Co., Ltd., 3, Anne-st., Hull. (Telegrams: "Ediswan, Hull." Telephone No. 449.)

Coote, Edward, A.I.E.E., Harleyford, St. Margarets, Twickenham.

Coote, J. F., A.M.I.E.E., engineer-in-chief's department, National Telephone Co., Temple-ave., London, E.C. (Nat. Telephone No. 60, Head Office.)

Coote, P., consulting electrical engineer, 3, North-st., Quadrant, Brighton. (Telephone No. 334, Corporation.)

Cope, A. B. H., A.I.E.E., Elstree, Herts.

Cope, F., & Co., electrical contractors, 5, Whitcombe-st., London, S.W.

Cope & Timmins, Ltd., art metal workers, 21, Newman-st., London, W. (Telegrams: "Tenso, London." Telephone No. 2837, Gerrard); & Icknield-sq., Birmingham. (Telegrams: "Vitrified, Birmingham." Telephone No. 3593.)

Cope-Collis Syndicate, Ltd., 12, Pall Mall, London, S.W.

Copeland & Co., electrical engineers, Parkin-st., Stockton-on-Tees.

Copingers, Ltd., electrical engineers & contractors, 43, Lower Mosley-st., Manchester.

Copland, C. D., M.I.E.E., consulting electrical engineer, 16, John Dalton-st., Manchester.

Coppen, Jno., Normanhurst, Ashford, Middlesex. Director London Platino Brazilian Telegraph Co., Ltd.; director Western Telegraph Co., Ltd.

Copper Co., Ltd., manufacturers of compound wire bars, &c., 11, Ironmonger-lane, London, E.C. Works: Queenborough, Kent.

Copping, J. L., electrical engineer, Blackman Export Co., Ltd., 70, Finsbury Pavement, London, E.C.

Corben, R., & Co., electric lighting contractors, West Borough, Maidstone. (Telegs.: "Corben, Maidstone." Teleph. No. 36.)

Corbett, F., electrical engineer, 6, Baker-st., London, W. (Telephone No. 182, Paddington.)

Corbett, J. R., Moore Place, Betchworth. Director Anglo-Argentine Tramways Co., Ltd.

Corby, F. W., director General International Wireless Telegraph & Telephone Co., Ltd., 110, Cannon-st., London, E.C.

Core, Professor T. H., University, Manchester.

Corin, Valentine, A.I.E.E., 12, Clarence-st., Penzance. (Telegrams: "Val Corin, Penzance.")

Cork City Railways & Works Bill Promotion Co., Ltd., 60, South Mall, Cork. Registered Dec. 11, 1905. Nominal capital: £10,000 in £10 shares.

Cork Electric Tramways & Lighting Co., Ltd., 83, Cannon-st., London, E.C.; & Cork. (Telegrams: "Tramways, Cork." Telephone Nos.: Offices, 78; Power Station, 535, Cork.) Registered June 18, 1897. Nominal capital: £125,000 in £10 ordinary shares & £125,000 in 5 per cent. cumulative preference shares of £10 each & £115,000 in 4 per cent. mortgage debenture bonds of £100 each. Issued: £115,000 ordinary & £123,270 preference. £115,000 debentures. Directors: A. R. Monks, Esq. (chairman); W. M. Murphy, Esq.; W. Anderson, Esq.; H. C. Levis, Esq.; W. B. H. Martindale, Esq. Resident engineer, H. H. Nalder; secretary, A. Clements. Dividends: 1899, 1900 & 1901, 5 per cent.; 1902, 5½ per cent.; 1903, 1904 & 1905, 5 per cent.

Corking, J. T., electrician, Jackson-st., Gateshead.

Corlett, G. S., electrical engineer (Corlett Electrical Engineering Co., Ltd.), Wigan. (Telegrams: "Corlett, Wigan." Telephone No. 63.)

Corlett Electrical Engineering Co., Ltd., Wigan (Telegrams: "Corlett, Wigan." Telephone No. 63); & Union-bldgs., St. John-st., Newcastle-on-Tyne. (Telegrams: "Voltaic, Newcastle-on-Tyne." Nat. Telephone No. 1936.) Issued capital: £6200 in 620 ordinary shares of £10 each, on all of which the full amount has been paid. Directors: Thomas Kirk, Esq. (chairman); Peter Kirk, Esq.; George Arthur Kirk, Esq. (secretary); George Stephen Corlett, Esq. (managing).

Cormack, A. C., M.I.E.E., National Boiler & General Insurance Co., 22, St. Ann's-sq., Manchester.

Cormack, J. D., B.SC., A.M.I.C.E., M.I.MECH.E., M.I.E.E., professor of mechanical engineering, Engineering Laboratory, University College, Gower-st., London, W.C.

Cornall, Thomas, electrical engineer, Haymarket-st., Bury. (Nat. Telephone No. 103.)

Cornelius, V. A., A.M.I.E.E., 27, Westwick-gdns., West Kensington Park, London, W.

Cornell, Wm. T., electrician, 67, May-st., West Kensington, & 4, Church Walk, Kensington, London, W.

Cornish, H. V., electric lighting supervisor, Post Office Telegraph Department, Pinfold-st., Birmingham.

Cornish, J. T., electrical engineer, La Capital Traction & Electric Co., Buenos Aires, Ltd., La Capital (Extensions) Tramways Co., Ltd., & La Capital Tramways Co., Ltd., 62, London Wall, London, E.C.

Cornish, V. K., A.M.I.E.E., 26, Waldeck-rd., West Ealing, London, W.

Cornwall Electric Power Co., 30 & 31, St. Swithin's-lane, London, E.C. Nominal capital: £450,000. Loan: £150,000. Directors: F. H. Lewis, Esq.; C. Foster, Esq.; O. Wethered, Esq.

Cornwall Electric Power Synd., Ltd., 30 & 31, St. Swithin's-lane, London, E.C. Nominal capital: £5000 in 50 £100 ordinary shares & in 120 deferred shares of 1*s.* each. Issued: 22 ordinary shares & 115 deferred shares. Directors: L. C. Foster, Esq. (chairman); T. O. Callender, Esq.; F. Harvey, Esq.; O. Wethered, Esq. Secretary, J. A. Stoneham.

Cornwallis-West, G. F. M., director Associated Cos. of the British Electric Traction Co., Ltd., Donington House, Norfolk-st., W.C.

Corrick, W. W., electric lighting contractor, 141, Liverpool-rd., London, N. (Teleph. No. 1768, North.)

Corrie, A. Wynne, Park Hall, Oswestry. Chairman Oswestry Electric Lighting & Power Co., Ltd.

Corringham, G. H., A.M.I.C.E., A.M.I.E.E., "Westgate," Rutland-rd., Maidenhead.

Corse, W. J., & Co., wholesale manufacturing electricians, 53, Union-st., Plymouth. (Telephone No. 0871.)

Corson, F. H., A.M.I.C.E., chief assistant electrical engineer, Corporation Electricity Works, Blackburn.

Cort, Arthur, & Co., vulcanized fibre & gutta-percha manufacturers, 303½, Camberwell-rd., London, S.E. (Telegs.: "Cort, Camberwell." Teleph. No. 3273, Hop.) Factory: Bullace Works, Camberwell. Sole agents for Great Britain for H. Rost & Co.

Cort, Robert, & Son, civil, electrical & mechanical engineers, 21, Lower Bland-st., Great Dover-st., London, S.E. (Telegs.: "Ringhead, London." Teleph. No. 2227, Hop.)

Cosens & Co., electrical engineers & contractors, The Quay, Weymouth.

Cossor, A. C., A.M.I.E.E., glass blower for electrical purposes & incandescent lamp maker, 54, Farringdon-rd., London, E.C. (Telephone No. 10547, Central.)

Costa Rica Electric Light & Traction Co., Ltd., 249, Dashwood House, New Broad-st., E.C. (Telegrams: "Anelectric, London." P.O. Telephone No. 3975, Central.) Registered March 10, 1898. Nominal capital: £130,000 in £1 shares, all issued & paid. Mortgages & charges: £177,100. A principal trust deed, dated March 30, 1898, to secure £130,000 debentures, created March 14, 1898, & a supplemental trust deed dated Dec. 23, 1903, to secure £100,000 further debentures, created Nov. 25, 1902, have been registered. A second supplemental trust deed modifying the previous deeds was executed on June 20, 1906. Directors: W. F. Leese, Esq. (chairman); F. Davies, Esq.; A. Morris, Esq.; A. Vansittart, Esq.; F. Witting, Esq. Secretary, F. H. Firth. Dividends: 1904, 1905, & first half of 1906, *nil.*

Coton, Chas., A.I.E.E., Gipsy Lodge, Bexley Heath, Kent.

Cotsworth, Wm., A.M.I.E.E., Sunny Bank, Westmoreland-rd, Urmston, nr. Manchester.

Cottam, G. H., M.I.E.E., chief electrical engineer, Borough Council Electricity Works, Hampstead, London, N.W.

Cotterell, A. E., assistant provincial superintendent, National Telephone Co., Ltd., Telephone-bldgs., 19, Newhall-st., Birmingham. (Teleph. No. 777.)

Cotterell, Morton B., director of Veritys, Ltd., Hardman-st., Deansgate, Manchester.

Cotton, W. F., Holly Wood, Roebuck, Dundrum, Co. Dublin. Director Dublin United Tramways Co., Ltd.; director Shannon Water & Electric Power Co.

Cotton Powder Co., Ltd., manufacturers of explosives, safety fuses & electric firing appliances, 32, Queen Victoria-st., London, E.C. (Telegs.: "Tonita, London." A.B.C. Code, 5th edition. Teleph. No. 7942, Central.)

Cottrell, R. F., 2nd Lieut., R.G.A., A.I.E.E., The Camp, Rhayader, Wales.

Cottrell, S. B., M.I.C.E., M.I.M.E., engineer & manager Liverpool Overhead Railway Co., 31, James-st., Liverpool. (Telegrams: "Motor, Liverpool." Telephone No. 5460.)

Cottrell, W. R. T., A.M.I.C.E., Central London Railway Co., Shepherd's Bush, W.

Cottrell & Beszant, electric lighting contractors, 5, Cases-st., Liverpool, W.

Coubro & Scrutton, wireless telegraph mast constructors, 11, West India Dock-rd., London, E.; & Works: Millwall, London, E. (Telegs.: "Coubro, London." Nat. Teleph. Nos. 7 & 699E.)

Coubrough, A. C., M.A., B.SC., C.E., A.M.I.E.E., electrical engineer, Mather & Platt, Ld., Salford Iron Works, Manchester.

Couch, Charles Thomas, electrician, 133, Cambridge-street, Pimlico, London, S.W.

Couldwell & Frew, installation contractors, 38, Montrose-st., Glasgow. (Nat. Teleph. No. 321, Charing Cross.)

Coulsen-Crawford, Henry, A.M.I.E.E., electrical engineer, 15, Chorlton-ter., Manchester.

Coulson, W. A., M.I.E.E., 47, Broad-st., Mile End, Glasgow. Director Mavor & Coulson, Ltd.

Coulston, John, jun., wiring contractor, Hounds Hill, Blackpool.

Coulthard, T., & Co., Ltd., electrical & general engineers, Cooper-rd. Works, Preston, Lancs.

County Chemical Co., Ltd., makers of motor & accumulator repair outfits, &c., Excelsior Works, Moor-st., Birmingham. (Telegrams: "Hilda, Birmingham." Telephone No. 3230.)

County of Durham Electric Power Supply Co., Royal Exchange-bldgs., Newcastle on-Tyne. Nominal capital: £500,000 in shares, & £166,000 by loan. Directors: J. H. Armstrong, Esq. (chairman); W. L. Madgen, Esq.; J. T. Merz, Esq., D.C.L.; R. P. Sloan, Esq.; Sir Lindsay Wood, Bart. Consulting engineers, Chas. H. Merz & Wm. McLellan; secretary, N. H. Firmin. Dividends: 1902, 4 per cent.; 1903, 2 per cent.

County of Durham Electrical Power Distribution Co., Ltd., Royal Exchange-bldgs., Newcastle-on-Tyne. (Telegs.: "Energy, Newcastle-on-Tyne." Teleph. No. 882, Newcastle.) Registered April 19, 1899. Capital: £500,000 in 50,000 5 per cent. preference shares of £5 each & 50,000 ordinary shares of £5 each, all subscribed. Directors: J. T. Merz, Esq., D.C.L. (chairman); J. H. Armstrong, Esq.; W. L. Madgen, Esq.; R. P. Sloan, Esq.; R. S. Watson, Esq., LL.D.; Sir Lindsay Wood, Bart. Manager, A. S. Esslemont; secretary, A. Winlo. Dividends on ordinary shares: 1904, 3·7 per cent.; 1905, 4 per cent.

County Fire Office, 50, Regent-st., London, W.; & 14, Cornhill, E.C. (Telegs.: "County Fire, London." Teleph. No. 11982, Central.)

County of London Electric Supply Co., Ltd., Moorgate-court, Moorgate-pl., London, E.C. (Telegrams: "Partnership, London." Telephone Nos. 2681 & 2682, London Wall.) Registered as the County of London Electric Lighting Co., Ltd., June 30, 1891. Name changed in 1893 & 1904. Directors: J. B. Braithwaite, Esq. (chairman); F. W. Reynolds, Esq.; A. H. Sanderson, Esq.; F. E. Savory, Esq.; R. P. Sellon, Esq.; Joseph Shaw, Esq. Chief engineer, C. P. Sparks, M.INST.C.E.; secretary, H. B. Renwick. Nominal capital: £800,000 in £10 ordinary shares, & £800,000 in £10 preference, in addition to which £800,000 can be raised by debentures. Issued: 40,000 ordinary shares of £10 each & 40,000 6 per cent. preference shares of £10 each, fully paid. £400,000 4½ per cent. debenture stock & £400,000 4½ per cent. second debenture stock. Dividends on preference shares, 6 per cent. for 1901, 1902, 1903, 1904, 1905 & first half of 1906. On ordinary shares, 1901, 1902, 1903, 4 per cent.; 1904, 4½ per cent.; 1905, 5 per cent.; & first half of 1906, 4 per cent. Trust deed, dated Jan. 23, 1899, to secure £400,000 stock. A trust deed, dated May 12, 1903, to secure £250,000 second debenture stock (with power to issue further stock, making *pari passu* up to £400,000), has been registered. An acknowledgment of indebtedness, dated Oct. 13, 1904 (supplemental to trust deed securing further £150,000 second debenture stock), has been registered.

County of Middlesex Light Railways, County Engineers' Department, Guildhall, Westminster, S.W. (Telephone No. 218, Westminster.) Engineer, H. T. Wakelam, M.I.C.E.

County of Northampton Electric Power & Traction Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. Registered April 24, 1900. Nominal capital: £25,000 in £10 shares, all issued, & £9 5*s.* per share called up. Directors: W. L. Madgen, Esq. (chairman); Lord Vaux of Harrowden; G. R. Hulme, Esq.; W. J. Greer, Esq.; Geo. Offor, Esq. Managing engineer, G. W. Bunting; secretary, Robert Doyle.

Couper, James, & Sons, manufacturers of globes & shades for gas, oil & electric lighting, &c., City Glass Works, Glasgow. (Telegs.: "Coupers, Glasgow." A.B.C. & Unicodes used. Corp. Telephone No. 2804.)

COUPIER & CO., bronze statuary figures for electric lighting, 195, Wardour-st., W. Awarded Grand Prix, Paris Exhibition, 1900. (Telephone No. 2277, Gerrard.)

Course, W., & Son, engineers, Hassett-st., Bedford.

Court, John R. T., electrical engineer, 1, Undercliff-rd., Lewisham, London, S.E.

Courtenay, J. Irving, M.A., M.I.E.E., chairman of United River Plate Telephone Co., Ltd.; & Chelsea Electricity Supply Co., Ltd.; director Electric Construction Co., Ltd.; director Oxford Electric Co., Ltd.; chairman Buenos Ayres Grand National Tramways Co., Ltd.; director Madras Electric Tramways (1904), Ltd.; chairman & managing director Electrical Power Storage Co., Ltd., 4, Great Winchester-st., E.C.

Coutts, Frederick, A.I.E.E., general manager & engineer, Paisley District Tramways Co., Paisley, N.B. (Teleph. No. 218.)

Coutts & Co., electrical engineers, 140, Bath-st., Glasgow. (Telegs.: "Clutches, Glasgow." Teleph. No. 397, Douglas.)

Couves, H. A., electrical engineer, c/o C. H. Merz, Collingwood-bldgs., Newcastle-on-Tyne.

Couzens, George Edwin, electrical engineer, 219, 221 & 223, Commercial-rd., Landport, Portsmouth.

Couzens, H. H., A.M.I.E.E., deputy city electrical engineer, Electric Light Station, Temple Back, Bristol. (Private Teleph. No. 1312.)

Couzens, H. W., M.I.E.E., consulting electrical engineer, Morgan, Williams & Couzens, 39, Victoria-st., London, S.W. (Telegs.: "Consonance, London." Teleph. No. 5029, Westminster.) Managing director Uxbridge & District Electric Supply Co., Ltd.; managing director & engineer Northwood Electric Light & Power Co., Ltd.

Coveney, Arthur, tramways engineer & general manager, Urban District Council Tramways, Erith.

Coveney, E., A.I.E.E., electrical engineer, 20, Belle Vue-rd., Ramsgate. (Telephone No. 9 Y.)

Coventry Corporation Electricity Works. J. A. Jeckell, engineer. (Telephone No. 161.)

Coventry Electric Tramways Co., The, Tramway Depôt, Priestly's Bridge, Coventry (Telegs.: "Tramways, Coventry." Teleph. No. 372); & 20, Bishopsgate-st. Within, London, E.C. (Telegs.: "Carwheel, London.") The old company incorporated by Act of Parliament, 1887, has been wound up & absorbed by the new company incorporated by Act of Parliament. By Act of Parliament dated Aug. 14, 1903, the capital was increased to £130,000 in £10 shares, all issued & fully paid. Borrowing powers also increased to £34,000 in 4½ per cent. debenture bonds of £100 each, all issued & fully paid. Directors: Baron E. B. d'Erlanger (chairman); Hon. A. G. Brand; F. FitzGerald, Esq.; E. A. Hopkins, Esq. (managing). Manager & resident engineer, T. R. Whitehead; consulting engineer, I. E. Winslow; secretary, J. G. Mills. Dividends: 1901, 1902 & 1903, 2½ per cent.; 1904, 2 per cent.; 1905, 3 per cent.

Coventry Municipal Technical Institute, Earl-st., Coventry. (Telephone No. 193.)

Coverdale, H., director Harwich Electric Lighting & Tramways Co., Ltd.

Cowan, E. W., M.I.E.E., Springfield-lane, Salford, Manchester.

Cowan, John, electrical engineer, Gateacre Nurseries, Gateacre, Lancs. (Telegrams: "Cowan, Gateacre." Telephone No. 70.)

Cowan, J. H., Lieut.-Colonel, R.E., A.M.I.E.E., R.E. Office, Chatham.

Cowans Limited, manufacturing electrical & mechanical engineers, Springfield-lane, Salford, Manchester (Telegrams: "Control, Manchester." Telephone No. 4897, Manchester); & Mansion House-bldgs., 4, Queen Victoria-st., London, E.C. (Telegrams: "Keypoint, London." Teleph. No. 7234, Central.) Works: Springfield-lane, Salford. Registered May 16, 1898. Capital: £30,000 in 20,000 ordinary & 10,000 preference shares of £1 each. Issued: 10,000 ordinary, 10,000 preference & £5000 debentures.

Cowans, Sheldon & Co., Ltd., electric crane manufacturers, Carlisle. (Telegrams: "St. Nicholas, Carlisle." Telephone No. 1013.)

Cowap, G. F., electrician & engineer, Tarporley, Cheshire.

Coward, John, & Co., copper merchants, Exchange-buildings, Lombard-st., Newcastle-on-Tyne.

Cowburn Safety Valve Co., Ambrose-st., West Gorton, Manchester. (Telegrams: "Valvular, Manchester." Telephone No. 5221, Central.)

Cowes Electricity Works, Isle of Wight Electric Light & Power Co., Ltd., Cowes, Isle of Wight. (Teleph. No. 44, Cowes.) Engineer & manager, A. E. Mayes.

Cowey Engineering Co., Ltd., speed indicator makers, Kew Gardens Railway Station, Kew Gardens, London, S.W. (Telegs.: "Cowey, Kew Gardens." Teleph. No. 447, P.O., Richmond.)

Cowing, W. H., works manager, Kramos, Ltd., Bath.

Cowley, F., superintendent for Ireland National Telephone Co., Ltd., Crown Alley, & Temple Bar, Dublin.

Cowlishaw, Walker & Co., Ltd., clutch makers, Etruria, Stoke-on-Trent. (Telegrams: "Cowlishaw, Etruria.")

Cownie, W. B., general manager & secretary National Electric Construction Co., Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Director Musselburgh & District Electric Light & Traction Co., Ltd.; director Rhondda Tramways Co., Ltd.

Cowper-Coles, Sherard, M.I.E.E., consulting electro-metallurgist, Grosvenor Mansions, Victoria-st., S.W. (Telegrams: "Zincking, London." Telephone Nos.: 748, Westminster; Works, 1112, Kensington.)

Cowper-Coles Copper Corporation, Ltd., 82, Victoria-st., London, S.W.

Cowper-Coles Galvanizing Syndicate, Ltd., electrical engineers, Grosvenor Mansions, Victoria-st., Westminster, S.W. (Telegrams: "Zincking, London." Telephone No. 748, Westminster.) Capital: £2000 in 500 "A" & 1500 "B" shares of £1 each. All have been taken up, & 500 of each class issued as fully paid. The full amount has been called & paid on the remainder. Lien registered Nov. 19, 1902, for £100 debenture. Issue on March 10, 1904, of a debenture for £100 to secure £1200; amount previously issued £1000.

Cowper-Coles Inventions Development Co., Ltd., electricians & engineers, Grosvenor Mansions, 82, Victoria-st., S.W. (Telegrams: "Zincking, London." Telephone No. 748, Westminster.)

Cowper-Coles Metals Extraction Syndicate, Ltd., Mellanear, Hayle, Cornwall. (Telegrams: "Parece, Mellanear.")

Cox, A. W., A.M.I.E.E., Highfield Works, Feltham, Middlesex.

Cox, C. F., assistant electrician, Works Department, Royal Arsenal, Woolwich.

Cox, Chas. W., district manager Edison & Swan U. E. L. Co., Ltd., Renshaw-st., Liverpool. (Telegs.: "Ediswan, Liverpool." Teleph. No. 2366, Royal.)

Cox, E. F., borough electrical engineer, Wishaw, N.B.

Cox, Ernest Spencer, A.I.E.E., 22, St. James's-sq., Bath.

Cox, Geo., A.M.I.E.E., 10, Wharfedale-st., Earl's Court, London, S.W.

Cox, H. Ainslie, teacher of electricity, Harris Institute; & Dick, Kerr & Co., Ltd., Preston, Lancs.

Cox & Brown, electrical & mechanical engineers, 70, Higham-rd., Rushden, Northants. (Nat. Telephone No. 1 Y.)

Cox, Harry W., Ltd., manufacturing electrical engineers, 1A, Roseberry-ave.; & 15–21, Laystall-st., London, E.C. (Telegrams: "Excoxeras, London." Telephone No. 10312, Central.) Registered June 8, 1898. Nominal capital: £10,000 in 20,000 10s. shares. 11,109 are issued & fully paid. Directors: C. F. Leighton, Esq. (chairman); H. W. C. Cox, Esq. (managing); Major C. W. Maunsell. Secretary, J. H. Webb.

Cox & Sons, electrical engineers, 80A, Preston-rd., Brighton. (Telephone Nos. 62, Corp. & Nat.)

Cox, Sons, Buckley & Co., art metal workers, 10, Henrietta-st., Covent Garden, London, W.C.

Coxeter, J., & Son, patent medical battery manufacturers, 30–32, Seaton-st., London, N.W. (Telegrams: "Coxeter, London." Telephone No. 417, King's Cross.)

Coxon, J., A.I.E.E., instructor in electric lighting, 45, Lyndhurst-ave., Streatham Hill, London, S.W.

Coxon, J., electrical & mechanical engineer, High-st., Cheadle, Staffs. (Telegs.: "Coxon, Cheadle.")

Cox-Walker, E., M.I.E.E., Messrs. Cox-Walkers, Ltd., electricians, Darlington.

Cox-Walker, Edgar Cooke, A.M.I.E.E., Messrs. Cox-Walkers, Ltd., Darlington.

COX-WALKERS, LTD., Electrical Engineers, Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.

Coy, T. J., electric bell fitter & metal worker, 164, Ferndale-rd., Brixton, London, S.W.

Coyle, Daniel, M.I.E.E., 17, Addison-rd., Bedford Park, London, W.

Cozens-Hardy, E. H., M.I.E.E., A.M.I.M.E., consulting engineer, c/o O'Gorman & Cozens-Hardy, 82, Victoria-st., Westminster, S.W. (Telegs.: "Cosmogony, London." Tel. No. 734, Westminster.)

Crace-Calvert & Thomson, Royal Institution Laboratory, 79A, Princess-st., Manchester.

Cragg, J. H., director Ingleton Electric Lighting & Power Co., Ltd., Greta Printing Works, Ingleton, Yorks.

Craig, Edwin E., A.M.I.E.E., 37, New King-st., Belfast.

Craig, J. Hally, district manager, British Westinghouse Electric & Manufacturing Co., Central House, New-st., Birmingham.

Craig, J. Richardson, electrical engineer, 145, Bath-st., Glasgow.

Craig, J. W., director Harrow-rd. & Paddington Tramways Co.

Craig, Thos. Ingram, A.M.I.E.E., Corporation Electricity Dept., 75, Waterloo-st., Glasgow.

Craigpark Electric Cable Co., Ltd., manufacturers of insulated wires & cables, Flemington-st., Springburn, Glasgow. (Telegrams: "Percha, Glasgow." Telephone Nos.: 20, Nat.; & S. 50, Corporation.) A. B. MacLean, managing director.

Cramb, Alex. C., A.M.I.E.E., A.M.I.MECH.E., borough electrical engineer, Croydon.

Cramer, Frank B., A.M.I.E.E., electrical engineer, 7, Kensington Court-gdns., London, W.

Cramp, Wm., A.M.I.E.E., consulting electrician, Atlantic-chbrs., Brazennose-st., Manchester. (Telegs.: "Cramping, Manchester." Teleph. No. 85, Chorlton.)

Crampton, Wm. John, M.I.E.E., electrical engineer, 73, Queen Victoria-st., London, E.C. (Teleph. No. 6057, Bank); & Cambridge.

Crampton & Co., electrical engineers. Head office: 73, Queen Victoria-st., London, E.C. (Teleph. No. 6057, Bank); & Llandaff-chbrs., Regent-st., Cambridge. (Teleph. No 48.)

Crane, Fredk., Chemical Co., makers of lacquer & varnish, 22 & 23, Newhall Hill, Birmingham. (Telegrams: "Chemical, Birmingham." Telephone No. 2379.)

Crapper, Ellis H., M.I.E.E., consulting electrical engineer & lecturer in electrical engineering, Department of Applied Science, The University, Sheffield.

Crathorne & Green Manufacturing Co., electrical engineers, Wagner-st., Old Kent-rd., London, S.E. (Telegs.: "Crathorne, London." Teleph. No. 1277, Hop.)

Craven, C., Chorley, Lancs. Director West Cumberland Electric Tramways Co.

Cravens, Ltd., railway carriage & wagon & tramcar builders, Darnall, nr. Sheffield. (Telegrams: "Craven, Sheffield." Telephone No. 1148.)

Crawford, C., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Crawford, F. C., A.I.E.E., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, London, E.

Crawford, Wm., A.M.I.E.E., 12, Queen Anne's Gate, London, S.W.

Crawford Municipal Technical Institute, Cork. *See* SCHOOLS.

Crawford & Balcarres, The Earl of, K.T., F.R.S., M.I.E.E., The Carlton Club, Pall Mall, S.W. Director London Electric Supply Corp., Ltd.; chairman The Syndicate of Electrical Engineers, Ltd.

Crawley, Chas. W. S., M.I.E.E., consulting electrical engineer, 89, Upper Richmond-rd., Putney, London, S.W.

Crawley, G. R. E., A.I.E.E., electrical engineer, 89, Upper Richmond-rd., London, S.W.

Crawshaw, C. B., A.I.E.E., Rufford Lodge, Dewsbury.

Crawshaw, E., electrical engineer, Malaga Electricity Co., Ltd.

Crawter, F. W., A.M.I.C.E., A.M.I.E.E., Chloride Electrical Storage Co., Ltd., 39, Victoria-st., Westminster, S.W.

Creak, Capt. Ettrick W., R.N., C.B., F.R.S., M.I.E.E., 9, Hervey-rd., Blackheath, S.E.

Creighton, R., The Snabs, Scotby, Carlisle. Director City of Carlisle Electric Tramways Co., Ltd.

Cremorne Motors, Ltd., mechanical & electrical engineers, Lots-rd., Chelsea, London, S.W.

Cresswell's Asbestos Co., Ltd., asbestos spinners & manufacturers, Wellington Mills, Bradford, Yorks. (Telegrams: "Asbestos, Bradford." Telephone No. 950, Nat.)

Crewe Corporation Electricity Works, Crewe, Cheshire. Engineer, H. H. Denton, M.I.E.E.

Crews, H. Clavell, M.I.E.E., Cromwell-bldgs., Blackfriars, Manchester.

Crews & Handford, consulting electrical engineers, Cromwell-bldgs., 11, Blackfriars, Manchester.

Cridge, A. J., A.I.E.E., meter superintendent, Corporation Electric Supply Dept., Commercial-st., Sheffield.

Crighton, G., superintendent Western Union Telegraph Co., 21, Royal Exchange, E.C. (Telegrams: "Western Union, London;" & "Unpack, London." Telephone Nos. 41 & 61, Avenue.)

Crinks, P. F., A.I.E.E., 123, Redland-rd., Bristol.

Crinion, F., director Dublin & Slane Co., Ltd.

Cripps, E. H., woodworker for electricians, 161, Kennington-rd., London, S.E.

Cripps, G., A.I.E.E., assistant electrical engineer, Corporation Electricity Works, Bedford.

Cripps, W. Harrison, 2, Stratford-pl., London, W. Chairman Metropolitan Electric Supply Co., Ltd.

Crisp, F. M., 5, Lansdowne-rd., London, W. Director South American Syndicate, Ltd.

Crisp, H. C., electrician, Corporation Electricity Works, Morley.

Crisp & Smith, electric bell fitters, Orwell-pl., Ipswich.

Critchley Bros., wiring contractors, Hall-st., St. Helens.

Crittall, Richard, & Co., electrical & general engineers & art metal workers, 27, Noel-st., Wardour-st., London, W. (Telegrams: "Crittall, London." Telephone No. 4416, Central.)

Croager Bros., suppliers of oil, engine-room stores & sundries for lighting stations, &c., Link-st. Works, Homerton, N.E. (Telegrams: "Croager, London." Telephone No. 160, Dalston.)

Croakatt & Pike, agents for electrical & mechanical plant & accessories, Caxton House, Westminster, London, S.W.

Crocker, Ernest, A.M.I.E.E., c/o City of Birmingham Electric Supply Department, 14, Dale End, Birmingham.

Crocket, G. H., electrical engineer, 49, Farlington-rd., Portsmouth.

Croft, B., A.M.I.E.E., assistant engineer Tramways Department, Corporation Electricity Works, Belfast.

Croft, Edgar, electrical engineer, Street House, Dudley Hill, Bradford.

Croft & Perkins, makers of turned shafting, pulleys, gearing, friction clutches, &c., Leeds-rd., Bradford, Yorks. (Telegrams: "Pulleys, Bradford." Telephone No. 349.)

Crofts, Alfred, model dynamo maker, Church-st., Dover.

CROGGON & CO., LTD., manufacturers of electric bell, telephone & electric light supplies, 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. (Telegrams: "Croggon, London;" "Croggon, Liverpool;" "Croggon, Glasgow." Telephone Nos.: 677, Bank, London; 1191, Liverpool; 3353, Glasgow.) *See advt. under* ELECTRICIANS—MFG.

Crombie, Jas., superintendent, Eastern Telegraph Co., Ltd., 5, Royal Bank-pl., Glasgow.

Cromer Urban District Council Electricity Works, Cromer, Norfolk. (Telephone No. 41, Cromer.) Engineer, E. Hesketh, A.M.I.E.E.

Crompton, Claud, A.M.I.E.E., Crompton & Co., Ltd., Arc Works, Chelmsford.

Crompton, R. E. B., Lieut-Colonel, C.B., M.I.C.E., M.I.E.E., Salisbury House, London Wall, London, E.C.; & Thriplands, Kensington Court, London, W. (Telephone No. 695, Kensington.) Chairman Kensington & Knightsbridge Electric Light Co., Ltd.

CROMPTON & CO., LTD., electrical engineers, manufacturers & contractors, Salisbury House, London Wall, London, E.C. (Telegrams: "Crompton, London." Telephone Nos.: Nat. 1959, London Wall; P.O. 488, Central); Chelmsford (Telegrams: "Crompton, Chelmsford." Telephone No. 2, Chelmsford); Glasgow, Manchester, Leeds, Birmingham, Bristol & Cardiff. Hew Stevenson, Esq., general manager; E. Reeves, secretary. Directors: John Trotter, Esq. (chairman); Bernard Gibson, Esq.; Carleton F. Tufnell, Esq.; L. H. Hanbury, Esq.; Col. R. E. B. Crompton. Share capital: £300,000; £255,000 issued & called up. Five per cent. debentures issued, £100,000. Dividends: 1899–1900, 1900–01, 7½ per cent.; 1901–02, 6 per cent.; 1902–03, 5 per cent.; 1903–04, 1904–05, 1905–06, 2½ per cent. *See advt. inside front cover.*

Crook, R. M., A.I.E.E., 89, Park View, Witton, Blackburn.

Crook, H. W., & Son, electric lighting contractors, 195, Westbourne Grove, London, W. (Teleph. No. 574, Western.)

Crookell, W., electrical engineer, Water-st. Works, Middleton, nr. Manchester (Telephone No. 0193); & at 9, Douglas-st., Higher Broughton, Manchester.

Crookell, W., & Co., electric light, power & telephone engineers, Water-st. Works, Middleton, nr. Manchester. (Telegrams: "Crookell, Middleton, Manchester." Telephone No. 0193.)

Crookes, Henry, A.R.S.M., M.I.E.E., F.C.S., 109, Ladbroke Grove, Notting Hill, London, W.

Crookes, Irwin S., A.M.I.E.E., Richmond, 113, Heythorp-st., Southfields, London, S.W.

Crookes, Sir William, D.SC. (hon.) Oxon, F.R.S., M.I.E.E., consulting electrical engineer, 7, Kensington-park-gardens, London, W. (Telegrams: "Crookes, London." Telephone No. 555, Paddington.) Chairman Notting-hill Electric Lighting Co., Ltd.

Cropper, Charlton, & Co., electrical engineers, Station-st., Nottingham.

Crosbie, J. B. Talbot, A.M.I.E.E., electrical engineer, Crosbie & Nutter, 134, Renfield-st., Glasgow.

Crosby Steam Gage & Valve Co., indicators, recorders & valves, 147, Queen Victoria-st., London, E.C. (Telegs.: "Crosby, London." Teleph. No. 7122, Central.)

Crosier, Stephens, & Co., carbons, stampings, machine tools, graphite, &c., 2, Collingwood-st., Newcastle-on-Tyne. (Telegrams: "Cromil, Newcastle, Tyne." Nat. Telephone No. 1461.)

Crosland, J. F. L., M.I.C.E., M.I.M.E., M.I.E.E., chief engineer, The Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester. (Telegrams: "Boiler, Manchester." Telephone Nos.: 1188, 4708 & 5214, Nat.; 7, P.O.)

Cross, E., A.M.I.E.E., engineer & manager, Corporation Tramways, Rotherham. (Telegs.: "Cross, Trams, Rotherham." Teleph. Nos.: Howard-st. office, 241; Depôt, 152; Power house, 138.)

Cross, Harold G. E., A.I.E.E., 56, Durnford-st., Stonehouse, Devon. (Telephone No. 0947, Plymouth.)

Cross, Wm., A.M.I.E.E., electrical engineer, 4, St. Nicholas-bldgs., Newcastle-on-Tyne.

Cross, W., electrician, 159, Belgrave Gate, Leicester.

Cross, W. H., assistant superintending engineer, Postal Telegraphs, S. District, Cork.

Cross Bros., electric bell fitters, 21, Working-st., Cardiff. (Telegrams: "Cross, Cardiff." Telephone Nos.: 530, Nat.; & 506, P.O.)

Cross & Co., electric fittings, Apollo Works, Blews-st., Birmingham (Teleph. No. 1178); & 214–222, St. John-st., Clerkenwell, E.C. (Teleph. Nos.: 725, Holborn; & 9901, Central.)

Cross & Cross, electrical engineers & contractors, Union Iron Works, Pleck-rd., Walsall (Telegs.: "Iron, Walsall." Teleph. No. 9); & 39, Victoria-st., Westminster, S.W. (Telegs.: "Puentes, London.")

Cross, G. & A. J., Ltd., electrical & mechanical engineers & lighting contractors, 14, High-st., Tunbridge Wells.

Cross, George, & Sons, lightning conductor manufacturers & erectors, Smethwick.

Crossley & Bould, electrical engineers, Cloth Hall-st., Huddersfield.

Crossley Bros., Ltd., Otto Gas Engine Works, Openshaw, Manchester. (Telegrams: "Crossleys, Openshaw." Telephone No. 419.)

Crossley, George, Ltd., pulley makers, wire-drawing machinists, &c., Albion Iron Works, Cleckheaton, Yorkshire. (Telegrams: "Crossleys, Cleckheaton." Telephone No. 39.)

Crotch, Arthur, telegraph & telephone engineer, Engineer-in-Chief's Department, G.P.O. (West), St. Martin's-le-Grand, London, E.C. (Teleph. No. 1005, Central.)

Crouch, A. P., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 106, Cannon-st., London, E.

Crouch, Sidney S., A.M.I.E.E., H. Davies & Spain, 586, Salisbury House, London Wall, E.C.

Crowden & Garrod, Ltd., makers of brazing & soldering lamps, Falcon House, Southwark-st. (Telegs.: "Nedworc, London." Teleph. No. 527, Hop.); Clenham-st.; & Southwark Bridge-rd., London, S.E.

Crowe, F. T., resident engineer, Isle of Wight Electric Light & Power Co., Ltd., Ryde, Isle of Wight.

Crowe, P. B., A.M.I.C.E., A.I.E.E., consulting engineer, Queen Anne's-chbrs., Westminster, London, S.W.

Crowe, W. M., secretary British L. M. Ericsson Mfg. Co., Ltd., Byron House, 82/85, Fleet-st., E.C.

Crowhurst & Lee, electric bell contractors & fitters, 2, Alexandra-rd., Wimbledon.

Crowley, John, & Co., Ltd., annealed castings for electrical purposes, Meadow Hall Iron Works, Sheffield. Aldermary House, Watling-st., London, E.C.; 69, Corporation-st., Manchester; & 79, West Regent-st., Glasgow. (Telegrams: "Crowley, Sheffield." Telephone No. 25.)

Crown Agents for the Colonies, Whitehall-gdns., S.W. (Telegrams: "Crown, London." P.O. Telephone Nos. 1632 & 1633, Victoria); & 1, Tokenhouse-bldgs., E.C. *See* CLASSIFIED SECTION.

Crown Coverings for boilers, piping, &c., in asbestos, magnesia, telluric cement & slag wool, enclosed in steel sheeting & removable. Over 96 per cent. saving in radiation. Unequalled for superheated steam. Cannot be impaired, however intense the heat. Sole makers: Sutcliffe Bros., Grosvenor Works, Godley, nr. Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

Crown Electric Heating Syndicate Ltd., electrical & general engineers, 15, Bury-st., St. Mary Axe, London, E.C. (Telegrams: "Kerrison, London." Telephone No. 4378, Avenue.) Registered Nov. 29, 1900. Nominal capital: £5000 in £1 shares, all issued & fully paid. Directors: J. Woodhead, Esq.; P. M. Bellis, Esq.; G. H. Hyde, Esq. Secretary, H. Auerbach.

Crowther, Alfd., A.M.I.E.E., electrical engineer, West Riding Asylum, Menston, Leeds.

Crowther, J., director City & Brixton Railway Co., 9 & 10, King-st., Cheapside, E.C.

Crowther, J. A., engineer, Urban District Council, Wallasey.

Crowther, J., B.SC. (Lond.), principal Municipal Technical College, Halifax. (Teleph. No. 493.)

Crowther, J. P., A.M.I.E.E., engineer to Urban District Council, Worksop, Notts.

Crowther, W. C., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Croxson, E. G., electrical & mechanical engineer, Vulcan Works, Southend.

Croydon Corporation Electricity Works & Electric Tramways, Factory-lane, Croydon. (Telephone Nos. 152 & 409, Croydon.) Alex C. Cramb, A.M.I.E.E., A.M.I.MECH.E., chief engineer.

Croydon & District Electric Lighting Co., Ltd., 7 & 8, Ironmonger-lane, London, E.C.

Croydon Polytechnic, Croydon. *See* SCHOOLS, CLASSIFIED SECTION.

Crozier, M., electrical contractor, Mendora-rd., Fulham, S.W.

Cruickshank, D., 138, Leadenhall-st., London, E.C. Director Indian Electric Supply & Traction Co., Ltd.

Cruikshank & Fairweather, patent agents & consulting engineers, 62, St. Vincent-st., Glasgow (Telegrams: "Patents, Glasgow." Telephone Nos.: 791 & 6395, Nat.; & 135, Corp.); & 65 & 66, Chancery-lane, London, W.C. (Telegrams: "Fanfaron, London." Telephone No. 5165, Holborn.)

Cruikshanks, F. L., A.I.E.E., 23, Primrose Hill, Low Fell, Gateshead-on-Tyne.

Cruise, E. G., A.M.I.E.E., electrical engineer, 17, Trebovir-rd., London, S.W.

Cruse Controllable Superheater Co., 5, Blackfriars-st., Salford, Manchester. (Telegrams: "Generator, Manchester." Telephone No. 1574.)

Crypto Electrical Co., electrical engineers, 155 & 157, Bermondsey-st., London, S.E. (Telegs.: "Commutator, London." A.B.C. 5th edit. Code. Teleph. No. 12830, Central.)

CRYSELCO, LTD., incandescent lamp manufacturers, Kempston Works, Bedford. (Telegs.: "Cryselco, Kempston." Teleph. No. 0677, Bedford.) Registered July 14, 1898. Nominal capital: £15,000 in 15,000 ordinary shares of £1 each, & £10,000 debentures. Issued: all the ordinary shares fully paid, & £8200 debentures. Directors: F. W. French, Esq. (chairman); M. Griffith, Esq.; H. S. Deacon, Esq. (managing). Engineer, A. R. Powell; secretary, H. Stanley Deacon. Dividends: 1905, 10 per cent. *See depôts & advt. under* INCANDESCENT LAMPS—ELECTRIC.

Crystal Palace Co.'s School of Practical Electrical Engineering, the Crystal Palace, London, S.E. Principal, J. W. Wilson, M.I.C.E., M.I.MECH.E.

Crystal Palace Old Students' Society. Hon. secretaries: R. J. Simpson, Engineers' Office, S.E. & C.R., London Bridge, & D. S. Malden, South-tower, Crystal Palace, S.E. Hon. treasurer: P. Griffith, M.I.C.E., M.I.M.E., 54, Parliament-st., S.W.

CRYSTALATE MANUFACTURING CO., LTD., insulating fittings manufacturers, 61½, Fore-st., London, E.C. (Telegs.: "Crystalate, c/o Dedron, London." Teleph. Nos.: Nat. 21, Bank; P.O., 11630, Central.)

Cuba Submarine Telegraph Co., Limited, 58, Old Broad-street, London, E.C. (Telegrams: "Silverbush, London.") Registered Jan. 22, 1870. Issued capital: £160,000 in ordinary shares of £10 each; & £60,000 in preference shares, likewise of £10 each; all being fully paid up. Directors: Chas. W. Parish, Esq. (chairman); George Keith, Esq.; Robert Kaye Gray, Esq.; Alexander G. Low, Esq. Secretary, Jas. Scott. Dividends: 1903, preference 10 per cent. per annum, 5 per cent. on ordinary & 2s. bonus; 1904, 10 per cent. on preference, 5 per cent. on ordinary; first half of 1905, 10 per cent. per annum on preference, 5 per cent. per annum on ordinary.

Cubey, T. H., wiring contractor, 43, Queen-st., South Shields.

Cullen, James, telegraph engineer, postal telegraphs, Southern District, Tipperary.

Cullen, W. H., electrical engineer & manager, Castner-Kellner Alkali Co., Ltd., Wallsend, S.O.

Culley, W. R., R.N.O., superintendent Submarine Department, Post Office Telegraphs (Cable Depôt), Woolwich.

Culligan, M., A.M.I.E.E., 64, Victoria-st., S.W.

Culverwell, E., The Parade, Minehead. Director Minehead Electric Supply Co., Ltd.

Cumberland Construction Co., Ltd., tramway & light railway contractors, 13, Spring-gdns., Manchester. Registered Nov. 30, 1900. Nominal capital: £10,000 in £100 shares. £3500 has been issued with £17 per share paid. Directors: T. D. Lingard, Esq. (chairman); Geo. Flett, Esq.; A. L. Ormrod, Esq.; T. S. Turnbull, Esq. Secretary, Jno. Hall.

Cumberland Power Synd., Ltd., 4, South Parade, Leeds. Registered Nov. 4, 1905. Nominal capital : £5000 in £5 shares. Directors : A. Lupton, Esq. ; W. F. Smith, Esq. ; J. T. Pullon, Esq. ; R. Williamson, Esq.

Cummings, Geo. Ernest, A.I.E.E., 1, Homefield-rd., Chiswick, London, W.

Cummings, R. H., director Topsham Electricity Supply Co., Ltd., Topsham, Devon.

Cummins, C. D. C., A.I.E.E., assistant electrical engineer, Tramway Power House, Osbourne-st., Hull. (Corp. Teleph. No. 445.)

Cummins, C. P. C., A.M.I.E.E., Pembroke Technical School, Ringsend, Dublin.

Cummins, Christopher J., A.M.I.E.E., 12, Lower Abbey-st., Dublin.

Cummins & Sons, electrical engineers, 12, Lower Abbey-st., Dublin.

Cunard, Sir Bache, Bart., Neville Holt, Market Harboro. Director Lanarkshire Tramways Co

Cundall, Sons & Co., Ltd., oil & gas engine makers, Shipley. (Telegs. : "Cundall, Shipley." Telephone No. 4.)

Cuningham, Granville C., M.I.C.E., general manager Central London Railway, Oxford Circus Station, London, W. ; director City of Birmingham Tramways Co., Ltd.

Cuningham, Sir Wm. J., K.C.S.I., Queen Anne's Mansions, S.W. Director Madras Electric Supply Corp., Ltd.

Cunliffe, E. H., A.M.I.E.E., Myron-pl., Belmont Hill, Lewisham.

Cunliffe, T. A., A.M.I.E.E., 41, Howards-lane, Putney, London, S.W.

Cunliffe & Croom, Ltd., machine tool makers, Broughton Iron Works, Manchester. (Telegrams : "Lathe, Manchester." Telephone No. 1886.)

Cunliffe-Owen, E., C.M.G., secretary Metropolitan Electric Supply Co., Ltd., 16, Stratford-pl., London, W. (Telegrams : "Kilowatt, London." Telephone No. 403, Paddington.)

Cunningham, Ch. J., A.I.E.E., electrical engineer, 22, Goodall-rd., Leyton, London, E.

Cunningham, D., director Manchester & Liverpool Electric Railway Synd., Ltd., 11, Cornhill, London, E.C.

Cunningham, H., Gorsey Cop, Gateacre. Director Liverpool District Lighting Co., Ltd.

Cunningham, Jas. C., A.I.E.E., Ivylea, Castle-gdns., Cathcart, N.B.

Cunningham, R. N., A.I.E.E., 171, Edgware-rd., London, W.

Cunningham, T. C., Lieut., R.A., A.I.E.E., c/o Cox & Co., 16, Charing Cross, London, S.W.

Cunningham & Houliston, mechanical engineers, 57, Neilston-rd., Paisley.

Cunnington, J. S., electrical engineer & contractor, 93, St. Martin's-lane, London, W.C. (Telegs. "Whardown, London." Teleph. No. 4934, Gerrard.)

Cunnynghame, H. H., C.B., M.I.E.E., electrician, Home Office, Whitehall, London, S.W.

Cupper, Tom, nickel plater, 17, Cross-st., Hatton Garden, London, E.C.

Curel, F. G., engineer, Witney Electric Supply Co., Ltd., Gloucester-pl., Witney.

Curnock, W. E. M., A.M.I.E.E., Technical College, Huddersfield.

Curphey, Harry, A.M.I.E.E., L.C.C. Tramways Reconstruction, 2, Exmouth Mansions, Exmouth-st., Rosebery-ave., London, E.C.

Currall, Percy F., electrical engineer, Whimple-st., Plymouth.

Curran Bros., electrical engineers & installation contractors, 97, Donegall-st., Belfast. (Teleph. No. 389 Y.)

Curtois, A. F. R., A.M.I.E.E., 11, Marloes-rd., Kensington, London, W.

Curtis, A., A.M.I.E.E., Red Friars, Radlett, Herts.

Curtis, J. P., electrical engineer, High-st., Weston-super-Mare.

Curtis, P. C., electrician, 2, Grafton-st., Dublin.

Curtis, Wm., & Sons, electrical engineers, contractors, &c., 98 & 99, Mid-abbey-street, Dublin. (Telegrams : "Curtis, Dublin." Telephone No. 343.)

Curtis's & Harvey, Ltd., makers of electric fuses, 3, Gracechurch-st., E.C. (Teleph. Nos. 580 & 581, London Wall.)

Curtis-Hayward, A. C., B.A., A.I.E.E. (Bowman & Curtis-Hayward), Maxwell House, Arundel-st., London, W.C.

Curwen, Charles, electrical engineer, 64, Victoria-st., London, S.W. (Teleph. No. 485, Westminster.)

Curwen, Maskell E., European manager, J. G. Brill Co., 110, Cannon-st., London, E.C.

Curwen-Hazel, H., A.I.E.E., Tramway Power Station, Holmbrook-rd., Preston.

Cushing, Thos., F.R.A.S., M.I.E.E., c/o Union of London & Smith's Bank, Croydon.

Cussons, G., electrical apparatus & mechanical modeller, The Technical Works, Lower Broughton, Manchester.

Cutbill, W. J. C., 37, Old Jewry, London, E.C. Director Electric Traction Co. of Hong Kong, Ltd.

Cuthberton, Stewart & Co., installation contractors, 167, Holm-st., Glasgow.

Cuthbertson, Chas., A.M.I.E.E., Electricity Supply Department, Longton, Staffs.

Cuthbertson, Jas. E., A.I.E.E., Glebe-st., Falkirk, N.B.

Cuthill, A., chief station engineer, Corporation Electricity Works, Sheffield.

Cutler, A. F., electrical engineer, 3, Walker-st., London, E.

Cutler, T. A. F., A.M.I.E.E., "Brookleaze," Lyncombe Vale, Bath.

Cutler, Wardle & Co., electricians & engineers, 35 & 37, Dickinson-st., Manchester.

Cutting Bros., Ltd., electrical engineers, Park Works, Stamford, Lincs. (Telegs.: "Cutting, Stamford." Teleph. No. 12.)
Cutting, F., & Co., electrical engineers, 70, St. John's-hill, Wandsworth, London, S.W.
Cuttriss, S. W., M.I.E.E., electrical engineer & expert, Prudential-bldgs., Park-row, Leeds. (Teleph. No. 270 X.)
Cyanite Paint Co., makers of fireproof cyanite priming, stains & paints, varnishes, &c., 163, Clapham-rd., London, S.W.

Dade, C. H., secretary British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.
Dafforn, F. C., A.I.E.E., "Cavendish," Greenhill-cres., Harrow-on-the-Hill.
Dagleas, J. T., electrical contractor, Burrow-st., South Shields.
Dagleas & Sons, wiring contractors, Fowler-st., South Shields.
Daimler Motor Co. (1904), 219–229, Shaftesbury-ave., W.C.
Dalby, E. O., Granville House, Granville-ave., Long Eaton. Director Harrington Electric Light Co., Ltd.
Dale, A. Arthur, electrician, Daisy-bank, Leckhampton, nr. Cheltenham, Glos. (Telephone No. 95, Cheltenham.)
Dale, C., engineer-in-charge, Electricity Works, Belfast.
Dale, Dr. F., Belmont-rd., Scarborough. Director Scarborough Tramways Co.
Dale, Sydney, A.I.E.E., electrician, 16, Rodmoor-rd., Ashby-rd., Loughborough.
Dales, Chas., optician & electrician, Westbourne, Bournemouth.
Dalglish, A. & W., boiler makers, Glasgow.
Dalkeith Electricity Works (Electric Supply Corporation, Ltd.), Dalkeith, Midlothian. (Teleph. No. 0199, Dalkeith.) Engineer, H. A. Tulloch.
Dallas, D. F., electrician, 13, Cromwell-rd., Wimbledon.
Dallas, J., installation contractor, 94, Hampton-rd., Birmingham.
Dallas, J. D., A.M.I.E.E., electrician, 67, Ridgmount-gdns., Gower-st., London, W.C. (Teleph. No. 5830, Central.)
Dalman, J. C., & Sons, electrical castings, River-st., Birmingham.
D'Almeida, E. M., director United Electric Light & Power Supply Co., Ltd.
Dalrymple, Jas., general manager, Corporation Tramways, Glasgow.
Dalrymple, Sir Chas., 20, Onslow-gdns., W. Director Metropolitan District Railway.
Dalton, Cornelius N., C.B., comptroller-general of patents, designs & trade marks, Patent Office, 25, Southampton-bldgs., London, W.C. (Telegrams: "Patent Office, London.")
Dalton, F. W., A.I.E.E., Brush Electrical Engineering Co., Ltd., Loughborough.
D'Alton, P. W., M.I.C.E., M.I.MECH.E., M.I.E.E., c/o Dick, Kerr & Co., Abchurch-yard, Cannon-st., E.C.
Dalton, W., A.I.E.E., A.M.I.M.E., assistant electrical engineer, Corporation Electricity Works & Electric Tramways, Newcastle-on-Tyne.
Dalton Lacquer Manufacturing Co., Ltd., cold lacquer manufacturers, 8, St. James's-sq., Manchester.
Dalzell, R. A., provincial superintendent, National Telephone Co., Ltd., Telephone-ave., Bristol. (Telegs.: "National Telephone, Bristol." Teleph. Nos. 952 & 955.)
Daniel, G. A., electrician, Nettlefolds, Ltd., Castle Works, Tydu, near Newport, Mon.
Daniell, W. F., A.M.I.E.E., 18, Sisters'-ave., Clapham Common, London, S.W.
Daniell & Mantle, electrical engineers, 39, Victoria-st., London, S.W. (Telephone No. 208, Victoria.)
Daniels, Ernest, A.M.I.E.E., Coventry Ordnance Works, Ltd., Coventry.
Danks, H. & T., Ltd., engineers & boiler makers, Crown Boiler Works, Netherton, Dudley. (Telegrams: "Danks, Netherton, Dudley." Telephone No. 25, Cradley.)
Danks, John, & Son, Proprietary, Ltd., mechanical engineers & brass founders, 32, Union-st., Wednesbury.
Danks, Thomas, & Co., Ltd., electrical engineers & contractors, Thurland-st., Nottingham. (Telegrams: "Danks, Nottingham." Telephone Nos. 65 & 44.) Registered 1881. Nominal capital: £50,000 in ordinary shares of £20 each. Issued: 200 shares fully paid, & 1600 shares with £10 paid per share. Directors: Alderman F. Pullman (chairman); Wm. Danks, Esq.; J. N. Greenall, Esq. (managing); H. Gee, Esq. (secretary). Electrical engineer, E. B. Greenall, A.I.E.E. Dividends: 1901 & 1902, 12½ per cent.; 1903 & 1904, 15 per cent.; & first half of 1905, at rate of 10 per cent.
Danvers, Alan, M.I.E.E., 1, Broad-st.-pl., London Wall, London, E.C.
Dargue, W. H., acetylene gas & electrical engineer, 57, Grey-st., Newcastle-on-Tyne.
Dargue Acetylene Gas Co., Ltd., manufacturers of acetylene gas apparatus & dealers in calcium carbide, &c., Newcastle-on-Tyne.
Dargue, Griffiths & Co., Ltd., electrical engineers, 51, North John-st., Liverpool.
Darke, W. C., electrician, 129, Seaford-rd., Tottenham, N.
Darker, A. H., A.M.I.E.E., A.M.I.M.E., J. Stone & Co., Ltd., Deptford, London.
Darlington, A. E., resident engineer, Chislehurst Electric Supply Co., Ltd., Chislehurst.
Darlington Corporation Electricity Works & Electric Tramways, Darlington. (Teleph. No. 135, Darlington.) Engineer & manager, J. R. P. Lunn.

Darlington Forge Co., Ltd., steel castings & forgings, Darlington (Telegs.: "Forge, Darlington"); & 50, Fenchurch-st., London, E.C. (Telegs.: "Cyclops, London." Teleph. No. 4251, Avenue.)

Darlington Technical College, Darlington. *See* SCHOOLS, CLASSIFIED SECTION.

Darrah, H. M., A.I.E.E. (of Baxendale & Co.), Avon Holm, Priestnall-rd., Heaton Mersey, nr. Manchester.

Dartford Urban District Council Electricity Works & Tramways, Dartford, Kent. J. D. Pember, A.M.I.E.E., engineer. (Teleph. No. 28, P.O.)

Dartmouth Electricity Supply Works, Dartmouth. (Telephone No. 3.) Urban Electric Supply Co., Ltd., proprietors. G. E. Smith, chief engineer.

Darton, F., & Co., electric motor & dynamo manufacturers, 142, St. John-st., Clerkenwell, E.C.; Works: 31, Gloucester-st., Clerkenwell; & Woodford.

Darwen Corporation Electricity Works. Engineer & manager, Chas. Garnett, A.M.I.E.E.; engineer & manager of electric tramways, R. W. Smith-Saville, A.M.I.C.E.

Darwen Municipal Technical Institute, Darwen. *See* SCHOOLS.

Darwin, Major Leonard, 12, Egerton-pl., S.W. Chairman India Rubber, Gutta Percha & Telegraph Works Co., Ltd.; director Spanish National Submarine Telegraph Co., Ltd.

Dashwood, E. S., consulting engineer, Eden Cottage, Whitcabbey, Belfast.

Dashwood, G., electrical engineer, Canterbury.

Dashwood & Sons, Ltd., general engineers, Sycamore Works, Wimbledon. (Telegrams: "Dashwoods, Wimbledon." Telephone No. 82, Wimbledon.)

Dasnières, V., chemical broker & agent, 10, St. Mary Axe, London, E.C. (Telegrams: "Dasnières, London." Lieber's Code used. Telephone No. 408, Central.)

Daubeny, E. C., A.I.E.E., I.R., G.P. & Tel. Works Co., Ltd., 106, Cannon-st., London, E.C. & 40, Edwardes-sq., Kensington, London, W.

Dauncey, G. D., A.M.I.E.E., 45, Newhall-st., Birmingham.

Dauncey, J. N., A.M.I.E.E., Old Ford Motor & Construction Co., 15, Barbican, London, E.C.

Davenport, F. R., M.I.E.E., c/o Peter Brotherhood's, Belvedere-rd., London, S.W.; & 4, Mount-st., Berkeley-sq., London, N.

Davenport, Wm., Hawthorn Villa, Prestwich, Manchester. Director Douglas Southern Electric Tramways, Ltd.

Davenport, G., & Co., electric cycle lamp makers, 108, Hatton Garden, London, E.C.

Davenport, Sparrow, & Co., electrical engineers, Blackfriars-st., Manchester.

Davenport Vernon & Co., Ltd., electric light, telephone & bell fitters, High-st., & Church-st., High Wycombe, Bucks. (Telegrams: "D. Vernon, High Wycombe." Telephone No. 19.)

Davey, A. G., Church-rd., Burgess Hill. Director Burgess Hill & District Electric Supply Co., Ltd.

DAVEY, PAXMAN & CO., LTD., manufacturers of steam engines & boilers, steam superheaters, gas & oil engines, Standard Iron Works, Colchester, Essex; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone Nos.: 52, Colchester; 697, Bank.) Registered April 26, 1898. Nominal capital: £250,000. Issued capital: £150,000 in £10 ordinary shares, fully paid, & £100,000 4 per cent. first mortgage debenture stock (amount of debenture stock now outstanding, £98,300). Reserve fund, £19,000. Directors: J. Paxman, Esq., C.E., J.P. (chairman); W. Paxman, Esq.; W. Marriage, Esq., J.P. Secretary, W. H. King. *See* ENGINE MAKERS—AUTOMATIC.

Davey, W. H., & Co., electrical engineers, 173, Uxbridge-rd., Shepherd's Bush, London, W.

Davidge, H. T., B.SC., M.I.E.E., professor of electricity & optics, Ordnance College, Woolwich, S.E.

Davidson, Col. C. M., 14, Victoria Park, Dover. Director Buenos Ayres Electric Tramways Co. (1901), Ltd.

Davidson, C. S., engineer, Barnes Urban District Council Electricity Works, Mortlake, S.W.

Davidson, Edmund, Captain, R.A., A.I.E.E., 84, St. Thomas'-st., Portsmouth.

Davidson, Henry, A.M.I.E.E., Electricity Works, Strawberry-rd., Pendleton, Lancs.

Davidson, Hugh S., A.I.E.E., Handley & Shanks, 12, Dawson-st., Dublin.

Davidson, W., electrical inspector, British Engine, Boiler & Electrical Insurance Co, Ltd., 12, King-st., Manchester.

Davidson & Co., Ltd., Sirocco electric fans & blowers, Sirocco Engineering Works, Belfast. (Telegs.: "Sirocco, Belfast." Nat. Teleph. No. 327.)

Davidson, Geo., & Co., pressed glass manufacturers, Teams Glass Works, Gateshead-on-Tyne. (Telegrams: "Davidson, Gateshead." Telephone No. 37, Gateshead.)

Davidson, W. M., & Co., electrical merchants & agents, 101, Bothwell-st., Glasgow.

Davie, J. F., electrical engineer, Palmer & Co., 7, Great Castle-st., Oxford Circus, London, W. (Teleph. No. 2342, Gerrard.)

Davie, H. A., Ltd., engineers, Holmside, Sunderland.

Davies, A. W., A.M.I.E.E., c/o Mavor & Coulson, Ltd., Mile End, Glasgow.

Davies, Benj., Goldenkey, Mardy. Director Mardy Electric Light Co., Ltd.

Davies, C. E., resident engineer, Wakefield & District Light Railway Co., Belle Isle, Wakefield.

Davies, D., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester. Director Mardy Electric Light Co., Ltd.

Davies, D. H., assistant engineer, Corporation Electricity Works, Darlington.

Davies, D. O. Sydney, B.SC., lecturer in physics & electrical engineering, City of Norwich Technical Institute, Norwich.

Davies, E., High-st., Ogmore Vale. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Davies, E. Ayerst, A.M.I.C.E., A.M.I.E.E., 124, Croydon-rd., Anerley, S.E.

Davies, E. R., Pwllheli, North Wales. Director North Wales & District Light Railway & Electric Power Syndicate, Ltd.

Davies, F., 21, Mincing-lane, London, E.C. Director Costa Rica Electric Light & Traction Co., Ltd.

Davies, F. E., A.I.E.E., A.M.I.M.E., 51, Tregunter-rd., London, S.W.

Davies, Fred. W., A.M.I.E.E., electrical engineer, Victoria Electrical Works, East Parade, Huddersfield.

Davies, H. S., A.I.E.E., Electric Light Works, Gt. Western Railway, 150, Westbourne-ter., Paddington, London, W.

Davies, W. A., A.M.I.C.E., consulting engineer, architect & surveyor, County-chbrs., Hounslow. (Teleph. No. 33.)

Davies, W. H., lecturer on mechanical engineering, Municipal Technical School, Manchester.

Davies, W. R., 10, Moorgate-st., London, E.C. Director Brompton & Kensington Electricity Supply Co., Ltd.; director Edmundson's Electricity Corporation, Ltd.; director Chelsea Electricity Supply Co., Ltd.; director North Melbourne Electric Tramways & Lighting Co., Ltd.

Davies, Arthur W., & Co., electrical engineers, 38, Fulham Palace-rd., Hammersmith, London, W.

Davies Bros. (Newport), Ltd., slate & slate slab merchants & manufacturers, London-wharf, Newport, Mon. (Telegrams: "Davies Bros., Newport." Telephone Nos.: 504, P.O.; & 130, Nat.)

Davies, C. H., & Co., manufacturers of electrical accessories, 160, Francis-st., Birmingham.

Davies, Geo., & Co., oil engine makers, Abergavenny. (Telegrams: "Engineer, Abergavenny." Telephone P.O. No. 4.)

Davies, G., & Son, chartered patent agents, 4, St. Anne's-square, Manchester. (Telegrams: "Inventor, Manchester." Telephone No. 3184.)

Davies, Hubert, & Spain, engineers & shippers, 586, Salisbury House, London, E.C. S. S. Crouch, London manager. (Telegs.: "Hudaspa, London." Teleph. No. 2351, Wall.)

DAVIES, KENT & STEWART, LTD., manufacturers of electrical accessories & flexible wires, 17, Berners-st., Oxford-st., London, W. (Telegrams: "Polarizing, London." Telephone No. 6510, Gerrard.) Works: 41, Berners-mews, W.

Davies & Metcalfe, Ltd., general engineers, 4, St. Ann's-sq., Manchester. (Telegrams: "Loco Works, Romilley.")

Davies, Parker & Co., dynamo oil manufacturers, Grays.

Davies Patent Boiler Co., 28, Victoria-st., London, S.W.

Davies, Tait, & Co., electrical contractors, 168, St. Vincent-st., Glasgow.

Davis, Alfred, A.M.I.E.E., Hollins-lane, Warrington.

Davis, A. G., A.M.I.E.E., Electricity Works, The Basin, Exeter.

Davis, Albert, A.M.I.E.E., 121–125, Charing Cross-rd., London, W.C.

Davis, Albert L., A.M.I.E.E., engineer & manager, Guernsey Electric Railway Co., Ltd., Guernsey.

Davis, Arthur, machine plate engraver, Pack Horse Yard, Huddersfield. (Telephone No. 0757.)

Davis, Charles, manufacturer of ivory goods, 29, Charles-st., Hatton Garden, London, E.C.

Davis, Charles M., A.I.E.E., c/o R. E. Crompton & Co., 21, Pearl Assurance-bldgs., Northumberland-st., Newcastle-on-Tyne.

Davis, Clement Frederick, A.I.E.E., Osmington, Priestly-rd., Sidcup.

Davis, E., 27, Old Jewry, E.C. Director East India Construction Syndicate, Ltd.

Davis, F. W., A.M.I.E.E., Cleveland Bridge & Engineering Co., Gateshead.

Davis, G. F., electric bell maker, 185, Vauxhall-bridge-road, London, S.W.

Davis, H. E., A.I.E.E., 81, Finchley-rd., London, N.W.

Davis, Henry, electric light & power engineer, All Saints' Works, Derby.

Davis, H. J., Killabey, Enniscorthy. Director Marconi's Wireless Telegraph Co., Ltd.; director Marconi International Marine Communication Co., Ltd.

Davis, I. R., 18, The Avenue, Minehead. Director Minehead Electric Supply Co., Ltd.

Davis, R. J., 10 & 11, Stonecutter-st., E.C. Director La Capital Tramways Co., Ltd., & La Capital (Extensions) Tramways Co., Ltd.; director La Capital Traction & Electric Co. (Buenos Ayres), Ltd.; director Buenos Ayres New Tramways Co., Ltd.

Davis, T., A.M.I.E.E., electrical engineer, Oaklands, Hill-lane, Southampton.

Davis, W., manufacturer of lamp shade fringe, silk cords & fancy trimmings, 36, 34 & 24, Spital-sq., Bishopsgate, London, E.C. (Nat. Telephone No. 9212, London Wall.)

Davis, W. H., jun., electrical engineer, All Saints' Works, Derby.

Davis, Edward, & Co., mica & corundum brokers & consulting experts, 3, Fen-ct., Fenchurch-st., London, E.C. (Telegrams: "Bulwark, London." Telephone No. 4243, Avenue.)

Davis Electric Lamp Co., incandescence lamp manufacturers, 17, Moor-st., Cambridge Circus, London, W.C. (Telegs.: "Unmatchable, London." Teleph. No. 7253, Central.)

Davis, H., & Co., Ltd., electric light fittings makers, Vulcan Works, Vauxhall-st., Birmingham.

Davis, H. C., & Son, electric light engineers, 39, St. James-st., Brighton. (Telephone No. 1438.)

DAVIS, J., & SON (DERBY), LTD., electric light & power engineers, All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby. A.B.C. & Lieber Codes used.) Registered July 13, 1900. Nominal capital: £35,000 in £1 shares. Directors: H. Davis, Esq.; M. Attwood, Esq.; C. P. Stevenson, Esq.; W. H. Davis, Esq.

Davis & Smith, fittings, Star Works, Bracebridge-st., Birmingham.

Davis & Son, electrical engineers & installation contractors, 120, Bute-st., Cardiff.

Davis & Soper, agents to Corporation of Cape Town, Port Elizabeth Municipality, Bloemfontein Corporation, Bulawayo Municipality, also Cape Peninsula Lighting Co., Ltd., 54, St. Mary Axe, London, E.C. (Telegrams: "Reposnos, London." Telephone No. 4481, Avenue.)

DAVIS & TIMMINS, LTD., manufacturers of screws & terminals, York-rd., King's Cross, N., & Wood Green, N. (Telegs.: "Conductivity, London.") Registered March 17, 1899. Nominal capital: £50,000 in £1 ordinary shares & £60,000 in £1 preference shares. Issued: 47,000 ordinary & all the preference shares, all fully paid. Directors: Sir H. C. Mance, C.I.E., M.I.C.E. (chairman); Sir H. Benbow, D.S.O., K.C.B., R.N. (retd.); Geo. E. Davis, Esq. (mngg.); W. Negus, Esq. *See* SCREWS.

Davis-Perrett, Ltd., oil separating plant, 13, Fenchurch-ave., London, E.C.

Davison, Alex., electrician & electrical instrument maker, 47, London-street, Glasgow.

Davson, S. F., mechanical & electrical engineer, 203, Maida Vale, London, W.

Davy, Cecil Wm., Capt., R.E., 4, Staff Quarters, Brompton Barracks, Chatham.

Davy, J. H., electrician, 2, Victoria-ave., New Barnet.

Davy, W. J., A.M.I.C.E., A.I.E.E., M.I.M.E., 44, St. Paul's-cres., Camden Town, London, N.W. Managing director Arc Lamps, Ltd.

Davy Bros., Ltd., electric light engine & boiler makers, Park Iron Works, Sheffield. (Telegrams: "Motor, Sheffield." Telephone No. 44.) Registered Oct. 10, 1872. Nominal capital: £135,000 in 30,000 £1 5 per cent. cumulative preference shares (27,061 issued) & 3000 £35 ordinary shares, of which £30 per share has been paid, & £30,000 5 per cent. mortgage debentures & £6100 mortgage. Directors: R. Eddison, Esq. (chairman); F. E. Smith, Esq.; A. J. Capron, Esq. (managing). Secretary, J. B. Bardsley. Dividends: 1902, 18*s.* per share; 1903, 24*s.* per share; 1904, 24*s.* per share.

Davy-Faraday Research Laboratory of the Royal Institution for the promotion by original research of the development & extension of chemical & physical science, 20, Albemarle-st., London, W. Director, Prof. Sir J. Dewar, LL.D., F.R.S.; superintendent, Dr. A. Scott, M.A., D.SC., F.R.S.

Dawbarn, R. A., M.I.E.E., consulting electrical engineer, Mordey & Dawbarn, 82, Victoria-st., London, S.W. (Telegs.: "Biphase, London." Teleph. No. 5086, Westminster.) Director Loughborough & District Electric Traction Synd., Ltd.

Dawe, P. H., A.M.I.C.E., A.M.I.E.E., electrical testing engineer, 1, Raymond-bldgs., Gray's Inn, London, W.C.: & 2, Cavendish-gdns., Clapham Park, S.W.

Dawes, F., director Underground Electric Railways Co. of London, Ltd., Hamilton House, Victoria Embankment, E.C.

Dawkins, H. J., electrical engineer, 55, Caversham-rd., Kentish Town, N.W.

Dawnay, Archibald Davis, consulting engineer, Wales & West of England Girder Works, East Moors, Cardiff. (Telegrams: "Dawnay, Cardiff." Telephone No. 694.)

Dawson, Alfred E., telegraph engineer, Postal Telegraphs, Limerick.

Dawson, Boyd, A.M.I.E.E., electrical engineer, 30, Bridge-ave. Mansions, Hammersmith, London, W.

Dawson, Chas. Wm., A.M.I.E.E., Clarence Iron & Steel Works, Leeds.

Dawson, J. E., A.M.I.E.E., mains superintendent, Corporation Electricity Works, West Hartlepool. (Telephone No. 378.)

Dawson, J. Wm., A.M.I.E.E., assistant electrical engineer, Tramways Department, Bridge-st., Bradford.

Dawson, Philip, M.I.C.E., M.I.E.E., M.I.MECH.E., consulting engineer, 29, Great George-st., Westminster, London, S.W. (Telegrams: "Kincaid, London.")

Dawson, J., & Son, electric light & bell fitters, Silvermills, Edinburgh. (Teleph. No. 2145.)

Dawson, Roger, Ltd., electric light engineers & contractors, art metal workers, &c., 8, Berners-st., London, W. (Telegrams: "Detector, London." Telephone No. 3975, Gerrard.)

Day, Arthur A., A.M.I.C.E., M.I.E.E., borough electrical engineer, Bolton.

Day, B., Chapel Allerton, Leeds. Director Yorkshire District Light Railway Syndicate, Ltd.

Day, B. J., A.M.I.E.E., Crowland, Llandaff, South Wales.

Day, C. F., electric bell manufacturer, 110, High-street, Stoke Newington, London, N.

Day, Chas., A.M.I.E.E., general manager Mirrlees Watson Co., Ltd., 45, Scotland-st., Glasgow.

Day, Gerald St. John, M.I.E.E., electrical engineer, Mumps Electrical Works, Oldham.

Day, H. S., Donington House, Norfolk-st., Strand, W.C. Director of companies associated with the British Electric Traction Co., Ltd.

Day, Percy C., c/o Acetylene Illuminating Co., Foyers, N.B.

Day, Sydney E., engineer, Corporation Electricity Works, Bury St. Edmunds, Suffolk.

Day, T. H., electrical engineer & contractor, Breadalbane-pl., Oban. (Telegs.: "Day, Electrician, Oban.")

Day, Davies & Hunt, patent & trade marks registration agents, 321, High Holborn, London, W.C. (Telegrams: "Registration, London.")

Day's Adjusting & Locking Points Co., Ltd., 39, Pearl-bldgs., Commercial-st., Portsmouth.

Dayson, A. R., M.I.E.E., tramways manager, Corporation Tramways Offices, Sunderland.
Deacon, H. S., managing director Cryselco, Ltd., Kempston, Beds.
Deacon, Maurice, M.I.C.E., M.I.E.E., Whittington House, nr. Chesterfield.
Dean, Ernest Wm., A.M.I.E.E., 12, Weymouth-ave., South Ealing, London, West.
Dean, H., A.I.E.E., 6, Gerald-rd., Lower Broughton, Manchester.
Dean, John, installation contractor, 32, Queen-st., Aberdeen.
Dean & Burden Bros., Ltd., motor manufacturers, Scout Motor Works, Salisbury.
Dean, Smith & Grace, manufacturers of machine tools, Worth Valley Tool Works, Parkside, Keighley. (Telegrams: "Grace, Keighley." Telephone No. 7288.)
Deane, H. F. E., A.I.E.E., Hereford Hotel, 6 & 7, Bolton Gardens West, South Kensington, London, S.W.
Deansgate Foundry, Ltd., iron founders & electrical & mechanical engineers, Deansgate, Bolton, Lancs. (Telegrams: "Bennis, Bolton.")
Dearlove, A. L., M.I.C.E., M.I.E.E., telegraph engr. (Clark, Forde & Taylor), 4, Great Winchester-st., E.C.
De Dion Bouton, Ltd., makers of Petrol Motors, Motor Dynamo Combinations, etc., 10, Great Marlborough-st., Regent-st., London, W. (Telegs.: "Andesite, London." Teleph. Nos. 8160 &8161, Central.)
DEE OIL CO., LTD., THE, oil manufacturers & refiners. Works & head office: Saltney, Chester (Telephone No. 213); 49, Lime-st., London, E.C. (Telephone No. 6340, Avenue); Colonial House, Water-st., Liverpool (Telephone No. 5516); & E. Pulsford, 10, rue Taitbout, Paris. (Telegrams: "Cestrian," Saltney, London or Liverpool.)
Deedes, A., The Manor House, Frenchay, Bristol. Director North Wales Power & Traction Co., Ltd.
Deefholts, E. C. R., A.I.E.E., "Anns Cot," Hastings.
Deep Leads Electric Transmission Co., Ltd., 20, Copthall-ave., London, E.C. (Telegs.: "Equicrural, London." Teleph. No. 5185, P.O., Central.) *A private company owning electrical plant to work their own mines.*
Deeside & District Electric Supply Co., Ltd., 129, Union-st., Aberdeen. Registered Feb. 16, 1906. Nominal capital: £10,000 in £1 shares.
Defiance Motor, Cycle & Electric Co., 86, Bispham-rd., Southport.
De Forest Wireless Telegraph Syndicate, Ltd., 6, Prince's-st., London, E.C. Registered July 18, 1905. Nominal capital: £120,000 in £1 shares, of which 23,007 have been issued. Directors: Rt. Hon. Lord Armstrong (chairman); A. M. Grenfell, Esq.; S. S. Bojesen, Esq. Secretary, F. Roche.
Defries, J., & Sons, Ltd., manufacturing electrical engineers, 146 & 147, Houndsditch, London, E.C. (Telegs.: "Defries, London." Teleph. Nos: 4327, Avenue; & 9614, Central. A.B.C. 4th, & 5th Edits., & Western Union Codes.)
De Grelle, Houdret & Co., electrical agents, 130, London Wall, London, E.C. (Telegrams: "Degrelle, London." Nat. Telephone No. 1858, London Wall; P.O. No. 2684, Central.)
Delagoa Bay Development Corporation, Ltd., electric tramway, waterworks & telephone owners, 3, Gracechurch-st., London, E.C. Registered Jan. 20, 1903. Nominal capital: £300,000 in £1 ordinary shares & £200,000 debentures. Issued: £267,400, fully paid, & £180,000 debentures. Directors: H. K. Heyland, Esq. (chairman); Frank Gotts, Esq.; W. B. Butler, Esq.; Dr. B. F. Cabral. Secretary, W. L. Castleden.
De Lattre, Alfred L., A.I.E.E., assistant superintending engineer, Post Office, Leeds.
Delaware Hard Fibre Co., insulating material manufacturers, 189, Central-st., London, E.C. (Telegs.: "Isolement, London.") *See* INSULATING MATERIALS & VULCANIZED FIBRE.
Delbrück, A., 61 & 62, Mauerstr., Berlin. Director Indo-European Telegraph Co., Ltd.
Delebecque, Victor, A M.I.E.E., Electric & Ordnance Accessories Co., Ltd., 27, Upper Priory, Birmingham.
Delhi Electric Tramways & Lighting Co., Ltd., Basildon House, Moorgate-st., London, E.C. Registered May 14, 1906. Nominal capital: £170,000 in £1 shares (140,000 "preferred & participating" & 30,000 ordinary).
De Linde, Albert, A.M.I.C.E., M.I.E.E., Sanctuary House, Tothill-st., Westminster, London, S.W.
Dell & Son, turbine importers, 26, Mark-lane, London, E.C. (Telegrams: "Cosgrove, London." Telephone No. 2275, Avenue.)
Dellagana, B., & Co., Ltd., electrotypers, 11, Shoe-lane, London, E.C.
Dellagana, James, & Co., electrotypers, Turnagain-lane, Farringdon-st., E.C.
Delta Metal Co., Ltd., manufacturers of "Delta" metal, manganese bronze, yellow metal, brass & other metallic alloys & Dick's patent extruded metals. Registered offices & works: East Greenwich, London, S.E. (Telegs.: "Delta, London." A.B.C. Code, 5th edition, used. Teleph. Nos. 249 & 250, Deptford.) Branch works: Birmingham. (Telegs.: "Extrusion, Birmingham." Teleph. Nos. 1118 & 4441.) Registered March 12, 1888. Nominal capital: £150,000 in ordinary shares of £1 each. 85,000 shares have been issued, & are fully paid. Directors: S. Sanders, Esq. (chairman); H. A. Dugard, Esq. (Birmingham); & J. W. Meyjes, Esq. (London). Dividends: 1901, 1902, 1903, 1904 & 1905, 12½ per cent. per annum.
Dempster, Moore & Co., Ltd., engineers' machine tool makers, 49, Robertson-st., Glasgow. (Telegs.: "Dempster, Glasgow." Teleph. Nos.: 504 & 505, Argyle; & 3905, Corp.)
Dendy, F. W., Eldon House, Osborne-rd., Newcastle-on-Tyne. Director Newcastle-on-Tyne Electric Supply Co., Ltd.

Denison, T., & Co., mechanical engineers, Arrow Works, West-st., Leeds. (Telegrams: "Denison, West-st., Leeds." Telephone No. 1160.)

Denner, E., & Co., electrical contractors, West-st., Sheffield.

Dennis, F. H., A.M.I.E.E., electric light engineer & contractor, High-st., Chelmsford, Essex. (Telegrams: "Dennis, Engineer, Chelmsford." Nat. Telephone No. 0181.)

Dennis, F. W., A.M.I.E.E., 49, Queen Victoria-st., London, E.C. (Telegs.: "Fredennis, London." Teleph. No. 343, Bank.)

Dennis, James H., & Co., Ltd., pure sulphate of copper manufacturers, Widnes, Lancs.; & 24, Chapel-st., Liverpool. (Telegrams: "Dennisson, Liverpool." Telephone No. 980, Central.)

DENNIS, W. F., & CO., wire drawers, Albert-bldgs., 49, Queen Victoria-st., London, E.C. (Telegrams: "Fredennis, London." Telephone No. 343, Bank.)

Denny, A., M.I.E.E., Leven Ship-yard, Dumbarton.

Denny, Wm., & Bros., electrical engineers & shipbuilders, Dumbarton (Telegrams: "Denny, Dumbarton." Telephone Nos. 1 & 15); & 19, St. Helen's-pl., London, E.C.

De Nordwall, A. C. Flesch, A.M.I.E.E., 2, Observatory-gdns., Campden Hill-rd., London, W.

De Nordwall, Chas F., M.I.E.E., 125, Charing Cross-rd., London, W.C. London director Allgemeine Electricitäts-Gesellschaft Berlin, & managing director A.E.G. Electrical Co. of South Africa, Ltd., Johannesburg & London.

Densham, Wm., A.M.I.E.E., c/o Marconi's Wireless Telegraph Co., 18, Finch-lane, E.C.

Dent, E., & Co., electrical contractors, 41, Stonegate, York.

Denton, E., electrical engineer, Town Council, Pudsey.

Denton, F. M., A.C.G.I., electrical engineer, Beverley, East Yorks.

Denton, H. H., M.I.E.E., borough electrical engineer, Corporation Electricity Works, Crewe.

Denton, J. J., teacher of electricity, Working Men's College, 46, Great Ormond-st., W.C.

Denton, C. J., & Co., engineers' stores contractors, 5, Laurence Pountney Hill, London, E.C. (Telegrams: "Sycee, London." Telephone No. 5625, Bank.)

De Pass, E., chartered patent (designs & trade mark) agent, 78, Fleet-st., London, E.C. (Telegrams: "Scilicet, London.")

Derby & Co., Ltd. (estabd. 1797), platinum dealers, 44, Clerkenwell-rd., London, E.C. (Telegrams: "Plativet, London." Telephone No. 13059, Central.) *See* PLATINUM SCRAP—DEALERS IN.

Derby Corporation Electricity Supply. Works: Sowter-rd., Derby. (Telegrams: "Electric, Derby." Works Telephone No. 237, Private House 98.) Chairman, Alderman A. Butterworth, J.P.; engineer & manager, T. P. Wilmshurst, M.I.E.E.; works superintendent, W. C. Pinn; superintendent of mains, E. Boissier.

Derby Electrical Co., Ltd., electrical manufacturing engineers, St. George's Engineering Works, Wood's-lane, Derby.

Derby Technical College, Derby. *See* SCHOOLS, CLASSIFIED SECTION.

Derbyshire, P., wiring contractor, Duke-st., St. Helens. (Teleph. No. 21 X.)

Derbyshire & Nottinghamshire Electric Power Co., Power Station, Ilkeston. (Telegs.: "Power, Ilkeston." Teleph. No. 38.) Incorporated by Act of Parliament, July 26, 1901. Nominal capital: £1,800,000 in shares of £1 each. Loans, £600,000. Directors: Dr. E. H. Fraser (chairman); G. H. Brougham Glasier, Esq.; A. R. Holland, Esq.; Sir J. T. McCraith; F. Faithfull Begg, Esq.; W. S. B. McLaren, Esq.; H. Rüffer, Esq. Consulting engineers, Bramwell & Harris; engineer & manager, A. E. Loos; secretary, J. F. Beatson, 85, Gracechurch-st., London, E.C.

De Rienzi, A. J. C., assistant engineer, Corporation Electricity Works, Newcastle-under-Lyme.

Dering, George E., M.I.E.E., telegraphic & electrical engineer, Lockleys, Welwyn, Herts.

Dermatine Co., Ltd., dermatine manufacturers, 95, Neate-st., Camberwell, London, S.E. (Telegrams: "Dermatine, London." Telephone No. 31, Hop.)

Dernier, Louis, & Co., electric light shade makers, 78, Newman-street, Oxford-street, London, W. (Telegrams: "Prettiness, London." Telephone No. 1908, Gerrard.)

Derriman, W. H., B.SC., A.I.E.E., 6, Beaumont-cres., West Kensington, W.

De Rusett, C. H., A.I.E.E., 40, St. Stephen's-ave., Shepherd's Bush, London, W.

Deutsch, Commercienrat Felix, director Electrical Co., Ltd., 121 & 125, Charing Cross-rd., W.C.

Deutsch, Franz, Warnford-court, Throgmorton-st., E.C. Chairman Electrical Co., Ltd.

Devey, A. C., M.I.E.E., Lennox House, Norfolk-st., London, W.C.

Devonport Corporation Electricity Works & Electric Tramways. (Telegrams: "Electricity Works, Stonehouse, Devon." Telephone No. 421.) J. W. Spark, engineer.

Devonport & District Tramways Co., Donington House, Norfolk-st., London, W.C. (Telegrams: "Devonport, c/o Tramway, London"); & Devonport. (Telegs.: "Milehouse Depôt, Devonport." Teleph. No. 62, Devonport.) A. V. Mason, manager. Incorporated by Act of Parliament, 1898. Nominal capital: £155,000 in £10 ordinary shares & £37,500 debentures. Issued: £132,470 ordinary shares, & £18,700 debentures, all fully paid. Directors: W. G. Bond, Esq. (chairman); J. S. Raworth, Esq.; J. F. Albright, Esq.; C. S. B. Hilton, Esq. P. N. Gray, secretary. Dividends: 1901, 6 per cent.; 1902 & 1903, 4 per cent.; 1904 (second half), 4 per cent.

Devonport Municipal Science, Art & Technical School, Devonport. *See* SCHOOLS.

Devonshire, J., A.I.E.E., 101, Finsbury Pavement, & 2, Stafford-ter., Phillimore-gardens, London, W. Managing director Metropolitan Electric Tramways, Ltd.; director North Metropolitan Electric Power Supply; chairman North Metropolitan Electrical Power Distribution Co., Ltd.; chairman St. Albans & District Electric Supply Co., Ltd.; director South Metropolitan Electric Tramways & Lighting Co., Ltd.

Dewar, E., A.M.I.E.E., 24, London-rd., High Wycombe, Bucks.

Dewar, Prof. Sir J., M.A., F.R.S., D.SC., LL.D., M.I.E.E., Royal Institution, Albemarle-st., London, W.; & 1, Scroope-ter., Cambridge.

Dewar Patent Tramcar Life Guard Co., makers of tramcar guards, 11, Reform-st., Dundee, N.B.

Dewey, Oswald, electrical engineer, Reason Manufacturing Co., Ltd., 14, New-st., Birmingham.

Dewhurst, —, electric light engineer, 52, North End-rd., West Kensington, London. (Telephone No. 1375, Western, P.O.)

Dewhurst, Edward, electrical engineer & contractor, Mount-st. Electrical Works, Preston. (Telegs.: "Dewhurst, Electrician, Preston." Telephone No. 81.)

Dewhurst's Engineering Co., Ltd., mechanical & electrical engineers, Attercliffe-rd., Sheffield.

De Winton, W. H., A.I.E.E., 60, Duke's-ave., Chiswick, London, W. (Teleph. No. 340, Chiswick.)

Dewrance & Co., anti-friction metal manufacturers, 165, Great Dover-street, S.E. (Telegrams: "Dewrance, London." Telephone Nos.: 437, Hop; & 9240, Central.)

Dewsbury Corporation Electricity Works & Tramways, Bradford-rd., Dewsbury. (Telegs.: "93, Bradford-rd., Dewsbury." Teleph. Nos. 225; Private, 301.) Engineer, R. H. Campion.

De Wynter, L. J., A.M.I.E.E., 6, Kemble-st., Prescot, Lancs.

Dexter, Arthur & Co., Ltd., cable wax manufacturers, 3, Pope's Head-alley, London, E.C. (Telegs.: "Pumiciform, London." Teleph. No. 1358, Central.)

Dexter, W., & Son, electric bell fitter, Wellingborough.

Diamond Castings Co., Falkirk.

Diamond Coal Cutter Co., electrical & general engineers, Stennard Works, Wakefield.

Diamond Reflector Syndicate, reflector & shade manufacturers, Dock House, Billiter-st., London, E.C. (Telephone No. 326, Avenue.)

Dibben & Barclay, electrical engineers, 170, Sloane-st., London, S.W. (Teleph. No. 1667, Kensington.)

Dibdin, W. J., F.I.C., F.C.S., consulting & analytical chemist, 2, Edinburgh-mansions, Howick-pl., Victoria-st., Westminster, London, S.W. (Telegs.: "Logically, London." Teleph. No. 292, Victoria.)

Dick, J. R., B.SC., M.I.E.E., joint managing director W. Lucy & Co., Ltd., Oxford.

DICK, KERR & CO., LTD., tramway engineers & contractors. Registered Aug. 24, 1899. Nominal capital: £350,000 in 6 per cent. cumulative preference shares of £5 each, of which £305,000 has been issued, & £300,000 in ordinary shares of £5 each, of which £260,000 has been issued, & £294,130 4½ per cent. debenture stock, all issued. Directors: John Kerr, Esq. (chairman); Claud T. Cayley, Esq. (deputy-chairman); G. Richardson, Esq.; D. C. Ellis, Esq.; T. D. Lingard, Esq.; R. H. Prestwich, Esq.; Geo. Flett, Esq. (managing director); W. Rutherford, Esq. (asst. managing). Secretary, F. Mott; assistant secretary, E. D. Johnson. Dividends (ordinary shares): 1900, 10 per cent.; 1901, 10 per cent.; 1902, 10 per cent. & 20 per cent. bonus; 1903, 10 per cent. & 5 per cent. bonus (free of tax); 1904, 1905 & 1906, 10 per cent. (free of tax).

	Telegrams.	*Telephone Nos.*
Head Office: Abchurch-yard, Cannon-st., London, E.C.	Dicker, London.	5877 & 457, Bank.
Works: Strand-rd., Preston, Lancs.; & Kilmarnock, N.B.	Motor, Preston. Britannia, Kilmarnock.	343 & 351. 5.
Branch Offices:		
Glasgow: 175, West George-st.	Solenoid, Glasgow.	1262, Argyle.
Manchester: Northern Assurance-bldgs., Albert-sq.	Dicker, Manchester.	4668.

Dick, R. & J., gutta-percha, canvas & balata driving band manufacturers, Glasgow; factory, Greenhead (Telegrams: "Guttapercha, Glasgow." Nat. Telephone No. 2534, & Corp. Y. 461); Birmingham; Manchester; Newcastle-on-Tyne; Leeds; Bristol; Belfast; Dublin; & 58, Queen Victoria-st., London, E.C. (Telephone No. 5065, Bank.)

Dick's Asbestos Co., asbestos manufacturers, 51 & 52, Fenchurch-st., London, E.C. (Telegs.: "Eagle, London." Teleph. No. 513, Avenue.)

Dickens, E., secretary to the Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-st., E.C.

Dicker, A., The Acme Motor & Traction Co., The Ham, Brentford.

Dickins, A. C., electric light & telephone contractor, 14, Kingswell-st., Northampton.

Dickins-Lewis, A., electrical engineer, Shrewsbury.

Dickinson, A. J., creosote, pitch, tar, &c., Surrey Canal, Deptford, London, S.E. (Telegrams: "Dickinson, Tar Works, Deptford." Telephone No. 403, Deptford.)

Dickinson, Alfred, M.I.E.E., Central House, New-st., Birmingham (Telegs.: "Traction, Birmingham." Teleph. No. 1823. A.B.C., McNeill's & Lieber's Codes); & 210, Gresham House, Old Broad-st., London, E.C. (Telegs.: "Noitcart, London." Teleph. No. 2548, London Wall.)

Dickinson, E. W., A.M.I.E.E., station superintendent, L.C.C. New Generating Station, East Greenwich.

Dickinson, Francis, A.I.E.E., Clifton-ter., Prescot-rd., St. Helens, Lancs.

Dickinson, Harold, A.M.I.C.E., M.I.M.E., M.I.E.E., electrical engineer, Corporation Electric Lighting Dept., Central Station, Whitehall-rd., Leeds. (Telegs.: "Electricity, Leeds." Teleph. Nos.: 3525 6, Office; & 2055, Works.)

Dickinson, W., National Telephone Co., Ltd., Northampton.

Dickinson, William, A.M.I.E.E., Beverleys, Spring Grove, Isleworth.

Dickinson, Alfred, & Co., civil, electrical & mechanical engineers, Central House, New-st., Birmingham (Telegs.: "Traction, Birmingham." Teleph. No. 1823. McNeill's, A.B.C. & Lieber's Codes used); & 210, Gresham House, Old Broad-st., London, E.C. (Telegs.: "Noitcart, London." Teleph. No. 2518, London Wall.)

Dickinson & Burne, Ltd., mechanical & electrical engineers, Church Acre Works, Guildford. (Telegrams: "Ploughshare, Guildford." Nat. Telephone No. 40.)

Dickinson, F. W., Ltd., electrical engineers & contractors, St. Ann's Works, Hunslet New-rd., Leeds. (Telegrams: "Electric, Leeds.")

Dicks, J., & Son, installation contractors, High-st., Winchester.

Dickson, E. H. L., A.M.I.E.E., mains superintendent, Electricity Works, Frederick-rd., Salford.

Dickson, J., forgings & magnet castings, 5, Laurence Pountney Hill, London, E.C. (Telegrams: "John Dickson, London." Telephone No. 107, Bank.)

Dickson, James, dynamo brush maker, 48, Gray's Inn-rd., W.C. (Telegrams: "Dicksonia, London." Telephone No. 4650, Holborn.)

Dickson, J. D. Hamilton, electrician, 6, Cranmer-rd., Cambridge.

Dickson, S., F.C.S., analytical & consulting chemist, 2, Broadway, Westminster, London, S.W. (Teleph. No. 117, Westminster.)

Dieppe, Richard C., A.M.I.E.E., electrical engineer, Lansdowne Lodge, Dartmouth-rd., Forest Hill, London, S.E.

Diesel Engine Co., Ltd., crude oil engines, 179, Queen Victoria-st., E.C. (Telegrams: "Dieselben, London." Teleph. No. 5848, Central.)

Dieselhorst, Wilhelm, A.M.I.C.E., Messrs. Siemens Brothers & Co., Woolwich, London, S.E.

Digby, Thomas J., electrical engineer, 32, Shaftesbury-ave., London, W. (Telegrams: "Ohmgeld, London." Telephone No. 1527, Gerrard.)

Digby, W. P., A.M.I.MECH.E., A.M.I.E.E., consulting electrical engineer & electro-chemist, 82, Victoria-st., Westminster, London, S.W. (Teleph. No. 748, Westminster.)

Diggle, Jas., electrical engineer, Co-operative Society, Bolton.

Dillon, A., electrical agent, 61, William-st., Dublin.

Dimmack, A., station superintendent, Corporation Electricity Works, Chester.

Dingle, Wm., A.I.E.E., 10, Barrington-rd., Brixton, London, S.W.

Dinham, Fawcus & Co., Ltd., coal factors & exporters, 3, Cross-lane, Coal Exchange, London, E.C. (Telegs.: "Fawcus, London." Teleph. Nos. 2304 & 2308, Avenue.)

DININ, ALFRED (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. (Telegrams: "Container, London." Telephone No. 6897, Central.) *See advt., page* 24.

Dinning & Cooke, electric bell fitters & contractors, 91–95, Percy-st., Newcastle-on-Tyne. (Telegrams: "Dinning, Newcastle, Tyne." Telephone Nos.: 1322, Nat.; 493, G.P.O.)

Direct Spanish Telegraph Co., Ltd., 66, Electra House, Finsbury Pavement, London, E.C. (Telephone No. 1128, London Wall.) Registered Nov. 8, 1872. Nominal capital: £65,000 in £5 ordinary shares, £30,000 £5 preference shares, £30,000 4½ per cent. first mortgage debentures & £20,000 4½ per cent. second mortgage debentures. Issued: £64,655 ordinary shares, £30,000 preference shares & £50,000 debentures, all fully paid up. Walter Judd, electrician; secretary, F. T. Preddle. Directors: The Marquis of Tweeddale, Kt. (chairman); Sir John Denison-Pender, K.C.M.G.; F. Alex Johnston, Esq. Dividends: 1900, 1901, 1902, 1903, 1904 & 1905, 4 per cent.; & first half of 1906, at rate of 4 per cent. per annum. The dividend on preference shares is a fixed sum, viz. 10 per cent. per annum.

Direct United States Cable Co., Ltd., General Offices, 50, Old Broad-st., London, E.C. (Telegrams: "Direct, London." Telephone No. 1384, Avenue.) Consulting electricians, Clarke, Forde & Taylor. T. Finnis, general manager & secretary. Directors: E. M. Underdown, Esq., K.C. (chairman); Sir James Pender, Bart.; C. E. Günther, Esq.; Jno. Varley, Esq.; The Hon. Thos. Cochrane, M.P.; H. C. B. Underdown, Esq. Incorporated July 17, 1877. Nominal capital: £1,300,000 in £20 shares. 60,710 shares have been taken up, & £1,214,200 agreed to be considered as paid. Dividends: 1899–1900, 3½ per cent.; 1900–01, 1901–02, 1902–03, 3¾ per cent.; 1903–04, 3 per cent.; 1904–05, 3¼ per cent.

Direct West India Cable Co., Ltd., 33, Old Broad-st., E.C. (Telephone No. 2914, Central.) Registered Sept. 1, 1897. Nominal capital: £120,000 in 24,000 shares of £5 each. Issued: 12,000 shares, & £2 10s. per share called up. There are £65,500 4½ per cent. debentures of £100 each, £120,000 issued. Directors: T. Skinner, Esq. (chairman); Lt.-Col. T. G. H. Glynn; Chas. R. Hosmer, Esq.; Geo. G. Ward, Esq.; Fred Ward, Esq. General manager, Joseph Rippon, Esq.; secretary, O. Rochs. Dividends: 1898-99, 5 per cent.; 1899–1906, 6 per cent. each year.

Distin, H. S., district manager, National Telephone Co., Exeter.

District Electric Co., electrical engineers & contractors, 39 & 40, Berry-st., Wolverhampton. Manager, Lionel S. Aldridge, A.I.E.E. (Teleph. No. 385.)

District Messenger & Theatre Ticket Co., Ltd., 100, St. Martin's-lane, London, W.C. (Telegs.: "Opponents, London." Teleph. No. 4056, Gerrard.)

Ditton Oil Mills (1904), Ltd., stearine elastic pitch, plastic bitumen & vulcanized bitumen, 31, North John-st., Liverpool. (Teleph. No. 5035.)

Dix, H. W. W., A.M.I.E.E., electrical engineer & agent, 44, Waterloo-st., Birmingham. (Telegs.: "Opossum, Birmingham." Teleph. No. 2525.)

Dixon, A. W., A.M.I.E.E., c/o George & Jobling, Trinity-st., Boar-lane, Leeds.

Dixon, E., electrical engineer, chairman & managing director Messrs. Blundell, Spence & Co., Ltd., Beverley-rd., Hull.

Dixon, Edward, A.M.I.E.E., 74, Bartholomew-rd., Camden-rd., N.W.

Dixon, E. H., B.SC., A.M.I.E.E., Hartley University College, Southampton.

Dixon, G., A.I E.E., 3, Aspley-rd., St. Anne's Hill, Wandsworth, London, S.W.

Dixon, H., A.M.I.E.E., resident engineer, North of Scotland Electric Light & Power Co., Ltd., Brechin.

Dixon, H. B., M.A., F.R.S., professor of chemistry & metallurgy, Owens College, Manchester.

Dixon, H. Leslie, A.M.I.E.E., engineer & manager, Leatherhead & District Electricity Co., Ltd., Leatherhead, Surrey. (Teleph. No. 6, P.O.)

Dixon, John, A.M.I.M.E., consulting electrical & mechanical engineer, 219, St. Vincent-st., Glasgow. (Telephone No. 2638, Corp.)

Dixon, Lewis Wm., A.I.E.E, mains engineer, South Wales E. P. D. Co., Royal-chbrs., Queen-st., Cardiff.

Dixon, Rowland Edward, A.I.E.E., Moorville House, Moor-rd., Leeds. (Telephone Nos.: 0319, Headingley; & 981, Leeds.)

Dixon, R. F., assistant electrical engineer, Corporation Electric Tramways Power Station, Osborne-st., Hull. (Corp. Teleph. No. 443.)

Dixon, Walter, M.I.E.E., M.I.M.E., 30, Kelvinside-gdns., Glasgow, W.

Dixon, W. H. T., assistant electrician, Central Station, C. L. C. Railway Co., Manchester.

Dixon & Co., electrical contractors, Crown-st, Kettering. (Telegs.: "Dixon Co., Kettering." Teleph. No. 13 X.)

Dixon & Corbitt & R. S. Newall & Co., Ltd., lightning conductor manufacturers, Gateshead-on-Tyne (Telegrams: "Dixon, Gateshead." Telephone No. 1159); 130, Strand, London, W.C. (Telegrams: "Corbitt, London." Telephone No. 2705, Gerrard); & 4, West Nile-st., Glasgow. (Telegrams: "Wirerope, Glasgow.")

Dixon, Robert, & Son, electrical agents, Pudding Chare, Newcastle-on-Tyne. (Telephone No. 2134.)

Dixon, S., & Son, Ltd., manufacturers of gun-metal steam fittings, tramway equipment, engineers, &c., 31, Swinegate, Leeds. (Telegrams: "Brass, Leeds." Telephone No. 197.)

Dixon, Thos., & Sons, electric light contractors, 44, Buckingham Palace-rd., 47, Lower Belgrave-st., & 62, Vauxhall Bridge-rd., London, S.W. (Telephone No. 722, Westminster.)

Dixon, Walter, & Co., electric power & light engineers, 59, Bath-st., Glasgow. (Telegs.: "Fresco." Teleph. Nos.: 3656, Royal Nat.; 3659, Central, Corp. A.B.C. Code.)

Dixon, W. F., & Co., gear wheels & pinions, 60, Percival-st., C.-on-M., Manchester.

Dobbie, J. Thos., electrical engineer, 58, Pollok-street, Glasgow.

Dobbie, R. S., M.I.E.E., A.M.AM.I.E.E., Wood Cot, St. Brianels, nr. Coleford, Glos.

Dobbie, McInnes, Ltd., electrical & engineering instrument manufacturers, 45, Bothwell-st., Glasgow. (Telegrams: "Compass, Glasgow." Nat. Telephone Nos.: 1545, Argyle; & Corporation, 2913.) London office: 113, Fenchurch-st., E.C.

Dobie, L., The Hill, Heswall, nr. Birkenhead. Director Heswall Electric Light Co., Ltd.

Dobson, J. M., director Fort William Electric Lighting Co., Ltd., Fort William.

Dobson, Sydney T., M.I.C.E., M.I.E.E., chief engineer, St. James & Pall Mall Electric Light Co., Ltd., & joint engineer Central Electric Supply Co., Ltd. Offices: Carnaby-st., Golden-sq., W. (Telegrams: "Fulleresco, London." Telephone Nos.: 5082, Gerrard; & 9383, Central.)

Dobson, Wm., A.M.I.E.E., 17, Melrose-ave., Willesden Green, London, N.W.

Dobson, R. & H., electrical engineers & contractors, 39, Dean-rd., Salford.

Dockrell, H. J., Capt., R.N., A.I.E E., Sydney House, Shefford, R.S.O., Beds.

Dockrell, W. R., director Frinton-on-Sea & District Electric Light & Power Co., Ltd., 6, Old Jewry, E.C.

Dodd, Cyril H., A.I.E.E., Bôd Amlwg, Pentre Hill, Mold, N. Wales.

Dodd, F., 2, Pump-ct., Temple, E.C. Director Bogota Telephone Co., Ltd.

Dodd, F. K., electric bell fitter, York-st., Broadstairs, Kent. (Telephone No. 091.)

Dodd & Dodd, consulting & civil engineers, 37, Waterloo-st., Birmingham.

Dodimead, J., & Son, general wood workers for electricians, 50, Tottenham Court-rd., London, W. (Telephone No. 1137, Central.)

Dodman, A., & Co., Ltd., engineers & boiler makers, Highgate Foundry, King's Lynn. (Telegrams: "Dodman, Lynn." Telephone No. 20.)

Dodson, John, electric light contractor, 29, Fetter-lane, London, E.C.

Dodsworth, G., maker of vertical & water tube boilers, Depôt Road Boiler Works, Middlesborough, Yorks.

Dolby, D. J., electrical engineer, Victoria-st., Great Grimsby.

Dolby & Williamson, consulting electrical engineers, 8, Princes-st., Westminster, London, S.W. (Teleph. No. 782, Victoria.)

Dollar Electricity Works (The Electric Supply Corporation, Ltd.), Dollar, N.B. Engineer, K. M. Scott Moncrieff.

Dollery & Palmer, engineers' agents, 110, Cannon-st., London, E.C. (Telegrams: "Deflection, London.")

Dollond & Co., scientific instrument makers, 35, Ludgate Hill (Telephone No. 1375, Central); 62, Old Broad-st., E.C.; & 5, Northumberland-ave., London, W.C.

Dolter Electric Traction, Ltd., 3 & 4, Great Winchester-st., London, E.C. (Telegrams: "Hauvette, London." Telephone No. 1645, London Wall.) Registered May 21, 1901. Nominal capital: £100,000 in £1 shares.

Dolton, Wm., A.M.I.E.E., sectional engineer, Postal Telegraphs, 1 & 2, College Villas-rd., Swiss Cottage, London, N.W.

Domeier & Co., Ltd., platinum refiners, &c., 20, Harp-lane, London, E.C. (Telegrams: "Domeier, London." Telephone No. 2220, Avenue. A.B.C. Code.)

Don, A. L., director South African Lighting Association, Ltd., 16, King-st., E.C.

Donachie, J. A., resident engineer, Electric Light Works, Coatbridge.

Donald, James T., & Co., Ltd., air propeller manufacturers & electricians, 35, M'Alpine-st., Glasgow (Telegs.: "Mechanikos, Glasgow." Teleph. Nos.: Nat., 66, 1232 & 1524, Argyle; & Post Office, 2239 & 308.)

Donaldson, J. M., A.I.E.E., electrical engineer, 80, Wellesley-rd., Croydon.

Donaldson, J. Wylie, A.M.I.E.E., consulting electrical engineer, Winter's-bldgs., St. Ann-st., Manchester.

Doncaster Corporation Electricity Works & Tramways, Doncaster. E. S. Rayner, A.M.I.E.E., chief engineer & tramways manager. (Teleph. Nos. 43 & 94.)

Donnelly & Moore, consulting engineers, 19, Nassau-st., Dublin.

Donner, Wm. H., M.I.E.E., electrical engineer, Ingleside, 31, Lyndhurst-rd., Hampstead, London, N.W.

Donnet, J. W., A.M.I.E.E., Power Station, Trafford Park, Manchester.

Donnison, Fred. A., A.I.E.E., 116, Great Portland-st., London, W. (Telegs.: "Lightly, London." Teleph. Nos.: 2794 & 2319, Gerrard; & 480, Paddington.)

Donnison, Sillem & Co., contractors for installations, 116, Great Portland-st., W. (Telegrams: "Lightly, London." Telephone Nos.: 2794 & 3319, Gerrard; & 480, Paddington.)

Donnithorne, H. E., A.M.I.E.E., 76, Queen's-gate, London, S.W.

Donoghue, E., Corporation Electricity Works, Blackpool.

Donovan, Edward W., M.I.M.E., A.I.E.E., Donovan & Co., Ltd., Broughton Bridge Iron Works, Salford, Manchester.

Donovan, G. O., M.I.E.E., electrical engineer, 126, Chester-rd., Erdington, Birmingham.

Donovan, H. C., M.I.E.E., electrical engineer, 51, Coleraine-rd., Westcombe-park, London, S.E.

Donovan, J. W., consulting engineer, 11, Norfolk-st., Sunderland. (Telegrams: "Donovan, Sunderland." Telephone No. 743.)

Donovan & Co., electrical manufacturers & general suppliers, 12, Barwick-st., Birmingham. (Telegs.: "Efficiency, Birmingham." Teleph. No. 4280, Central.)

Donovan & Co., Ltd., mechanical & electrical engineers, Broughton Bridge Iron Works, Salford. E. W. Donovan, managing director. (Telegs.: "Dazzle, Manchester." Teleph. No. 3404. A.B.C. Code.)

Doran, J. G., chief assistant electrical engineer, Bermondsey Electricity Works, London, S.E.

Dorchester & District Electric Supply Co., Ltd., 11, Carteret-st., Queen Anne's Gate, Westminster, London, S.W. Registered Dec. 13, 1904. Nominal capital: £1000 in £1 shares.

Dorchester Electric Light & Power Co., Ltd. Registered May 10, 1906. Nominal capital: £15,000 in £1 shares.

Dore, John, & Co., coppersmiths, &c., High-st., Bromley-by-Bow, London, E. (Telegrams: "Cuivre, London." Telephone No. 136, Eastern.)

Dorking Electricity Supply Co., Dorking, Surrey. Resident engineer, C. Lakin Smith.

Dorman, A. H., c/o Dorman & Smith, 94, Charing-cross-rd., London, W.C. (Telegrams: "Prefix, London." Telephone No. 4761, Gerrard.)

Dorman, C. M., M.I.E.E., c/o Dorman & Smith, Ordsal Electrical Works, Salford, Manchester. (Telegrams: "Current, Manchester." Telephone No. 1741.)

Dorman, G. E., electrical engineer, Foregate-st., Stafford.

Dorman, Long & Co., Ltd., steel & iron manufacturers, Middlesborough (Telegrams: "Dorman, Middlesbrough." Telephone No. 20); & 19, Victoria-st., London, S.W. (Telegrams: "Pugilism, London." Telephone No. 152, Westminster.)

DORMAN & SMITH, manufacturing electrical & general engineers & electricians, Ordsal Electrical Works, Salford, Manchester; 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney, N.S.W. *See advt., page* 21.

Dormann, E., engineer, Aron Electricity Meter, Ltd., 80A, Salusbury-rd., Kilburn, London, N.W.

Dorrell, G. H., 4, Elm-ct., Temple, E.C. Director Church Stretton Electric Supply Co., Ltd.

Dorrell, H. B., A.I.E.E., mains superintendent, Corporation Electricity Works, Bury.

Doudney, S. P., A.M.I.E.E., chief assistant engineer, British Insulated & Helsby Cables, Ltd., Prescot, Lancs.

Doughty, C. H., A.I.E.E., Shoreditch Town Hall, Old-st., London, E.C. (Telephone No. 701, London Wall.)

Doughty, F. J., electrical engineer, 9, Queen-st., Margate. (Telegs.: "Doughty, Builder, Margate." Teleph. No. 9 Y. 1.)

Douglas, C. E., A.M.I.E.E., Salford Iron Works, Manchester.

Douglas, G. C., & Co., chartered patent agents, 41, Reform-st., Dundee. (Teleph. No. 1487.)

Douglas Southern Electric Tramways, Ltd., 2, Atlantic-chbrs., 7, Brazennose-st., Manchester; & Douglas, Isle of Man. (Telegrams: "Traffic, Douglas.") Registered Oct. 4, 1895. Nominal capital: £50,000 in £1 shares (of which 30,000 are preference). 25,973 preference & 15,472 ordinary have been taken up, & £1 per share called. Directors: T. J. Hutchinson, Esq. (chairman); E. A. Hopkins, Esq.; Wm. Davenport, Esq.; J. E. Winslow, Esq. Engineer, F. W. Ketley; secretary, J. E. Sharples. Dividends: 1901, 7 per cent. on preference shares & 2½ per cent. on ordinary shares; 1902, 6 per cent. on preference shares; 1903, 7 per cent. on preference shares; 1904 & 1905, 6 per cent. on preference shares.

Douglas, William, Ltd., electrical engineers & contractors for electric lighting, telephones, &c., 11, Picardy-pl., Edinburgh. (Telephone No. 1037.) Registered Nov. 7, 1900.

Douglas, Wm., & Sons, Ltd., electrical engineers, Douglas Wharf, Putney, London, S.W. (Telegrams: "Ibidem, London." Telephone No. 242, Battersea.)

Douglass, W. T., M.I.E.E., M.I.C.E., 15, Victoria-st., S.W.

Dould, Charles, manufacturer of silk & cotton covered wire, 1A, Fore-st., London, E.C. (Telegrams: "Afforest, London." P.O. Teleph. No. 3052, Central.)

DOULTON & CO., LIMITED, manufacturers of Patent Stoneware Conduits, Pipes & Troughing for underground electric mains, Stoneware & Porcelain for electrical purposes, Insulators for Electric Traction, Power Transmission, Telegraph & Telephone. Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, nr. Dudley, Staffs.; Smethwick, nr. Birmingham; St. Helens, Lancs.; Paisley, N.B.; Burslem, Staffs.; & at Birmingham, Liverpool, Manchester, Glasgow & Paris. (Telegrams: "Doulton, London;" "Doulton, Birmingham;" "Doulton, Liverpool;" "Doulton, Manchester;" "Doulton, Glasgow;" & "Doulton, Burslem." Telephone Nos.: 469 & 470, P.O. Victoria, & 9676, Central; 345, Birmingham; 680 (Central), Liverpool; 997, Manchester; 506, Argyle, Nat., & 3746, Corp., Glasgow; 302, Burslem.) Registered Nov. 29, 1898. Nominal capital: £400,000 in £1 ordinary shares, £350,000 in 5 per cent. cumulative preference shares, £350,000 in first mortgage irredeemable debenture stock. Issued: all the shares, fully paid. Directors: H. L. Doulton, Esq. (chairman); R. D. Doulton, Esq.; W. A. Turnbull, Esq.; & E. C. Hannen, Esq. Secretary, C. L. Jones. Dividends: 4 per cent. on debenture stock & 5 per cent. on preference shares per annum. *See* CABLE MFRS.

Dove, W. E. B., A.M.I.E.E., Crown-st., Darlington.

Dove, W. E., & Co., Ltd., electrical engineers, Bondgate, Darlington.

Dover, F. W., manufacturer of carved wood electric light fitting, switch & electric blocks, &c., Sycamore Tree Works, 114, Rockingham-st., Sheffield. (Telegs.: "Sycamore, Sheffield." Teleph. No. 393.)

Dover Corporation Electricity Works, Dover. (Telegrams: "Electric, Dover." Telephone No. 291.) Engineer, L. W. Woodman, M.I.E.E.

Dover Corporation Tramways. (Telegs.: "Trams, Dover." Teleph. No. 219D, Dover.)

Dover School of Science, Art & Technology, Dover. *See* SCHOOLS.

Dovey, C. H., electric bell fitter, Camborne.

Dowling, E., chief engineer, Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., London, E.C.

Dowling, F. N., electrical engineer, Swan-bldgs., Edmund-st., Birmingham.

Dowling, J., & Co., electrical engineers, 5, Upper Queen-st, Belfast.

Down, Fred. J., M.I.E.E., A.M.I.C.E., F.C.S., advisatory electrical engineer, expert & supplier of traction & lighting specialities, 6, 7 & 8, Crutched Friars, London, E.C.; & for insulation specialities only, Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down. (Telegrams: "c/o Windsail, London." London Telephone No. 5063, Central.)

Down Bros., Ltd., electro-medical apparatus manufacturers, 21, St. Thomas-st., Borough, London, S.E. (Telegrams: "Down, London." Telephone Nos.: 965, Hop; & 8339, Central.)

Downe, Reginald Sydney, M.I.E.E., borough electrical engineer, Electricity Department, Eastbank-st., Southport.

Downer, Harold, electric light engineer, 110, High-st., Watford. (Telephone No. 0256.)

Downes, F., A.M.I.E.E., Great Northern Railway Telegraph Superintendent's Office, Retford, Notts.

Downham, Joseph, electrical engineer, Fleet-st., Bury, Lancs.

Downham, John, & Co., engineers, Barnbrook Iron Works, Bury, Lancs. (Telegrams: "Barnbrook, Bury." Telephone No. 37.)

Dowsett, H. M., A.I.E.E., electrician, Marconi's Wireless Telegraph Co., 18, Finch-lane, London, E.C.

Dowsing, H. J., M.I.E.E., electrical engineer, 24, Budge-row, Cannon-st., London, E.C. (Telephone No. 469, Bank.) Managing director Dowsing Radiant Heat Co., Ltd.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row, Cannon-st., London, E.C.; West End Medical establishment: 28, York-pl., Baker-st., W.; & branches at Acton, Aberystwyth, Bath, Bournemouth, Belfast, Birmingham, Bristol, Bromley, Buxton, Balham, Barmouth, Brixton, Bradford, Boxhill, Croydon, Cambridge, Canterbury, Cheltenham, Cork, Dublin, Durham, Exeter, Eastbourne, Exmouth, Edinburgh, Folkestone, Glasgow, Harrogate, Hastings, Hull, Hindhead, Leamington, Lymington, Llandrindod Wells, London, Margate, Manchester, Malvern, Matlock, Newcastle, Nottingham, Norwood (Upper), Oldham, Oxford, Plymouth, Richmond, Ryde, Scarborough, St. Leonards, Sheffield, Shanklin, Southsea, Southport, Streatham Hill, Strathpeffer Spa, Tunbridge Wells, Twickenham, Upper Norwood, Ventnor, Woodhall Spa, Weston-super-Mare, Windsor, Whitley Bay, York, & at Hospitals & Infirmaries throughout the country. Registered Dec. 8, 1898. Directors: Wm. Conolly, Esq. (chairman); H. J. Dowsing, Esq. (managing); A. C. Newstead, Esq.; D. McLaurin, Esq. Secretary, Geo. F. Stevens. Nominal capital: £12,000 in shares of £1 each, & £10,000 debentures.

Dowson, A. H., A.I.E.E., manager West of England & South Wales Branch, Veritys, Ltd., 3, Queen-sq., Bristol.

Dowson, J. Emerson, M.I.C.E., A.I.E.E., 39, Victoria-st., Westminster, S.W. (Telegs.: "Gaseous, London.")

Dowson Economic Gas & Power Co., Ltd., gas generating machines ("The Dowson Gas System is the cheapest form of motive power for central stations, owing to low fuel consumption & trifling waste while the apparatus is standing still, ready for work"), 39, Victoria-st., Westminster, London, S.W. (Telegrams: "Gaseous, London." Telephone No. 29, Victoria.)

Doxford, C. H., electric lighting contractor, High-st. West, Sunderland. (Nat. Teleph. No. 200.)

D. P. BATTERY CO., LTD. Works & offices: Lumford Mills, Bakewell, Derbyshire. (Telegs.: "Battery, Bakewell." Teleph. No. 2.) London address: 11, Victoria-st., S.W. (Telegs.: "Cumulose, London." Teleph. No. 291, Westminster.) Registered May 11, 1895, with a capital of £10,000 in £1 shares, divided into 4996 "A," 4996 "B," & 8 "other" shares. The whole of these have been subscribed for, & the full amount has been called on all the shares, & £20,000 first debentures, £8000 issued, & £5000 second debentures, all issued. Directors: W. Claude Johnson, Esq.; B. M. Drake, Esq.; J. M. Gorham, Esq. Secretary, A. C. Read. Dividends: 1903, 1904 & 1905, 20 per cent.; 1906, 25 per cent. *See* BATTERIES—STORAGE.

Drabble, W. T., millwright & electrical engineer, Providence Works, West-st., Leeds. (Teleph. No. 02869.)

Drake, A. P., electrical inspector, British Engine, Boiler & Electric Insurance Co., Ltd., 12, King-st., Manchester.

Drake, Bernard, M.I.E.E., 66, Victoria-st., Westminster, London, S.W.; & Hurnford, Sanderstead. (Telephone No. 71, Croydon.) Chairman Drake & Gorham, Ltd.; director Jandus Arc Lamp & Electric Co., Ltd.; director D. P. Battery Co., Ltd.

Drake, Henry, 66, Campden Hill Court, London, W. Chairman Callender's Cable & Construction Co., Ltd.

Drake, Mervyn G., A.M.I.E.E., director Drake & Gorham, Ltd., 66, Victoria-st., London, S.W.

Drake, W., electrician, Electric Parade, Clacton-on-Sea; also Frinton-on-Sea.

Drake & Dauncey, electrical engineers, 45, Newhall-st., Birmingham; & 94, Market-st., Manchester.

DRAKE & GORHAM, LTD., electrical, mechanical & hydraulic engineers, 66, Victoria-st., Westminster, London, S.W.; 47, Spring-gardens, Manchester; & Baltic-chbrs., 50, Wellington-st., Glasgow. (Telegrams: "Accumulator, London;" "Accumulator, Manchester;" & "Accumulator, Glasgow." Telephone Nos.: 71 & 393, Westminster; P.O. 1218, Victoria.) Registered May 22, 1901. Nominal capital: £125,000 in £1 shares, all issued & fully paid. Directors: B. M. Drake, Esq. (chairman): J. M. Gorham, Esq.; J. C. Forster, Esq.; E. H. Story, Esq.; Mervyn G. Drake, Esq.; G. C. Hamilton, Esq. Secretary, A. C. Read. Dividends: 1901–02, 7 per cent.; 1902–03, 8 per cent.; 1903–04, 6 per cent.; 1904–05, 6 per cent. *See advt., page* 31.

Draper, C. H., D.SC., head master, Municipal Technical College, Richmond-ter., Brighton.

Draper, George, A.I.E.E., 82, Shooters Hill-rd., Blackheath, London, S.E.

Draycott, G. E., A.M.I.MECH.E., lecturer in engineering, Borough Polytechnic, Borough-rd., London, S.E.

Drew, J. W., A.I.E.E., 20, St. Petersburg-pl., Bayswater, London, W.

Dring, J., manager National Telephone Co., Ltd., St. Nicholas-st., Worcester. (Tel. No. 5, Worcester.)

Dring & Fage, scientific & electrical instrument makers, 56, Stamford-st., London, S.E. (Telegs.: "Dringauge, London." Teleph. No. 11323, Central.)

Driscoll, P. J., electrical engineer, 12, Soho-st., London, W.

Driver, G. W. S., A.I.E.E., electrical engineer, Twickenham & Teddington Electric Supply Co., Ltd., The Green, Twickenham.

Driver, Geo., & Sons, electrical & mechanical engineers, Hythe-rd., Willesden Junction, London, N.W. (Telegrams: "Britto, London." Telephone No. 79, Harlesden.)

Dronfield Malleable Casting Co., malleable iron & steel founders, Dronfield, nr. Sheffield. (Telegrams: "Casting Co., Dronfield.")

Drummond, Alfred L. E., A.M.I.E.E., district manager National Telephone Co., Ltd., Newcastle-on-Tyne.

Drummond, Bernard G., engineer, The Electric Supply Corporation, Ltd., St. Andrews, N.B.

Drummond, H. H. J. W., A.I.E.E., Syon House, East Budleigh, Devon.

Drummond Bros., Ltd., lathe & tool makers, Rhydes Hill, nr. Guildford.

Drummond Co, Ltd., electric light fittings makers, 17, South-st., Finsbury, London, E.C. (Telegrams: "Sharewort, London.")

Drury, Guy Lyndon, A.M.I.E.E., c/o N. E. Railway Electrification Scheme, Carriage Works, Walker Gate, Newcastle.

Drury Bros., electric bell-gong founders, &c., Stock Orchard-st., Holloway, London, N.

Dryburgh, Alex. P., A.I.E.E., chief assistant electrical engineer, Electricity Works, Dewsbury.

Drysdale, C. V., D.SC., M.I.E.E., A.C.G.I., Electrical Engineering & Applied Physics Department, Northampton Institute, St. John-st.-rd., Clerkenwell, London, E.C. (Telephone No. 3072, Holborn.)

Drysdale, Wm., A.M.I.E.E., chief assistant engineer, Electric Power Station, Stavordale-rd., Weymouth.

Drysdale & Co., Bon Accord Engine Works, Glasgow. (Telegrams: "Bonaccord, Glasgow." Telephone Nos.: 2505, Nat.; & Y. 279, Corp.)

Dublin Corporation Electricity Works. Engineer, Mark Ruddle, M.I.E.E.

Dublin Electric Lighting Syndicate, Ltd., 16, Dame-st., Dublin. Registered Nov. 17, 1899. Nominal capital: £5000 in £1 shares. Directors: C. W. Heley, Esq.; Vere W. Brown, Esq.

Dublin Electrical Supply Stores, 41, Fleet-st., Dublin. (Teleph. No. 58 X.)

Dublin General Agency, 18, Furlough-ter., Fairview, Dublin. (Teleph. No. 858.)

Dublin Local Section of the Institution of Electrical Engineers. A. W. Whieldon, chairman; T. Tomlinson, vice-chairman; W. Tatlow, hon. secretary, 20, Fleet-st., Dublin.

Dublin & Lucan Electric Railway Co., Conyngham-rd. Terminus, Dublin. (Telegs.: "Lucan, Tramway, Dublin." Teleph. No. 2282.) Authorized capital: £30,000 in £10 ordinary shares, £22,750 in 5 per cent. cumulative preference shares of £10 each & £17,580 debentures. Issued: all the ordinary & 1900 preference & £16,330 debentures, all fully paid. Directors: W. Mooney, Esq., J.P. (chairman); W. F. Clarke, Esq., C.E.; J. W. Hill, Esq., J.P.; Captain C. Colthurst-Vesey, J.P., D.L. Secretary & electrical engineer, H. Harrison.

Dublin & Slane Co., Ltd., Dublin. Registered Aug. 1, 1902. Nominal capital: £1000 in £1 shares. Issued: £500. Directors: J. M'Briscoe, Esq.; F. Keegan, Esq.; N. Crinion, Esq. (secretary); P. Boyle, Esq.; P. J. O'Connor, Esq.

Dublin Technical School, Kevins-st., Dublin. *See* SCHOOLS, CLASSIFIED SECTION.

Dublin United Tramways Co., 1896, Ltd., 9, Upper Sackville-st., Dublin. (Telegrams: "Tramways, Dublin." Telephone No. 58. Registered Sept. 28, 1896. Nominal capital: £600,000 in £10 ordinary shares & £600,000 in £10 preference shares. Issued: All the ordinary & preference shares, fully paid. £300,000 3½ per cent. mortgage debentures & £300,000 3½ per cent. "B" debenture stock, & £212,000 mortgage bonds of old companies taken over. Directors: W. M. Murphy, Esq. (chairman); P. B. Bernard, Esq.; W. F. Cotton, Esq.; S. Beeton, Esq.; W. Anderson, Esq. (managing). Secretary, R. S. Tresilian, A.I.C.E.I.; electrical engineer, Percy S. Sheardown, A.M.I.E.E. Dividends: 1903, 1904 & first half of 1905, 6 per cent. on preference & ordinary.

Duchy Development Association, Ltd., electrical engineers, 89 & 90, Cheapside, London, E.C.

Duckenfield, E. E. V., A.M.I.E.E., "Estcourt," Derngate, Northampton.

Duckenfield, E. E. Vernon, & Co., electrical engineers & contractors, Northampton.

Duckering, C., lamp post manufacturer, Rosemary-lane, Lincoln. (Telegs.: "Duckering, Lincoln." Teleph. No. 63.)

Duckham, Heber, dynamometer maker, British Grove, Chiswick, W. (Telegrams: "Duckham, London.")

Duckham, Alex., & Co., Ltd., oil & chemical manufacturers, Phœnix Wharf, Millwall, London, E.

Duckitt, John Brentmall, electrical engineer, 179, Great Norbury-st., Hyde, Cheshire.

Duckitt, Talbot, electrical engineer, Hawthorndale Cottage, Paton-st., Alloa, N.B.

Dudbridge Iron Works, Ltd., makers of Dudbridge gas & oil engines & gas plants, Stroud, Glos. (Telegs.: "Humpidge, Cainscross." Nat. Teleph. No. 7.)

Duddell, W., M.I.E.E., electrical engineer, 47, Hans-pl., Chelsea, London, S.W.

Dudgeon, F. S., agent for Kodolitsch's Electric Drilling Machines, 30, Great St. Helen's, London, E.C. (Telegrams: "Plasmo, London." Telephone No. 1434, Avenue.)

Dudley Corporation Electricity Works & Tramways, Dudley. (Teleph. No. 67.) C. E. Savage, A.I.E.E., engineer.

Dudley Electrical Company, electricians, High-st. & King-st. Works, Dudley. (Telegrams: "Theedam, Dudley." Telephone No. 14.)

Dudley, Stourbridge & District Electric Traction Co., Ltd., Donington House, Norfolk-st., W.C. (Telegs.: "c/o Tramway, London." Teleph. Nos. 6821 & 6822, Gerrard.) Nominal capital: £100,000 in £5 ordinary shares, £100,000 in £5 5 per cent. preference shares, all issued & fully paid, & £100,000 debentures. Issued: £85,300 in debentures. Directors: A. C. Miles, Esq. (chairman); J. A. Lycett, Esq. (managing); S. R. Blundstone, Esq. Engineering manager, G. Conaty; traffic manager, R. W. Cramp; secretary, B. Kingsford. Dividends: 1900, 4 per cent.; 1901 & 1902, 4½ per cent. on ordinary; 1903, 4 per cent.; 1904, 3 per cent.; 1905, 5 per cent.

Duesbury, Trevor, A.M.I.E.E., engineer & manager, Corporation Electricity Works, Sutton Coldfield.

Duff, H. J., wiring contractor, Dumbarton-rd., Stirling.

Duff, William, & Co., boiler coverers, 60, Elliott-st., Glasgow. (Telegs.: Coverers, Glasgow." Teleph. Nos.: 771, Nat.; & 4056, Corp.)

Dufton, H. C., Herne Bay Pier Co., Ltd., Herne Bay.

Dufty, N. E., elec. engineer, c/o Lahmeyer Electrical Co., Ltd., 109 & 111, New Oxford-st., London, W.C.

Dugard Bros., manufacturers of rolled metals, copper wire, tape, & solid bar for electrical & other purposes, Vulcan Mills, Birmingham. (Telegrams: "Vulcan, Birmingham." Telephone No. 98.)

Dugdale, Joseph W., general manager & engineer, Corporation Tramways, Ashton-under-Lyne.

Dugdill, E. J., & Co., electrical contractors, Failsworth, near Manchester. (Telegs.: "Dugdills, Electricians, Failsworth." Teleph. No. 41, Failsworth.)

Dugdill, John, & Co., electric fittings makers, Failsworth, nr. Manchester. (Teleph. No. 41.)

Dukas, M., 31, Orsett-ter., Hyde Park, W. Director Electricity Supply Co. for Spain, Ltd.

Duke, A. M., A.M.I.E.E., electrical engineer, 69, Lansdowne-rd., Old Charlton, London, S.E.

Duke, James, electric bell fitter, 4, Bethlehem-st., Great Grimsby.

Dukes, Bernhard, patent agent, 1, Great James-st., Bedford-row, London, W.C. (Telegrams: "Erfinder, London." Telephone No. 9570, Central.)

Dulverton Electric Lighting Co., Ltd., High-st., Dulverton, Somerset. Registered Feb. 17, 1904. Nominal capital: £3000 in £1 shares. A memorandum of satisfaction in full of a mortgage, dated May 9, 1905, to secure £150, has been registered. Directors: B. Bayley, Esq.; G. B. Fisher, Esq.; F. M. Lock, Esq.; J. A. Moyle, Esq.; W. B. Woodbury, Esq.; J. Moore, Esq.; I. H. Edwards, Esq. Secretary, R. Sowton Barrow.

Dumbarton Electricity Works (Electric Supply Corporation), Dumbarton.

Dumbrell, J. A., A.I.E.E., 8, Charleville Circus, Sydenham, London, S.E.

Duncan, E. MacGregor, consulting engineer, 27, Old Queen-st., Westminster, London, S.W.

Duncan, J. M., inspecting engineer, 19, Minna-rd., Pitsmoor, Sheffield.

Duncan, W. E. D., A.M.I.E.E., Tyler & Freeman, 20, New Bridge-st., London, E.C. (Telegrams: "Potential, London." Telephone No. 859, Holborn.)

Duncan, W. J. V., electrical engineer, Phœnix Works, Mentmore-ter., London Fields, N.E. (Telegs.: "Foxship, London.") *See advts.*, Arc Lamp Mfrs.—Elec. & Measuring Instrument Mfrs.—Elec.

Duncan, Watson & Co., manufacturers of dynamo & other oils, Dashwood House, New Broad-st., London, E.C. (Telegrams: "Olivoline, London." Nat. Telephone No. 2545, London Wall.)

Dundalk Electric Tramways Co., Ltd., 118, Grafton-st., Dublin. Registered Nov. 23, 1896. Nominal capital: £1000 in £1 shares, with power to increase. Directors: Wm. Nolan, Esq.; R. M. D. Sanders, Esq.; M. Nugent, Esq. Secretary, R. N. Metcalfe; engineer, J. H. Ryan.

Dundee, Broughty Ferry & District Tramways Co., Ltd., 4, High-st., Dundee. (Telegs.: "Brief, Dundee." Teleph. No. 1267.) Registered April 4, 1905. Nominal capital: £40,000 in £1 ordinary shares, £50,000 in £1 preference shares & £40,000 debentures. Issued: 28,743 ordinary shares, & all the preference shares & debentures, all fully paid. Directors: Ld. Provost Brownlee (chairman); G. Balfour, Esq.; Jno. Smith, Esq.; D. W. Wybrants, Esq. Engineer & manager, J. H. Shepherd; secretary, Ed. Gowan. Dividends: first half of 1906, 6 per cent. on preference shares.

Dundee Corporation Electricity Supply & Electric Tramways, Dundee. (Telegs.: "Energy, Dundee." Teleph. No. 1254.) General manager, H. Richardson, M.I.E.E.

Dundee Institute of Architects (D. L. Allan, hon. secretary), 41, Reform-st., Dundee.

Dunham, White & Co., Ltd., wholesale manufacturers of lubricators & oil feeders, electrical goods, &c., Harrow Green Works, Leytonstone-rd., London, N.E. (Telegrams: "Esellvie, London.")

Dunhill, Alfred, Ltd., makers of accumulators for motor cars, 359–61, Euston-rd., London, N.W. (Telegs.: "Dunsend, London." Teleph. Nos.: 527, North; & 1909, Holborn.)

Dunlop, D. J., Ladyburn, Port Glasgow, Greenock. Director Greenock & Port Glasgow Tramways Co.

Dunn, C. T., electric light engineer, 11, Tideswell-rd., Eastbourne.

Dunn, Edmund, electrician, Queen-st., Ramsgate (Telegs.: "Edmund Dunn, Ramsgate." Teleph. No. 100); & 8, The Broadway, Broadstairs. (Teleph. No. 16 Y.)

Dunn, H. E., electrician, Marconi's Wireless Telegraph Co., Ltd., 18, Finch-lane, London, E.C.

Dunn, W. J., chief electrician, Law Accident Insurance Society, Ltd., 215, Strand, London, W.C.

Dunn, Walter T., secretary of The Junior Institution of Engineers, 39, Victoria-st., London, S.W. (Telephone No. 912, Victoria.)

Dunn, H., & Son, electric lighting contractors, 32, Newington Causeway, London, S.E. (Teleph. No. 1167, Hop.)

Dunton, E. W., engineer & manager, British Accumulator Co., Ltd., Parliament Mansions, Victoria-st., Westminster, S.W. (Telegs.: "Burghship, London." Teleph. No. 919, Victoria.)

Du Pasquier, A. E., A.M.I.E.E., A.M.I.M.E., c/o British Westinghouse Co., 102, St. Mary-st., Cardiff.

Dupré, Aug., PH.D., F.R.S., F.C.S., analytical chemist, 2, Edinburgh Mansions, Howick-pl., London, S.W. (Telegrams: "Dupresis, London." Telephone No. 1870, Victoria.)

Durant, J. H., A.M.I.E.E., Banner Rest, S. Edward's-rd., Gosport.

DURANT, B. & R., electrical contractors for mine lighting, power & signalling, Chapeltown, nr. Sheffield. (Telegrams: "Durant, Chapeltown, Sheffield.")

Durell & Co., electrical engineers, 58, Fenchurch-st., London, E.C. (Telephone No. 350, Avenue.)

Durham, Churchill & Co., Hallamshire Motor & Engineering Works, Grimesthorpe, Sheffield. (Telegrams: "Velometer, Sheffield." Nat. Telephone No. 3046, Sheffield.)

Durham Collieries Electric Power Co., Ltd., Philadelphia, Co. Durham. (Telegs.: "Power, Shiney Row." Teleph. No. 16, Houghton.) Registered Jan. 31, 1905. Nominal capital: £125,000 in £1 shares, 100,000 6 per cent. cumulative preference shares of £1 each & 25,000 ordinary shares of £1 each. A deed of charge, dated Jan. 25, 1906, to secure £75,000, has been registered. Directors: Sir Douglas Fox; H. S. Berg-Leim, Esq.; H. R. Hogg, Esq.; Capt. C. A. Osborne. Secretary, F. Abraham; consulting engineers, Harper Bros. & Co.; engineer-in-chief, C. W. Nicoll; resident engineer, W. J. S. Jones.

Durham & District Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C. Registered Nov. 30, 1903. Nominal capital: £30,000 in £1 shares. Issued: £7. Directors: W. J. Greer, Esq. (chairman); G. J. Somerville, Esq.; R. P. Simpson, Esq. Secretary, C. H. Godward.

Durham Electricity Works. *See* County of Durham Electrical Power Distribution Co.

Durnford, C. W., engineer, South Metropolitan Electric Tramways & Lighting Co., Ltd., Electricity Works, Sutton, Surrey.

Durrant, F., electrical engineer, 28, Windsor-rd., Bexhill-on-Sea.

Dussek, A. E. H., manager of the British Electrical Trade Supply & Bitumen Co., Canal Bank, Trundley-rd., Deptford, S.E.

Dussek Bros. & Co., oil manufacturers, Verney-rd., Old Kent-rd., S.E. (Telegrams: "Dussek, London." Telephone No. 1239, Hop.)

Düsseldörfer Eisen und Draht Industrie (Schwarte & Hammer), wire makers, 6, Lime-st., London, E.C.

Dutilh-Smith, McMillan & Co., tramcar builders, 29, Great St. Helens, London, E.C. (Telegrams: "Millimodus, London." Telephone No. 759, Avenue.)

Dutton, S., superintendent, Telegraph Department, Relay Station, Haverfordwest.

Dutton, Wm. Allwood, A.M.I.E.E., 18, Gladstone-rd., Loughborough, Leicester.

Dutton, E. K., & Co., consulting engineers & patent agents, Queen's-chbrs., 5, John Dalton-st., Manchester. (Telegrams: "Dotus, Manchester." Telephone No. 752, Nat.)

Dutton, F., & Co., lightning conductor manufacturers & erecters, Heckmondwike, Yorks.

du Verge, Leopold de R., deputy borough electrical engineer & tramways manager, Newport, Mon.

Dwyer, J. J., telegraph engineer, Postal Telegraphs, Southern District, Waterford.

Dyer, A. R., Palm Hall, Winchester. Director Winchester Electric Light & Power Co., Ltd.

Dyer, C. F., A.M.I.E.E., 19, Hessle View, Brudenell-rd., Leeds.

Dyer, F. J., Wellington. Director City of Wellington Electric Light & Power Co., Ltd.

Dyer, Wm. A., A.M.I.E.E., electrical engineer, 52, Chelverton-rd., Putney, London, S.W.

Dyer & Young, commutator makers, Stansted, Essex. (Telegs.: "Commutator, Stansted.")

Dykes, A. H., A.M.I.C.E., M.I.E.E., consulting engineer, 1, Victoria-st., Westminster, S.W. (Telegrams: "Rheophore, London.")

Dymond, J. D., electrical engineer, Foote & Milne, Ltd., 66, Victoria-st., Westminster, London, S.W.

Dynamic Syndicate, Ltd., 6, Broad-st.-pl., London, E.C.

Dynamotor, Ltd., dynamo makers, Bush-lane House, Cannon-st., London, E.C.

Dyson, J. D., A.M.I.E.E., electrical engineer, c/o Hubert Davies & Spain, 586, Salisbury House, London Wall, E.C.

Dyson, J. E., general electrical engineer, Shambles-lane, Huddersfield. (Telegrams: "Dyson, Electrician, Huddersfield." Telephone No. 0894.)

E. C. L. Syndicate, Ltd., electrical engineers, 21, Bride-lane, London, E.C.

Eade & Sons, electric bell & telephone fitters, Balcombe-rd., Horley, & Charlwood, Surrey.

Eadie, Norman, electrical engineer, J. T. Donald & Co., Ltd., 35, McAlpine-st., Glasgow.

Eadie, Jas., & Sons, iron & steel tube for conveying wires, &c., Clydesdale Tube Works, Rutherglen, Glasgow. (Telegrams: "Clydesdale, Glasgow." Telephone Nos. 2535 & 3010.)

Eadon, Moses, & Sons, Ltd., steel & tool makers, President Works, Sheffield; & 204, Bethnal Green-rd., London, N.E. (Telegrams: "Eadon, Sheffield;" & "Enodator, London." Sheffield Telephone No. 37; London Telephone No. 69, London Wall. A.B.C. Code used.)

Eady, H., district manager, National Telephone Co., St. Heliers, Jersey.

Eagar, H. T., electrician, Mardwell Cottage, Pleasant-pl., Margate.

Eager, Edwin, A.I.E.E., 3, The Polygon, Eccles, Manchester.

Eagles, J., A.R.C.S., head master of Science & Technological Department & head teacher of Engineering Department, Technical College, Darlington.

Eagleston & Son, electric wiring contractors, St. Clement's, Oxford. (Teleph. No. 101 X.)

Eakin, W. C., engineer-in-charge, Corporation Electricity Department, Bradford.

Ealing Corporation Electricity Works, Ealing, W. (Telegs.: "Knight, Electricity Works, Ealing." P.O. Teleph. No. 307, Ealing.) Engineer, J. D. Knight, M.I.E.E., M.I.M.E.A.

Eames, A. E., controller Central Telegraph Office, G.P.O., St. Martin's-le-Grand, E.C.

Eames & Keys, art metal workers, 112, Shaftesbury-ave., W.

Eardley, A. T., manager, Corporation Electric Tramways, Stockport.

Earle, E., A.I.E.E., Anglo Cable Office, 50, Frederick-st., Edinburgh.

Earle, Hardman A., M.I.C.E., M.I.E.E., Knightsbridge Mansions, Brompton-rd., London, S.W. Director Yorkshire Electric Power Co.

Earp, Wm. R., & Co., ammonia manufacturers, Halton-road, Runcorn.

East Africa & Uganda Corporation, Ltd. Registered Aug. 22, 1906. Nominal capital: £100,175 in 100,000 shares of £1 each & 3500 shares of 1s. each.

East Anglian Engineering Co., Ltd., electrical engineers, Stowmarket, Suffolk. (Telegrams: "Anglian, Stowmarket.")

East Cheshire Light Railways Syndicate, Ltd., 129, Stamford-st., Stalybridge. Registered Jan. 16, 1904. Nominal capital: £3000 in £5 shares. Directors: G. Pearson, Esq.; M. Fenton, Esq., J.P.; L. H. Moorsom, Esq.; J. Ridyard, Esq., J.P.; A. H. Gibbings, Esq.

East Ham Corporation Electric Lighting & Tramways, Nelson-st., East Ham. W. C. Ullmann, M.I.E.E., M.I.MECH.E., engineer & manager. (Telephone No. 35D, Barking.)

East India Construction Syndicate, Ltd., 19, St. Swithin's-lane, London, E.C. Registered March 10, 1903. Nominal capital: 3000 shares of £100 each. Directors: E. Davis, Esq.; F. A. Roberts, Esq.; P. C. Turbutt, Esq.; D. C. Ellis, Esq. Secretary, A. W. Bird.

East India Tramways Co., Ltd., 79, Lombard-st., London, E.C. Registered July 25, 1902. Nominal capital: £80,000, 35,000 £1 ordinary shares, 15,000 £1 preference shares & 30,000 £1 deferred shares. Issued: 33,433 ordinary, 7500 preference & all the deferred shares, the preference having 15s. per share paid, the rest fully paid. Directors: Jno. Abbott, Esq. (chairman); H. Dixon Kimber, Esq.; C. Dugald Buckler, Esq. Secretary, Geo. Gale. Dividends: 1903, 1904, 1905, 5 per cent. on preference; 1905, 1 per cent. on ordinary. *Lines not yet converted to electric.*

East London College, People's Palace, Bow & Bromley Branch (Sir J. H. Johnson, treasurer), Railway Station, Bow-rd., London, E.

East London Technical College, People's Palace (courses in practical engineering), Mile End-rd., E. (Nat. Telephone No. 3384, East.) *See* SCHOOLS.

Eastbourne Corporation Electricity Works, Roselands, Eastbourne. (Telegrams: "Electricity Works, Eastbourne." Telephone No. 33.) J. K. Brydges, chief engineer.

Easten, Stephen, & Co., electrical contractors, 23, Bush-lane, Newcastle.

Easterbrook, Allcard & Co., Ltd., engineers' tool makers, Albert Works, Sheffield. (Telegrams: "Easterbrook, Sheffield." Telephone No. 26, Owlerton.) London office: 9, Fenchurch-ave., E.C. (Telegrams: "Eastrallar, London." Telephone No. 5762, Avenue.)

Eastern Extension Australasia & China Telegraph Co., Ltd., Electra House, Moorgate, London, E.C. (Telegrams: "Occidental, London." Telephone No. 1126, London Wall.) Registered April 24, 1873. F. E. Hesse, general manager & secretary. Directors: Sir John Wolfe Barry, K.C.B. (chairman); Francis A. Bevan, Esq.; Sir Albert J. Leppoc Cappel, K.C.I.E.; the Hon. Geo. Peel; Sir John Denison-Pender, K.C.M.G.; the Hon. A. G. Brodrick; the Marquess of Tweeddale, K.T. Capital: £3,000,000 in £10 shares, & £752,400 debenture stock. Issued: 250,000 shares, fully paid, & 50,000 recently issued at £3 premium, fully paid up on Feb. 1, 1901, & £752,400 4 per cent. debenture stock. Dividends: 1894 & each year since, 5 per cent. & 2 per cent. bonus; 1905, 7 per cent.

Eastern & South African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. A. R. Hardie, secretary. Directors: Sir John Wolfe Barry, K.C.B. (chairman); Sir J. Denison-Pender, K.C.M.G. (managing); Sir A. J. Leppoc Cappel, K.C.I.E.; J. C. Denison-Pender, Esq.; Marquess of Tweeddale, K.T.; Admiral Sir Leopold G. Heath, K.C.B.; F. Alex. Johnston, Esq. Issued capital: called & paid, £600,000 in £10 shares. Registered mortgage debentures, 4 per cent. £286,800, ditto 4 per cent. (Mauritius Sub.) £200,000.

Eastern Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Eastern, London." Telephone Nos. 1127 & 1129, London Wall.) Nominal capital: £4,000,000 in ordinary stock, £2,000,000 in 3½ per cent. preference stock. Issued: £5,999,890 & fully paid, & 4 per cent. mortgage debenture stock, £1,896,706. A. R. Hardie, secretary. Directors: Sir John Wolfe Barry, K.C.B. (chairman); Sir J. Denison-Pender, K.C.M.G. (vice-chairman & managing director); the Right Hon. Lord Allerton; Sir Albert J. Leppoc Cappel, K.C.I.E.; F. Alex. Johnston, Esq.; the Marquess of Tweeddale, K.T.; Right Hon. Lord Pirrie, P.C.

Eastlakes, Ltd., electrical engineers, 1, Carteret-st., Westminster, S.W. (Teleph. No. 591, Westminster.)

Eastmond & Sons, electric bell fitters, Torrington.

Easton, J. J., electrical engineer, Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate, S.W.

Easton & Anderson, electrical, hydraulic & mechanical engineers & contractors, specialists in the use of superheated steam, Broad Sanctuary-chbrs., S.W. (Telegrams: "Egyptian, London." Telephone No. 545, Westminster); & 9, Gracechurch-st., E.C.

Easton & Bessemer, Ltd., engineers, Whitehall Iron Works, Taunton. (Telegrams: "Eastwald, Taunton." A.B.C. Code used. Telephone No. 0146.)

Easton, Courtney & Darbishire, electrical engineers, 25, Victoria-st., London, S.W. (Telegrams: "Escourre, London." Telephone No. 39, Westminster.)

Easton Lift Co., Ltd., electric & hydraulic lift manufacturers, Broad Sanctuary-chbrs., Westminster, London, S.W.; & 4, John Dalton-st., Manchester. (Telegs.: "Motor, Manchester." Teleph. No. 2135.)

Eastwood, J. W., testing superintendent, Corporation Electricity Works, Bradford.

Eastwood & Co., electrical engineers, Railway Works, & Kirkgate, Wakefield.

Eaton, E., director Chagford & Devon Electric Light Co., Ltd., The Factory, Chagford, Devon.

Eaton, W. Walton, electric light contractor, Nelson's-pl., Cork.

Eaton, Samuel, & Sons, manufacturers of electric light fittings, Barr-st., St. George's, Birmingham. (Telegrams: "Lighthouse, Birmingham." Telephone No. 5055.)

Eberl, F. H., assistant electrical engineer, Urban District Council, Aldershot.

Ebonestos Manufacturing Co., The, "Ebonestos" insulator manufacturers, 22, Rosoman-st., Clerkenwell, London, E.C. (Telegs.: "Ebonestos, London." Teleph. No. 1422, Holborn.) *See advt. under* INSULATING MATERIALS.

Eborall, A. C., M.I.E.E., managing director Brown, Boveri & Co., Ltd., Caxton House, Westminster, London, S.W.; & "The Highlands," Lampton, nr. Hounslow, Middlesex.

Eccles, E. E., A.M.I.E.E., resident engineer & manager, British Aluminium Co., Ltd., Foyers, Loch Ness, N.B.

Eccles, E. S., A.M.I.E.E., 21, Claremont-sq., Pentonville, London, N.

Eccles Corporation Electric Lighting & Tramways. Electrical engineer, H. W. Angus. (Telephone No. 50, Eccles.)

Eck, Justus, M.A. (Cantab.), M.I.E.E., 10, Priory-rd., Chiswick, W. (Telegs.: "Eck, Chiswick"); & 53-57, Park-st., Southwark, S.E. (Teleph. No. 2970, Hop.)

Eckstein, A., M.I.E.E., electrical engineer, 5, Chapel Walks, Cross-st., Manchester. (Teleph. No. 5155.)

Eckstein, Heap & Co., manufacturing electrical engineers & suppliers of all kinds of electrical accessories, 5, Chapel Walks, Manchester (Teleph. No. 5155); & works: Waverley Mills, St. Simon's-st., Salford. (Telegs.: "Reaction, Manchester." Teleph. No. 6363.)

Economic Electric Installations Co. (Humm & Co.), 20, Blackfriars-st., Salford.

Economic Electro-Plating Co., 42, Nicolson-st., Edinburgh.

Ecuador Telephone Co., Ltd., 42, Old Broad-st., London, E.C. (Telegrams: "Chiliadal, London." Teleph. No. 9343, London Wall.) Issued capital: £25,000 in ordinary shares of £5 each, all paid. Edmund Petley, F.C.I.S., secretary. Directors: George Keith, Esq. (chairman); Frank W. Jones, Esq.; Rupert Upton, Esq. Dividends: 1900–01, 1901–02, 1902–03, 1903–04, 1904–05, 2½ per cent. per annum.

Eddington, A., A.I.E.E., 117, Dalston-lane, Dalston, London, N.E.

Eddison, R. W., engineer, Steam Plough Works, Leeds. Director John Fowler & Co. (Leeds), Ltd.

Ede, Harry John, A.I.E.E., 6, Ormonde-bldgs., Station-rd., Epsom.

Ede, Stuart S. Moore, consulting engineer, Caxton House, Westminster.

Edelsten, John, & Son, makers of tools & files, wire gauges, screw plates, screwing taps, pliers, &c., Warrington. (Telegrams: "Edelsten, Warrington.")

Eden, Augustus, M.I.E.E., superintending engineer, G.P.O., Edinburgh.

Eden, R. H. H., managing director Yarmouth (Isle of Wight) Electricity Supply Co., Ltd.

Edey, F. G., & Co., installation contractors & dealers in lamp-tops & scrap platinum, 29, Ludgate Hill, London, E.C. (Telephone No. 2547, Central.)

Edgar, F. J., A.M.I.E.E., lecturer in electrical engineering, Acton & Chiswick Polytechnic, Bedford Park, London, W., 42, Drayton-gdns., West Ealing, London, W.

Edgar, James, A.M.I.E.E., Nithsdale, Wrexham.

Edgar, Robert H., Ltd., telegraph & electrical engineers, Stanley House, Eldon Park, Norwood, S.E. (Telegs.: "Edgardonia, London.")

Edgcome, J. E., M.I.M.E., M.I.E.E., consulting & borough electrical engineer, Corporation Electric Light Station, Kingston-upon-Thames, Surrey.

Edgcumbe, Kenelm, A.M.I.C.E., M.I.E.E., electrical engineer, Collindale Works, Hendon, London, N.W. (Telegs.: "Evergendos, London." P.O. Teleph. No. 136, Hampstead.)

Edge & Neal, electric light contractors, 107, Holloway-rd., London, N.

Edgware & Hampstead Railway Co., 16, Hamilton House, Victoria Embankment, London, E.C. Capital: £360,000 in £10 shares & £120,000 debentures. Issued: £23,670. Directors: C. A. Grenfell, Esq. (chairman); Walter Abbott, Esq.; C. S. Louch, Esq. W. E. Mandelick, secretary.

Edinburgh Corporation Electricity Supply Department. (Telegrams: "Generation, Edinburgh." Telephone No. 2105.) Engineer, Frank A. Newington, M.I.E.E.

Edinburgh Suburban Electric Tramways Syndicate, Ltd. Registered April 3, 1905. Nominal capital: £10,000 in £1 shares.

Edison Ore-Milling Syndicate, Ltd., Fitzalan House, Arundel-st., Strand, London, W.C. (Telegrams: "Obsession, London." Telephone No. 5214, Gerrard.)

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Nominal capital: £750,000 in "A" shares of £5 each, £132,180 in £5 "B" shares & £5891 in 5s. "B" shares; £350,000 4 per cent. first debentures & £300,000 in 5 per cent. second debentures. Issued capital: £496,305 in "A" shares, partly paid, £85,695 in "A" shares, fully paid, £5891 "B" 5s. shares, £319,475 4 per cent. first debentures & £72,220 5 per cent. second debentures. Directors: H. Wolfenden, Esq. (chairman); E. B. Ellice-Clark, Esq., M.INST.C.E.; Sir Joseph Wilson Swan, D.SC., F.R.S.; H. Wolfenden, jun., Esq. H. Charles Gover, secretary; O. H. Bishop, sales manager. Dividends: 1900–01, 2½ per cent.; 1904–5, 2½ per cent. Manufacturers of incandescence electric lamps & electric light fittings of every description.

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Cardiff: Westgate-st.	Ediswan, Cardiff.	
Dublin: 12, Dawson-st.	Ediswan, Dublin.	618, Dublin.
Dundee: 17, Castle-st.	Ediswan, Dundee.	143, Dundee.
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Manchester: Marble-st.	Ediswan, Manchester.	
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Edmeston, A., & Sons, makers of patent friction clutches, Springfield Engineering Works, Patricroft. (Telegrams: "Edmeston, Patricroft." Telephone No. 107, Eccles.)

Edmond, P., district manager, National Telephone Co., 33, Friar's-st., Stirling.

Edmonds, Courtenay H. W., A.M.I.E.E., c/o McKenzie & Holland, Worcester.

Edmonds, H. R., A.I.E.E., 176, Clive-rd., West Dulwich, London, S.E.

Edmonds, J. F., A.I.E.E., electrical engineer, 4, The Crescent, Barnes, London, S.W.

Edmondson, F., A.M.I.E.E., resident engineer, Manx Electric Railway Co., Ltd., 1, Strathallan-cres., Douglas, Isle of Man. (Telegrams: "Electric, Douglas, Man." Telephone No. 61.)

Edmondson, John Alfred, A.M.I.C.E., A.I.E.E., Cowlishaw, Walker & Co., Etruria, Stoke-on-Trent.

Edmunds, Henry, M.I.E.E., M.I.C.E., electrical & consulting engineer, Parliament Mansions, Victoria-st., Westminster, London, S.W. (Telegrams: "Phonoscope, London." Telephone No. 5266, Westminster.) Director W. T. Glover & Co., Ltd.

Edmundson, H. W., electric light engineer, 22, St. Albans-ter., Gateshead.

Edmundson, J. E., A.M.I.E.E., resident engineer, Urban Electric Supply Co., Ltd., Grantham; & 151, Dudley-rd., Grantham.

Edmundson, J. W., elec. light engineer (managing director Sunbeam Lamp Co., Ltd.), Gateshead-on-Tyne.

Edmundson, J. W., Tel-el-Kebir, Rathgar, Co. Dublin. Director Edmundson's Electricity Corporation, Ltd.

Edmundson's Electricity Corporation, Ltd., electric light engineers, Broad Sanctuary-chbrs., Westminster, S.W. (Telegrams: "Edmundsons, London." Telephone Nos.: 14, Westminster; & 3474, Gerrard.) Registered April 7, 1897. Nominal capital: £800,000 in 80,000 £5 ordinary shares, 80,000 £5 6 per cent. cumulative preference & £435,000 debentures, all issued & fully paid. An acknowledgment of indebtedness, dated Jan. 19, 1906, to secure £100,000 debenture stock (supplemental to trust deed dated July 10, 1899, & to six acknowledgments of indebtedness dated respectively April 27, 1900, Aug. 1, 1901, Nov. 14, 1902, Sept. 28, 1903, Aug. 19, 1904, & Dec. 7, 1905, securing debenture stock to an amount not exceeding three-fifths of paid-up capital for time being), has been registered. Directors: H. Wolfenden, Esq. (chairman & joint managing); F. E. Gripper, Esq., M.I.E.E. (joint managing); W. R. Davies, Esq.; J. W. Edmundson, Esq.; W. B. Hopkins, Esq. Electrical engineer, J. C. Wigham; secretary, G. W. Jeffery. Dividends: 1901 & 1902, 7 per cent. on ordinary & deferred shares; 1903, 1904, 1905, 7 per cent, & 1906, 4 per cent. on ordinary shares.

Edmundsons, Ltd., electrical engineers & contractors, Barnstaple.

Edward, George, & Co., makers of patent machinery for covering electric cables with lead, Hercules Iron Works, Johnstone, near Glasgow.

Edwards, A. E. A., M.I.MECH.E., consulting electrical & mechanical engineer, 105, Colmore-row, Birmingham. (Telephone No. 10 X.)

Edwards, E., electrician, West Cliff, Herne Bay.

Edwards, Ernest, A.I.E.E., 92, Lee-rd., Blackheath, S.E.

Edwards, F. H., A.M.I.E.E., station engineer, Woolwich Borough Council Electricity Works, Plumstead, E.

Edwards, George, A.M.I.E.E., Peel House, Kirk-lane, Longsight, Manchester.

Edwards, G. T. C., resident engineer, Bristol Tramways & Carriage Co., Bristol. (Telegs.: "Slip, Bristol." Nat. Teleph. No. 1204.)

Edwards, I. H., director Dulverton Electric Lighting Co., Ltd.

Edwards, James, electric lighting contractor, 40, Union-st., Brechin.

Edwards, J. D., agent for electric fans & ventilators, 13 & 14, King-st., Cheapside, London, E.C.

Edwards, J. H., manager, Messrs. Geo. Hill & Co., Trafford Electric Works, Cornbrook, Manchester.

Edwards, J. Herbert, electrical engineer, 2, Fernbank-rd., Bristol.

Edwards, S. Burton, electrical agent, 5, Cromford-ct., Market-st., Manchester. (Telegrams: "Taunt, Manchester." Nat. Telephone No. 5456.)

Edwards, T., engineer, 84, Rotherhithe New-rd., S.E.

Edwards, W. Rowland, A.M.I.E.E., electrical engineer, "Glanworth," Weybridge.

Edwards, W. V., electrical engineer, Hastings & District Electric Tramways Co., Ltd., Hastings.

EDWARDS AIR PUMP SYNDICATE, LTD., THE, air pumps & condensing plants, as fitted to the principal electrical stations, 3 & 5, Crown-crt., Old Broad-st., London, E.C. (Telegrams: "Management, London." Telephone No. 2369, London Wall.) Registered Sept. 29, 1897. Nominal capital: £25,000 in £1 ordinary shares. Directors: C. Williamson Milne, Esq. (chairman); G. McFarlane, Esq., M.I.M.E., M.I.N.A.; Leslie S. Robertson, Esq., M.I.C.E., M.I.M.E., M.I.N.A. Secretary, W. S. Gregg; manager, F. L. Rowe, A.M.I.MECH.E.

Edwards & Armstrong, electrical engineers, 53, Queen-st., Cardiff (Telegs.: "Armature, Cardiff." Nat. Teleph. No. 894); 4, Colston-st., Bristol (Telegs.: "Armature, Bristol." Nat. Teleph. No. 154); 39, Broad-st., Hereford; & 10, High-st., Exmouth.

Edwards & Barnes, stampers & electrical fittings manufacturers, 237, Broad-st., Birmingham. (Telegrams: "Darner, Birmingham." Cables: "Tonbar, Birmingham." Telephone No. 543.)

Edwards & Co., Ltd., electric launch builders, Millwall, London, E. (Telegrams: "Yola, London." Telephone No. 712, Eastern.)

Edwards, G. A., & Co., electrical engineers, 118 & 119, Fore-st., E.C.

Edwards, Hy., & Co., electrical engineers, 39, Lombard-st., E.C. (Telegs.: "Abpater." Tel. No. 5808, Ave.)

Edwards & Magnus, manufacturers of electric light fittings, Heneage-st., Birmingham. (Telegrams: "Oxydised, Birmingham." Telephone No. 04780.)

Edwards & Shaw, consulting electrical & mechanical engineers, 105, Colmore-row, Birmingham. (Telephone No. 10 X.)

Edwards, S. J., & Son, electrical engineers, 129, Claughton-rd., Birkenhead. (Teleph. No. 15.)

Edwardson, E. W., A.M.I.E.E., Edgware, Middlesex.

Eedes, G. C., 28, Broad-st.-ave., E.C. Director Pioneer Gas, Electric Light & Power Co. of South Africa, Ltd.; director Adelaide Electric Tramways, Ltd.

Eeles, H., F.C.I.S., secretary Oxford Electric Co., Ltd., 45, Broad-st., Oxford.

Efandem Co., expert electricians & mechanical engineers, Piccadilly Circus Mansions, 67A, Shaftesbury-ave., W. (Telegs.: "Efandem, London." Teleph. No. 7060, Gerrard.)

Efficient Lighting & Heating Co., electrical & hot-water engineers, 15, Hill-st., Park-rd., Regent's Park, N.W. (Teleph. No. 996, Mayfair.)

Egan, C. Howard, electrical engineer, 33, Park-ave., Sydney Parade, co. Dublin. (Teleph. No. 1884.)

Egan & Tatlow, electrical engineers & contractors, 20, Fleet-st., & 4, Princes-lane, Dublin. (Telegrams: "Etat, Dublin." Telephone No. 991.)

Egerton, —, director Western Electric Distributing Corporation, Ltd.

Eggers, F. T., A.I.E.E., 11, Portland-pl., London, W.

Ehrich & Graetz, manufacturers of electric light fittings, 66, Queen-st., Cheapside, London, E.C. (Telegrams: "Ingbooth, London." Telephone No. 5979, Bank.)

Ekin, Tom, M.I.C.E., M.I.M.E., consulting electrical engineer, 21, Old Queen-st., Westminster, London, S.W. (Telegrams: "Arrowhead, London.")

Ekins & Co., Ltd., electrical engineers, "Old Cross," Hertford.

Ekstromer Accumulator Co., Ltd., 13, Walbrook, London, E.C.

Eldon Electric Co., Ltd., wholesale importers & merchants, 61, High Bridge, Newcastle-on-Tyne. (Telegs.: "Simplex, Newcastle-on-Tyne." Teleph. No. 2615, Central.)

Electric Accumulator, The, storage battery journal, 15, Queen-st., London, E.C. (Telegs.: "Electrolyte, London." Teleph. No. 7608, London Wall.) *See advt., page* 15.

Electric Battery Co., manufacturers of accumulators & motor accessories, 180, High Holborn, London, W.C. (Telephone No. 8151, Central.)

Electric Blasting Apparatus Co., electric high & low tension fuze manufacturers, Cinderford, R.S.O., Gloucestershire. (Telegrams: "Blasting, Serridge Junction.")

Electric Carriage & Storage Co., Ltd., 65, New Broad-st., London, E.C.

Electric Circuit Breaker, Ltd., 72, Albion-st., Leeds.

Electric Coin Freed Meter Dimming Synd., Ltd., Albion-chbrs., 11, Adam-st., Strand, London, W.C. (Teleph. No. 1977, Gerrard.) Registered Sept. 28, 1899. Nominal capital: £5000 in £1 shares.

ELECTRIC CONSTRUCTION CO., LTD., electrical engineers, manufacturers & contractors, Wolverhampton. Head office: Dashwood House, 9, New Broad-st., London, E.C. (Telegs.: "Electric, Wolverhampton;" "Concordance, London." Teleph. Nos.: London, 2671, London Wall; & 10920, Central; Wolverhampton, 75 & 430.) Directors: James W. Barclay, Esq. (chairman); Sir Henry C. Mance, C.I.E.; John Irving Courtenay, Esq.; Sir James Pender, Bart.; Philip E. Beachcroft, Esq. James Gray, managing director; David Willock, secretary. The statutory return of this company shows that out of a nominal capital of £400,000 in 150,000 ordinary & 50,000 7 per cent. cumulative preference shares, all of £2 each, 112,100 ordinary & 31,390 preference shares have been taken up, with the full amount called on each. There is an authorized issue of £200,000 4 per cent. perpetual first mortgage debenture stock & of 50,000 4½ per cent. redeemable second mortgage debenture stock, the whole of which has been issued. Dividends on ordinary shares: 1897–1903, 6 per cent. per ann.; 1904, 4 per cent.; 1905 & 1906, *nil.*

Electric Controller & Supply Co., 47, Victoria-st., London, S.W. (Telegs.: "Principium, London." Teleph. No. 237, Westminster.)

Electric Conversion Syndicate, Ltd., 13, St. Helen's-pl., London, E.C.

Electric Flash Lights, Ltd., 34, Paternoster-row, London, E.C. (Telegs.: "Flasign, London.")

Electric & General Assurance, Ltd., 1 & 2, Great Winchester-st., E.C. (Telegrams: "Tractasset, London." Telephone No. 9613, London Wall.)

Electric & General Investment Co., Ltd., 1 & 2, Great Winchester-street, London, E.C. (Telegrams: "Pontyberem, London." Telephone No. 9329, London Wall.) Nominal capital: £100,000 in £5 ordinary shares, £99,500 in £5 6 per cent. cumulative preference shares & £500 founders' shares of £5 each. Issued: £99,500 preference shares of £5 each, fully paid; £20,000 ordinary shares of £5 each, of which £1 per share is paid; & 100 founders shares of £5 each, fully paid. Directors: Jos. B. Braithwaite, Esq.; J. Cecil Bull, Esq.; Emile Garcke, Esq. Secretary (*pro tem.*), S. R. Shaw. Dividends on founders' shares: May, 1902, £60 per share; May, 1903, £55 per share; May, 1904, £10 per share; May, 1905, £20 & £10 from reserve fund; May, 1906, £10 from reserve fund. On ordinary shares: 1900–01, 35 per cent.; 1902, 40 per cent.; 1903, 37½ per cent.; 1904, 10 per cent.; 1905, 4*s.* & 1*s.* from reserve fund; 1906, 2*s.* & 1*s.* from reserve fund.

Electric & General Stores Co., 16 & 18, Bridge-st., & Bridge-cres., Sunderland (Telegs.: "Volta, Sunderland." Teleph. No. 262); & Commercial-chbrs., 104, Albion-st., Leeds. (Teleph. No. 2638.)

Electric Haulage Co., Ltd., 50, Mark-lane, London, E.C. (Telegs.: "Lighterage, London." Teleph. No. 2052, Avenue.) Registered July 22, 1901. Nominal capital: £10,000 in £1 shares.

Electric Ignition Co., Ltd., manufacturers & patentees of electric ignition apparatus as applied to motor cars, Royal Wellington Works, Sampson-rd. North, Birmingham.

Electric Illuminating Co. (W. W. Ketteridge, manager), Lowther Arcade, Carlisle.

Electric Insurance & Contracting Co., 86, Leadenhall-st., London, E.C. (Telegrams: "Durocorum, London." Telephone No. 13091, Central); & 23, Foubert's-pl., Regent-st., W. (Telephone No. 13453, Central.)

Electric Laudaulet Co., Ltd., Upper Manor-st., King's-rd., S.W. (Telegs.: "Embassies, London." Teleph. Nos. 304 & 1025, Kensington.)

Electric Light Insurance & Maintenance Co. (1904), Ltd., 44, Gillingham-st., Pimlico, London, S.W.

Electric Light & Power (2*d.* monthly; ann. sub., 2*s.* 6*d.* post free), Amberley House, Norfolk-st., London, W.C.

Electric Light, Power & Hiring Co., Ltd., Haslingden (Telegs.: "Smethurst, Newfield, Haslingden." Teleph. No. 090, Haslingden); & Manchester. (Telegs.: "Theermann, Manchester." Teleph. No. 3982, Manchester.) Registered Dec. 30, 1901. Nominal capital: £15,000 in £1 shares. Directors: J. S. Higham, Esq., M.P.; A. Smethurst, Esq., J.P. Electrical engineer, W. P. Theermann; secretary, S. H. Bradbury. Dividends: 1902, 1903 & 1904, 5 per cent.; 1905, 10 per cent.

Electric Lighting & Engineering Co., The, mechanical & electrical engineers, 137 & 139, Duke st., Liverpool. (Telephone No. 1966, Royal.)

Electric Lighting & Traction Co. of Australia, Ltd., Finsbury Pavement House, London, E.C. (Telegrams: "Unruffled, London." Telephone No. 3569, Central.) Registered Aug. 17, 1899. Nominal capital: £300,000 in £5 shares (half ordinary & half 6 per cent. cumulative preference shares), £150,000 5 per cent. first debentures & £150,000 second debentures. Issued: 4834 ordinary shares & 30,000 preference shares, both fully paid, & £150,000 5 per cent. first debenture stock. Bank loan: £100,000. Directors: J. B. Braithwaite, Esq. (chairman); J. F. Albright, Esq.; M. F. Armstrong, Esq.; R. Percy Sellon, Esq. (managing). Managing engineer, F. W. Clements (Melbourne); secretary, W. E. Lane. Dividends: 1901, 6 per cent. on preference shares; 1902, 1903, 1904, 1905 & 1906, *nil.*

Electric Mining Co., exploders for mining, Irongate, Derby.

Electric Motor Agency, Leeds.

Electric Motor Supply, 54, Houndsgate, Nottingham.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos.: 176 & 179, Aston; P.O., 9); 32, Victoria-st., London, S.W.; 27, Upper Priory, Birmingham; & 78, King-st., Manchester. Registered Aug. 29, 1901. Nominal capital: £150,000 in £1 shares. London agents: Baxter & Caunter, 86, Charing Cross-rd., London, W.C.

Electric Ozone Syndicate, Ltd., 5, New Union-st., Moorfields, London, E.C. (Telegs.: "Electrozone, London." Teleph. No. 5336, Central.) Registered July 19, 1895. Capital: £12,000 in £10 shares all issued & fully paid. Debentures issued: £6000. Directors: F. J. Hanbury, Esq. (chairman); R. S. Warren, Esq.; D. H. C. Higgins, Esq.; Axel Larsen, Esq.; Dr. A. J. Leo Henderson. Secretary, C. B. Smalman-Smith.

Electric Power Development Co., Ltd., 57½, Old Broad-st., London, E.C.

Electric Railway Signalling Syndicate, Ltd., 68–74, Palmerston House, Old Broad-st., London, E.C. (Telegrams: "Westernwind, London." Telephone No. 331, London Wall.) Registered April 10, 1902. Nominal capital: £10,000 in £1 shares, 7816 of which are issued & fully paid. Directors: R. de la Bere, Esq.; J. E. Spagnoletti, Esq. Secretary, C. F. Palmer

Electric Reduction Co., Ltd., 22, Austin Friars, London, E.C.

Electric Safety Appliances Co., Ltd., electric appliance manufacturers, Eldon Street House, Eldon-st., London, E.C.

Electric Sign & General Advertising Co., Ltd., 38/39, Cowcross-st., London, E.C. (Telegrams: "Signorello, London." Telephone No. 3515, Central.) Registered Oct. 12, 1895. Nominal capital: £5000 in £1 shares. Issued: £2000; 1000 of these are considered as paid, & £1000 has been called & paid on the rest. Directors: G. C. Fricker, Esq. (chairman & electrical engineer); A. W. Poulton, Esq.; F. Miller, Esq.; J. V. Miller, Esq. Secretary, T. P. Hickmore, A.C.I.S.

Electric Supply Co. of Ireland, Ltd., 30, Lower Osmond Quay, Dublin. Registered Jan. 17, 1903. Nominal capital: £100 in £1 shares.

Electric Supply Co. of Victoria, Ltd., 12, St. John's-lane, Liverpool. (Telegrams: "Construct, Liverpool." Telephone No. 1736, Royal.) Registered May 26, 1900. Nominal capital: £150,000 in £1 ordinary shares, £150,000 in £1 6 per cent. preference shares & £160,000 5 per cent. debenture stock, with power to issue further £40,000. Issued: 125,000 ordinary & 125,000 preference shares, fully paid, & £160,000 debentures, secured by trust deed, dated July 7, 1905. A memorandum of satisfaction in full of charges dated Oct. 1, 1901, March 10, 1904, & Dec. 8, 1904, securing £100,000, has been filed. Directors: E. K. Muspratt, Esq., J.P. (chairman); J. C. Stitt, Esq., J.P.; J. Taylor, Esq., J.P.; J. S. Harmood Banner, Esq., M.P., J.P.; G. Crosland Taylor, Esq., J.P.; F. Faithfull Begg, Esq. Electrical engineer, B. Deakin, M.I.E.E.; secretary, G. Saies, F.C.I.S.

Electric Supply Co. of Western Australia, Ltd., electrical & mechanical engineers, 12, St. John's-lane, Liverpool. (Telegrams: "Construct, Liverpool." Telephone No. 1736, Royal.) Registered March 18, 1898. Nominal capital: £100,000 in £1 ordinary shares. Capital issued: £75,007, all called up. Directors: W. Marriner Brigg, Esq. (chairman): E. K. Muspratt, Esq., J.P.; G. Crosland Taylor, Esq.; J. S. H. Banner, Esq., M.P.; J. Taylor, Esq.; J. C. Stitt, Esq. Engineer, B. Deakin; secretary, G. Saies.

Electric Supply Corporation, Ltd., Salisbury House, London Wall, London, E.C. (Telephone Nos.: Nat. 1959, London Wall; P.O. 488, Central.) Registered April 8, 1897. Nominal capital: £250,000 in £5 shares. Issued: £207,500, also £50,000 of 4½ debenture stock, secured by trust deed, dated July 18, 1904. Directors: C. F. Tufnell, Esq. (chairman); H. Gordon, Esq.; Major C. Heaton-Ellis; J. G. B. Stone, Esq.; & Col. H. Wood, C.B. Electrical engineers, Crompton & Co., Ltd.; F. R. Reeves, secretary; chief engineer & general manager, K. A. Scott Moncrieff.

Electric Supply Stores, 77, Fore-st., London, E.C.

Electric Time Distributing & Clock Co., Ltd. (W. Aubert, managing director), 57, Chancery-lane, W.C. Nominal capital: £5000 in £1 shares. 2084 have been taken up, & 2000 of these have been issued as fully paid; the full amount has been called on 82 shares, & 10*s.* per share on the remaining two.

Electric Traction Co. of Hongkong, Ltd., 19, St. Swithin's-lane, London, E.C. Registered Nov. 20, 1902. Nominal capital: £325,000 in £1 ordinary shares & £195,000 debentures of £100 each, secured by trust deed, dated July 1, 1903. Issued: all the ordinary shares & the debentures, all fully paid. Directors: E. C. Morgan, Esq. (chairman); W. J. C. Cutbill, Esq.; R. Miller, Esq. General manager & engineer in Hongkong, J. Gray Scott; secretary, H. W. C. Dermer.

Electric Tramway Equipment Co., manufacturers of insulators, &c., 80–89, Glover-st., Birmingham. (Telegrams: "Verus, Birmingham." Telephone No. 2299.)

Electric Vehicles Development Co., Ltd., 149, Bishopsgate-st. Without, London, E.C.

Electric Welding Co., Ltd., owners of the Thomson Electric Welding patents for the United Kingdom, 28, Basinghall-st., London, E.C. (Telegrams: "Smithcraft, London.") Nominal capital: £460,000 in 45,000 ordinary & 1000 founders' shares, all of £10 each. 24,721 ordinary & 953 founders' shares have been taken up, £6 has been called on ordinary & £10 on founders' shares. Edwin Hayes, secretary. Directors: M. F. Armstrong, Esq.; & L. Bishop, Esq.

Electrical Bleaching Co. (1904), Ltd., 196, Deansgate, Manchester. (Telegs.: "Bleaching, Manchester." Teleph. No. 4143.)

ELECTRICAL CO., LTD., THE, manufacturing electricians & contractors. Nominal capital: £100,000 in £5 shares, all of which have been taken up. On 3000 shares the amount of £6000 has been paid in full, £9000 being considered as paid. Calls of £2 12*s.* 6*d.* per share were made on the 17,000 new shares, the amount of £44,625 being paid in cash for them. Directors: Franz Deutsch, Esq. (chairman); H. C. Levis, Esq.; Felix Deutsch, Esq.; E. A. Carolan, Esq.; Prof. G. Klingenberg; Wm. A. McArthur, Esq., M.P.; C. Flesch de Nordwall, Esq.; F. G. Fraser, Esq. General manager, J. Stottner; secretary, O. Loewi. Dividends: 1899, 12 per cent.; 1900, 1901, 1902 & 1903, 15 per cent.; 1904, 5 cent. per annum; 1905, 8 per cent.

	Telegrams.	*Telephone Nos.*
Head Offices: 121, 122, 123, 124 & 125, Charing Cross-rd., London, W.C.	Galvanoscope, London.	4311, 4312, 4313 & 4314, Gerrard.
Cable & Fittings Department: 162, Shaftesbury-ave., London, W.C.	Galvanoscope, London.	4313, Gerrard.
Branch Offices:		
Cardiff: 27, Western Mail-chbrs.	Circuit, Cardiff.	948.
Edinburgh: 42, North Bridge-st.	Circuit, Edinburgh.	2658, Central.
Glasgow: Baltic-chbrs., 50, Wellington-st.	Circuit, Glasgow.	1399, Argyle.
Manchester: Grosvenor-chbrs., 33, Blackfriars-st.	Circuit, Manchester.	4358, Central.
Newcastle-on-Tyne: Milburn House, Dean-st.	Circuit, Newcastle.	911, National.
Sheffield: 17, York-st.	Circuit, Sheffield.	3435.

See advt., ELECTRICITY WORKS—CONTRACTORS FOR THE CONSTRUCTION & MAINTENANCE OF.

Electrical Contracting Co., 425, Fulham Palace-rd., London, S.W. Proprietor, E. F. Everett. (Teleph. No. 68, Putney.)

Electrical Contractor (official organ of the London section of the National Electrical Contractors' Association), 20, Bucklersbury, London, E.C. (Monthly, 2*d.*) (Telegs.: "Entraining, London." Teleph. No. 881, Bank.)

ELECTRICAL CONTRACTING CO., electrical contractors, 491–3, Fulham Palace-rd., Fulham, London, S.W. (Teleph. No. 68, Putney); & at Wimbledon.

Electrical Contractors' Association (Incorp.), 20, Bucklersbury, E.C. L. G. Tate, A.M.I.E.E., hon. sec.

Electrical Contractors' Association, Incorp. (Liverpool Branch). Geo. J. Harford, hon. secretary, 47, Tithebarn-st., Liverpool. (Teleph. No. 6730.)

Electrical Contractors' Association, Incorp. (Manchester Local Branch). Hon. secretary, H. W. Heywood, 37A, Fountain-st., Manchester.

Electrical Contractors' Association, Incorp. (Newcastle Local Branch). Hon. secretary, W. Cross, 4, St. Nicholas-bldgs., Newcastle-on-Tyne.

Electrical Contractors' Association, Incorp. (Scottish Section), 168, St. Vincent-st., Glasgow. James M. Davies, jun., C.A., secretary. (Telegs.: "Liquidetto, Glasgow." Tel. Nos.: 1747, Nat.; & 1014, Corp.)

Electrical Distribution of Yorkshire, Ltd., Calder-rd., Thornhill, nr. Dewsbury. (Telegs.: "Power, Mirfield." Teleph. No. 155, Dewbsbury.) Registered June 19, 1905. Nominal capital: £10,000 in £1 shares, 7 fully paid, 1948 issued with 3*s.* per share paid. Directors: R. Armitage, Esq., J.P., M.P.; A. G. Lupton, Esq., J.P.; J. Nevin, Esq., J.P.; A. W. Wickham, Esq., J.P. Engineer & manager, W. B. Woodhouse, A.M.I.M.E., A.M.I.E.E.; secretary, J. J. H. Stansfield, F.C.I.S.

ELECTRICAL ENGINEER (weekly journal, price 3*d.*), 139 & 140, Salisbury-ct., Fleet-st., London, E.C. (Telephone No. 12278, Central.)

Electrical Engineer Institute of Correspondence Instruction, 13, Southampton-st., High Holborn, London, W.C. (Telegs.: "Electracor, London." Teleph. No. 7723, Gerrard.) Joseph Wetzler, M.I.E.E., president.

Electrical Engineering (price 6*d.* weekly), 203-206, Temple-chbrs., Temple-ave., London, E.C. (Telegs.: "Circling, London." Teleph. No. 5509, Holborn.)

Electrical Engineering Co. of London, Ltd., 63, Queen Victoria-st., London, E.C.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C. (Teleph. No. 5542, Avenue. Night calls: 13463, Central.)

Electrical Engineering Plant Manufacturers' Association, c/o London Chamber of Commerce (Incorporated), Oxford-ct., 109, Cannon-st., London, E.C. W. J. Eales, secretary. (Telegrams: "Convention, London." Telephone No. 327, Bank.)

Electrical Engineering Supply Co., Haymarket-lane, Newcastle-on-Tyne. (Telegs.: "Elect, Newcastle.")

Electrical Engineers, R. E. Volunteers, Regency-st., London, S.W. (Telegs.: "Effossion, London." Teleph. No. 1288, Victoria.)

Electrical Equipment & Securities Co., 8, Hythe-rd., Willesden Junction, N.W.

Electrical Fittings Co., 38, Conduit-st., W. (Telegs.: "Elopement, London." Tel. No. 1401, Gerrard.)

Electrical Fittings Manufacturers' Association, 112, Edmund-st., Birmingham. Secretary, W. A. Addinsell.

Electrical & General Engineering Co., electric light engineers, 17, Gracechurch-st., London, E.C. (Telegrams: "Installing, London." Telephone No. 2551, Avenue.)

Electrical Improvements, Ltd., electricians, mechanical & general engineers, 44, Parliament-st., Nottingham.

Electrical Industries Development Co., Ltd., 31, Walbrook, London, E.C.

Electrical Industries & Investments (weekly; ann. sub., 6*s.* 6*d.*), 37 & 38, Strand; & 1, Buckingham-st., W.C.

Electrical Installations, Ltd., telephone experts & contractors, 11, Queen Victoria-st., London, E.C. (Telegs.: "Stanlorio, London." Teleph. No. 13894, Central.)

Electrical Instrument Manufacturers, Ltd., electrical engineers & instrument makers, Freezywater, Waltham Cross, N.

Electrical Magazine (monthly, 6*d.*), 4, Southampton-row, London, W.C. (Telegs.: "Unconform, London." Teleph. No. 6494, Gerrard.)

Electrical & Motor Co., Bridge-st., Banbury.

Electrical Power (monthly, 6*d.*; ann. sub., 5*s.*), 16, Eldon-st., London, E.C. (Telegrams: "Colonizers, London." Telephone No. 1716, London Wall.) W. E. Freir, editor.

Electrical Power Engineering Co., Mary-st., St. Paul's, Birmingham. (Telegs.: "Torque, Birmingham." Teleph. No. 3819.)

ELECTRICAL POWER STORAGE CO., LTD., 4, GREAT WINCHESTER-ST., LONDON, E.C. WORKS: WEST FERRY-RD., MILLWALL, LONDON, E. (TELEGRAMS: "STORAGE, LONDON." TELEPHONE NO. 1253, LONDON WALL.) The nominal capital of £100,500 is divided into 20,000 ordinary shares & 100 founders' shares of £5 each. 18,592 of the former & 66 of the latter have been taken up, & 15,460 of the ordinary have been issued as fully paid; £4 per share has been called on the remaining 3132 ordinary, & the full amount has been called on the founders' shares; £30,000 in £100 debenture bonds has been authorized, of which £28,400 is issued. Directors: John Irving Courtenay, Esq. (chairman & managing director); Frederick Green, Esq.; Sir James Pender, Bart. Chief engineer, H. W. Butler; secretary, Malcolm Leggett, F.C.I.S. Dividends: to May, 1892, 6 per cent.; May, 1893, to May, 1902, 5 per cent. each year. *See* BATTERIES—STORAGE.

Electrical Press, Ltd., 37 & 38, Strand; & 1, Buckingham-st., London, W.C.

Electrical Publishing Co., Ltd., 4, Southampton-row, Holborn, London, W.C. (Telegrams: "Unconform, London." Teleph. No. 6494, Gerrard.)

Electrical Repairing & Maintenance Co., 8 & 10, Bull's Head-yard, Manchester. (Teleph. No. 268 X.)

ELECTRICAL REVIEW (weekly, price 4*d.*), H. Alabaster, Gatehouse & Co. Publishing office: 4, Ludgate Hill, London, E.C. (Telegrams: "Ageekay, London." Nat. Telephone No. 933, Holborn; P.O. No. 4425, Central.)

Electrical Standardizing Testing & Training Inst., Faraday House, 62-70, Southampton-row, W.C. (Telegs.: "Standardizing, London." Teleph. No. 9999, Central.) Secretary, H. Foulds, F.C.I.S.

Electrical Standards Laboratory, Board of Trade, 8, Richmond-ter., Whitehall, S.W.

Electrical Stores Supply Co., mfrs. & exporters of insulating materials, &c., Marsden-chbrs., Marsden-st., Manchester. (Telegs.: "Impregnate, Manchester." Teleph. No. 5461, Central. A.B.C. Code.)

Electrical Sundries Co., 63, Berners-st., London, W. (Telegrams: "Diagometer, London." Telephone No. 6791, Central.)

Electrical Sundries Manufacturing Co., 84, Ashton Old-rd., Manchester.

Electrical Testing Laboratories, Ltd., York Mansion, York-st., Westminster, S.W. *In voluntary liquidation.* Liquidator, W. P. Tomes, 17, Devonshire-chbrs., E.C.

Electrical Times (with which is incorporated *Lightning*), (weekly), 8, Bream's-bldgs., Chancery-lane, London, E.C. (Telegs.: "Equivolt, London." Teleph. No. 4426, Central.) (Ann. sub., 10*s.* 6*d.*)

Electrical Trades Engineering Co., Crown Electrical Works, Maygrove-rd., Brondesbury, London, N.W. (P.O. Teleph. No. 958, Hampstead.)

Electrical Trades Supply, Ltd., electrical & mechanical engineers, Britannia Works, Great Charles-st., Birmingham. (Telegrams: "Motors, Birmingham." Telephone No. 1601.) Registered Oct. 30, 1900, with a nominal capital of £5000 in £1 shares, 4507 of which are issued & fully paid. Directors: D. Shanks, Esq. (chairman); A. Handley, Esq. Secretary, Ernest Holt.

Electrical Trades Union, 135, Clerkenwell-rd., E.C. (Telegs.: "Eltradion, London." Teleph. No. 623, Central.)

Electrical Wireman's Association. J. A. Sayers, secretary, 79, Hubert-grove, Clapham, London, S.W.

Electrical World (of New York) (weekly), Hastings House, Norfolk-st., Strand, London, W.C.

Electrician (weekly, price 6*d.*), published at 1, 2, & 3, Salisbury-court, Fleet-street, London, E.C. (Telegrams: "Electrician Newspaper, London." Telephone No. 949, Holborn.)

ELECTRICITY & ELECTRICAL ENGINEERING (weekly, one penny). The largest weekly electrical paper at the popular price. Annual subscription, United Kingdom, 6*s.*; Foreign, 8*s.*, post free. 36, Maiden-lane, Strand, London, W.C. (Telephone No. 3287, Central.) *See advt., page* 19.

Electricity Supply Co. for Spain, Ltd., electricity supply, College Hill-chbrs., London, E.C. (Telegs.: "Substantial, London.") Registered June 7, 1889. Directors: R. C. Wyatt, Esq. (chairman); M. Dukas, Esq. Secretary, Charles Hill. Nominal capital: £4975 in 5*s.* ordinary shares, £25 in 5*s.* founders' shares & £200,000 in £5 preference shares. Issued: all the ordinary & founders' shares, fully paid; £173,300 preference shares, fully paid; & £51,500 6 per cent. first mortgage debentures, £28,500 7 per cent. second mortgage debentures & £125,800 5 per cent. consolidated debentures.

Electrics (monthly; ann. sub., 4*s.* 6*d.*), the official publication of the Society of Power Company Officials, 37 & 38, Strand, & 1, Buckingham-st., London, W.C.

ELECTROCARS, LTD., Alderman's House, Alderman's Walk, Bishopsgate-st., London, E.C. (Telegs.: "Ignotum, London." Teleph. No. 9696, London Wall.)

Electrofons Co., electrical engineers, Lord's-chbrs., 26, Corporation-st., Manchester.

Electro-Harmonic Society. Hon. sec., W. E. Lane, A.M.I.E.E., Finsbury Pavement House, London, E.C.

Electroid, Ltd. *In voluntary liquidation.* Liquidator, F. L. Jenkins, 17, Ironmonger-lane, E.C.

Electrolytic Plating Apparatus Co., Ltd., Charles-st., Walsall; & 70, Vittoria-st., Birmingham. (Telephone Nos.: 11, Walsall; 2439, Birmingham.)

Electromobile Co., Ltd., 7, Curzon-st., Mayfair, London, W. (Telegs.: "Monopolize, London." Teleph. Nos. 6850 & 6851, Gerrard.) Registered Oct. 17, 1902. Managing director, Theo. G. Chambers, A.R.S.M.; electrical engineer, H. L. Joly, A.M.I.E.E.; secretary, G. Cockerton.

Electromotor & Dynamo Co., electrical engineers & contractors, 15, Gray's Inn-rd., London, W.C. (Telegrams: "Dynamode, London." Telephone No. 4814, Holborn); & 49, Deansgate, Manchester. (Telegs.: "Dynamode, Manchester." Teleph. No. 08968.)

ELECTROMOTORS, LTD., manufacturers of electric motors, dynamos, switches, &c., Openshaw, Manchester. (Telegrams: "Magnet, Manchester." Telephone No. 4442.) London office: 35, Queen Victoria-st., E.C. (Telegrams: "Orders, London." Telephone No. 8078, Bank.) Registered Feb. 24, 1899, with a capital of £50,000 in £1 ordinary shares. 40,870 have been issued, 16*s.* paid. Directors: W. H. Johnson, Esq. (chairman); W. T. Stubbs, Esq. (managing); J. H. Stubbs, Esq. (managing); A. McDougall, Esq. Manager & engineer, B. Longbottom, A.M.I.E.E.; secretary, T. M. Gribbin.

Electro Peat Coal Co., Ltd., 11, Ironmonger-lane, London, E.C.

Electro-Post Railway Co., Ltd., 6, Great Winchester-st., London, E.C. (Telegrams: "Apellous, London." Telephone No. 11549, Central.) Registered Aug. 15, 1903. Nominal capital: £1,500,000 in £10 shares.

Elgar, F., 18, Cornwall-ter., Regent's Park, N.W. Director Clyde Valley Electric Power Co.

Elgar, H. T., wiring contractor, 19, Middle-st., Hastings.

Elieson, C. P., electrical traction engineer, 75, Edith-rd., West Kensington, London, W.

Elkington, L. H., Manor House, Fladbury. Director Fladbury Electric Light & Power Co., Ltd.

Elland Urban District Council Electricity Works, Elland, Yorks. A. V. Wardrop, A.M.I.E.E., engineer.

Ellice-Clark, E. B., M.I.C.E., Gore Court, Otham, Kent. Director Edison & Swan U. E. L. Co., Ltd.; director Amazon Telegraph Co., Ltd.; director Altrincham Electric Supply, Ltd. (ex-officio).

Elliot, C. H., electrical engineer, Kirk Braddon, Croydon-rd., Beckenham, Kent.

Elliott, A. C., D.SC., M.I.C.E., professor of engineering, University College of South Wales & Monmouthshire, Cardiff.

Elliott, C., A.M.I.E.E., electrical engineer, 2, St. George's Villas, Bowes-rd., Palmers Green, London, N.

Elliott, C., engineer, National Telephone Co., Ltd., Salisbury House, London Wall, E.C.

Elliott, J. E., consulting electrical engineer (Hill, Upton & Co.), 22, George-st., Oxford. (Telephone No. 108 X.)

Elliott, James Mountjoy, A.M.I.E.E., c/o Preece & Cardew, 8, Queen Anne's Gate, Westminster, London, S.W.

Elliott, J. R., electric bell fitter, Gloucester-terrace, Haverfordwest.
Elliott, Wm. R., A.M.I.E.E., 8, Cowper-ave., East Ham, London, E.
ELLIOTT BROTHERS, electricians, Century Works, Lewisham, London, S.E.; & 36, Leicester-sq., W.C. (Telegs.: "Ohm, London." A.B.C. Code. Teleph. Nos. 218 & 237, Deptford.)
Elliott & Mansell, electrical engineers, 12, Soho-st., Soho-sq., London, W. (Teleph. No. 7796, Gerrard.)
Elliott's Metal Co., Ltd., manufacturers of brass & copper tubes, sheets, plates, rods, wire, &c., Selly Oak Works, Birmingham; Pembrey Copper Works, Burry Port, R.S.O. Llanelly, S. Wales; Leadenhall-bldgs., London; 14, Brown-st., Manchester; 9, Irwell-st., Liverpool; Paris; & Newcastle. (Telegrams: "Elmeco, Selly Oak;" "Elmeco, London;" "Elmeco, Liverpool;" "Elliotts, Burry-Port.")
Ellis, Alderman Geo., Eastern Villas-rd., Landguard, Southsea. Director South London Electric Supply Corp., Ltd.
Ellis, Arthur, M.I.MECH.E., M.I.E.E., city electrical engineer & manager, Corporation Lighting & Tramways, Cardiff.
Ellis, D. C., 36, Basinghall-st., E.C. Director Burma Electric Tramways & Lighting Co., Ltd.; director East India Construction Syndicate, Ltd.
Ellis, G. A., electrical engineer, Electric Lighting, Launch & Motor Car Charging Station, Goring-on-Thames. (Telephone No. 15.)
Ellis, Harry, A.M.I.E.E., assistant engineer, Corporation Electricity Works, The Hayes, Cardiff.
Ellis, H. T., director Scarborough Electric Supply Co., Ltd., Seamer-rd., Scarborough.
Ellis, John E., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Corporation-st., Morley, Yorks. (Telephone No. 89.)
Ellis, O. H., assistant engineer, Telephone Department, 65, Renfield-st., Glasgow.
Ellis, R. E., consulting engineer (Mewburn, Ellis & Pryor), 70, Chancery-lane, London, W.C. (Telegrams: "Patent, London." Telephone No. 243, Holborn.)
Ellis, T. V., Oakcliff, Woodcroft. Director Chepstow Electric Lighting & Power Co., Ltd.
Ellis, Thos. W., engineer & manager, Woolwich Borough Council Electricity Works, Globe-lane, Woolwich, London, S.E.
Ellis, W., F.R.S., M.I.E.E., electrician, 78, Coleraine-rd., Blackheath, S.E.
Ellis, W. I., M.I.C.E., civil engineer & turbine manufacturer, 49, Deansgate, Manchester.
Ellis, C. H., & Co., electrical engineers, 29, Chivalry-rd., New Wandsworth, London, S.W.
Ellis, E., & Co., lightning conductor manufacturers, 21, Emmett-street, Poplar, London, E. (Telegrams: "Stayfall, London.")
Ellis & Saunders, electric light shade makers, 3 & 4, St. Martin's-court, Ludgate Hill, London, E.C. (Telegrams: "Mitre, London." Telephone No. 753, Bank.)
Ellis & Ward, electrical engineers & contractors, 75, Edmund-st., Birmingham. (Telegrams: "Magnet, Birmingham." Telephone No. 1405.)
Ellison, C. H., M.I.E.E., telegraph superintendent, North-Eastern Railway, York. (Telegrams: "Ellison, Railway, York.")
Ellistown Collieries Co., cable conduit makers (Archer's patent), Ellistown, nr. Leicester.
Ellwood, J., electric light contractor, Queen's Docks, Whitehaven.
Ellwood & Sledmere, wooden electrolier manufacturers, 53, Mortimer-st., W. (Telegs.: "Atelier, London." Teleph. No. 2079, Gerrard.)
Elmhirst, R. J., A.M.I.E.E., electrical engineer, Peninsular & Oriental Steam Navigation Co., P. & O. Factory, Royal Albert Docks, London, E.; & 9, Lonsdale-rd., Leytonstone, N.E.
Elmore, F. E., A.M.I.E.E., 4, Broad-st.-pl., London, E.C. (Telegs.: "Citroids, London." (Teleph. No. 2519, Wall.)
Elmore, F. E. & A. S., electro-metallurgists, 4, Broad-st.-pl., London, E.C. (Telegrams: "Citroids, London." Telephone No. 2519, Wall.)
Elmore's German & Austro-Hungarian Metal Co., Ltd., Finsbury House, Bloomfield-st., London, E.C.
Elphinstone, George K. B., M.I.E.E., Century Works, Lewisham.
Elsden Manufacturing Co., electrical & mechanical engineers, Gloucester Works, Old Ford, London, E.
Else, J. E. C., wiring contractor, Duke-st., St. Helens.
Elt & Co. (A. S. Bowden), patent & trade mark agents, 43, Southampton-bldgs., Holborn, London, W.C.
Elwell, John, iron, steel & tinplate merchant & manufacturer, Sheepcote-st., Birmingham. (Telegrams: "Sections, Birmingham." Telephone No. 733.)
Elwin, E. P., electrician, 1, Anerley Park, Anerley, London, S.E.
Ely, Fourd, A.M.I.E.E., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, Essex; acting works manager, Electricity Works, Chepstow, & Electricity Works, Ross.
Elyard-Brown, D., electrical engineer, c/o C. A. Vandervell & Co., Warple Way, Acton Vale, London, W. (Telegs.: "Vanteria, London." Teleph. No. 544, Chiswick, P.O.)
Emanuel, A., & Sons, Ltd., manufacturers of electric fittings, 9, 11 & 13, George-st., Manchester-sq., London, W. (Telegs.: "Emanuel, London." Teleph. Nos. 26 & 447, Paddington); & Speaking Stile Walk, Birmingham.

Emanuel, Max & Co., Statuettes for electric lights, 41, Shoe-lane, London, E.C. (Telegrams: "Mosanic, London." Telephone No. 1630, Holborn.)

Embleton, H. C., Central Bank-chbrs., Leeds. Director Yorkshire Electric Power Co.

Emerson, S. F., electric lighting contractor, Acacia Grove, & 9A, Grange-rd., West Kirby.

Emerson, F. E., & Sons, manufacturers of all electrical brass work, 7, Broken Wharf, Upper Thames-st, London, E.C.

Emery, W., & Co., manufacturers of electric light fittings, Albion Brass Works, 167, Arundel-st., Sheffield. (Telegrams: "Emery, Sheffield." Nat. Telephone No. 2118.)

"Emitevas" Electrical Fittings Co., St. Pancras Goods Station, St. Pancras-rd., Midland Railway, London, N.W. (Telegs.: "Emitevas, London." Teleph. No. 1933, Central.) Wm. Sevenoakes, manager.

Emley & Sons, Ltd., elec. & mech. engineers, 42, Westgate-rd., Newcastle-on-Tyne. (Teleph. No. 1119.)

Emmert, V., dealer in electric lamps, 115, Fore-st., London, E.C.

Emmett, Walter, A.I.E.E., 13, Southgate, Wakefield. (Teleph. No. 176.)

Emmott, C., Thorpe Hall, Darlington. Chairman Cleveland & Durham Electric Power, Ltd.; director Cleveland & Durham County Electric Power Co.; director Northern Counties Electrical Supply Co., Ltd.

Emmott, Walter, M.INST.C.E., M.I.E.E., consulting electrical engineer, 35, Commercial-st., Halifax. (Teleph. No. 0785.)

Empire Electric Light & Power Co., Ltd., 34, North-st., Romford; & Chesham. *In liquidation.* Liquidator, W. Allnutt, 5, Lime-st., E.C.

Empire Electrical Co., dealers in electrical supplies, Muscovy House, Trinity-sq., London, E.C.

Empire Porcelaine Co., earthenware manufacturers, Stoke-rd., Shelton.

Empire Roller Bearings Co., Ltd., 15, Victoria-st., Westminster, London, S.W. (Telegrams: "Empireste, London." Telephone No. 1003, Victoria).

Emtage, W. T., M.A., professor of physics & mechanics, University College, Nottingham.

Endacott, Norman, A.I.E.E., Grove Cottage, Worting-rd., Basingstoke.

Endean, W. F., manager Middleton Tramways, Middleton. (Teleph. No. 37.)

Endolithic Manufacturing Co., Ltd., ivory, bone, ivorine, brass & other metal switchboard labels & address tablets, Pomona-bldgs., 61½, Fore-st., London, E.C. (Telegs.: "Dendron, London." Teleph. Nos.: 3421, London Wall; & 11630, Central.)

Enfield Electricity Works, Enfield, Middlesex. North Metropolitan Electric Power Distribution Co., proprietors. Resident engineer, A. H. Bennett.

Engel, Leon, & Co., electrical engineers, 46, Fore-st., London, E.C.

Engelbert & Co., lubricant manufacturers, 119–125, Finsbury-pavement, London, E.C. (Telegrams: "Engelbert, London." Telephone No. 2514, London Wall.)

Engelhardt, H., 11, Bradford-ave., London, E.C. Sole British agent for Karlsbader Kaolin Industrie-Ges.

Engholm, A. Goldie, A.M.I.M.E, A.M.I.E.E., 30, Church-st., Birmingham. (Telegs.: "Engholm, Birmingham." Teleph. No. 925.)

Engineer, The (partly electrical), 33, Norfolk-st., Strand, London, W.C. (Telegrams: "Engineer Newspaper, London." Telephone No. 13352, Central.) (6*d.* weekly.)

Engineer-in-Charge (monthly, price 3*d.*; ann. sub., 3*s.* 6*d.*), 26–29, Poppins-ct., Fleet-st., London, E.C.

Engineer & Iron Trades Advertiser (published every Tuesday), devoted to the engineering, electrical, & allied trades. A. R. Goldie, publisher, Glasgow.

Engineers' Supply Co., 23, Lime-st., London, E.C. (Telegrams: "Thumscrew, London.")

Engineering (partly electrical, 6*d.* weekly), 35 & 36, Bedford-st., Strand, London, W.C. (Telegrams: "Engineering, London." Telephone No. 3663, Gerrard.)

Engineering, Electric & Construction Syndicate, Ltd. Registered May 4, 1906. Nominal capital: £100,000 in £1 shares.

Engineering Employers' Federation (T. Biggart, secretary), 105, West George-st., Glasgow. (Telegs.: "Verify, Glasgow." Teleph. Nos.: 4797, Nat., Royal; Trunk; & P.O., Central.)

Engineering Instruments, Ltd., electrical engineers & manufacturers, 272B, Upper-st., Islington, London, N. E. Garside, managing director. (Telegrams: "Instruvis, London." Telephone No. 43, North.) Nominal capital: £50,000 in 37,500 ordinary £1 shares, fully paid, & 12,500 deferred £1 shares, issued as fully paid. Debentures issued: £2000. Directors: R. Stewart Bain, Esq. (chairman); F. W. Harmer, Esq.; R. J. Wallis Jones, Esq.; Claude W. Atkinson, Esq. (managing); E. Garside, Esq. (managing). Secretary, W. K. Richmond.

Engineering Magazine (monthly; ann. sub., 12*s.* 6*d.*), 222–225, Strand, London, W.C. (Telegrams: "Enarched, London." Telephone No. 4732, Gerrard); & New York.

Engineering & Mining Journal of New York, 20, Bucklersbury, London, E.C. (Telegs.: "Pulcinetto, London." Teleph. No. 8352, Bank.)

Engineering Record (of New York), prior to 1887 "The Sanitary Engineer," Hastings House, Norfolk-st., Strand, London, W.C.

Engineering Review, Gwydir-chbrs., 104, High Holborn, W.C. (Telegrams: "Compelling, London.")

Engineering Society Municipal Schools, Brunswick-rd., Gloucester. J. C. Cooke, The Woodlands, Elmbridge-rd., Gloucester, hon. secretary.

Engineering Standards Committee (Leslie S. Robertson, M.I.C.E., Secretary), 28, Victoria-st., Westminster, London, S.W. (Telegrams: "Standation, London." Nat. Telephone No. 128, Westminster; & P.O. No. 1681, Victoria.)

ENGINEERING TIMES (weekly, price 2*d.*; ann. sub., 10*s.* 10*d.*), 6, Bouverie-st., London, E.C. (Telegs.: "Engineering Times, London." Teleph. No. 13806, Central.) *See advt., page* 25.

Engineering Training College (J. Gibson Fairweather, B.SC., C.E., director), 53, Frederick-st., Edinburgh.

Engineering Undertakings, Ltd., 38, Deansgate, Manchester.

England, Harry, general manager Yorkshire Tramways Construction Synd., 20, Victoria-st., London, S.W.

English, S. W., electrical engineer, 81, Haydons Park-rd., Wimbledon, London, S.W.

English Electric Carbon Co., Ltd., manufacturers of the "Phœbus" carbons for electric lighting, carbon works, Smelt, Brymbo, nr. Wrexham. (Telegrams: "Carbon Works, Brymbo.")

English Electric Manufacturing Co., Ltd. *See* Dick, Kerr & Co., Ltd.

English Mechanic (*partly electrical*, 2*d. weekly*), Clements House, Clements Inn Passage, Strand, London, W.C. (Telegrams: "Timeserver, London." Telephone No. 1633, Holborn.)

English Motor Co., electric motor car makers, Mill-lane & Bradford-st., Birmingham. (Telegrams: "Locomotive, Birmingham." Telephone No. 1961.)

Ennis, Peter, first-class technical officer, Engineer-in-Chief's Office, General Post Office, E.C.

Enright, James, B.SC., M.I.E.E., consulting electrical engineer, 47, Victoria-st., London, S.W.; & 202, Holland-rd., Kensington, W.

Enright, James Stephen, A.M.I.E.E., 47, Victoria-st., London, S.W.; & 202, Holland-rd., W.

Entwisle & Gass, Ltd., electrical & mechanical engineers, Atlas Foundry, Nelson-st., Bolton. (Telegrams: "Foundry, Bolton." Telephone No. 68. A.B.C. Code used.)

Entwistle, Wm. S., A.I.E.E., Marconi Wireless Telegraph Co., Ltd., 18, Finch-lane, E.C.

Entwistle & Stephens, Ltd., electric light shade makers in silk, lace, paper, linen & cardboard, Baldwin's Gardens, Gray's Inn-rd., London, E.C. (Telegrams: "Abatjour, London." Telephone No. 4965, Holborn.) Registered May 4, 1899. Capital: £25,000 in £1 shares.

Epsom Urban District Council Electricity Works, Epsom, Surrey. Engineer, H. Fraser Foster.

Equipment Syndicate, Ltd., electrical apparatus manufacturers, &c., Bank-bldgs., Exchange-st., Kidderminster.

Ericsson Bell Telephone Co., Baltic-chbrs., 50, Wellington-st., Glasgow. (Telegrams: "Ability, Glasgow." Telephone Nos.: 732, Argyle, Nat.; & 165, P.O.)

Erimus Automatic Safety Guard Co., Ltd., Post Office-chbrs., Middlesbrough.

Erith Urban District Council Electricity Works & Tramways, Erith, Kent. Engineer, Geo. E. Heath; tramways manager, A. Coveney.

Erith's Engineering Co., Ltd., makers of underfeed stokers, feed-water heaters, &c., 70, Gracechurch-st., London, E.C. (Telegrams: "Erithus, London." Telephone No. 1834, Avenue.)

Erlanger, Baron E. B. d', 20, Bishopsgate-st. Within, London, E.C. (Telegrams: "Aeditua, London." Telephone No. 578, Avenue.) Director New General Traction Co., Ltd.; director Norwich Electric Tramways Co., Ltd.; chairman Coventry Electric Tramways Co.

Erskine, R. S., M.I.E.E., 22, Stanford-rd., Kensington, London, W.

Erskine-Murray, J., D.SC., F.R.S.E., M.I.E.E., consulting electrician, 219, St. Vincent-st., Glasgow.

Escaré & Denelle, French art metal workers, &c., 129, Wardour-st., Oxford-st., W. (Telephone No. 2069, Gerrard.)

Escher, Wyss & Co. (agent, Jens Orten-Böving), 72, Victoria-st., Westminster, S.W.

Esher, Rt. Hon. Viscount, K.C.B., G.C.V.O., 2, Tilney-st., Mayfair, W. Director Central London Railway Co.

Esmarch, Morris & Co., electrical engineers, Albert-rd., Middlesbrough.

Espie, James, electrical engineer, 173A, St. Vincent-st., Glasgow. (Corp. Telephone No. 4632.)

ESPIR, FERNAND, general importer of foreign electrical appliances: copper wire, white porcelain insulators, incandescent lamps, porous pots, glass cells, vulcanized fibre, &c.; sole agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller). Speciality: electrical copper wire & strip (*see* WIRE MANUFACTURERS—TELEPHONE); Société Anonyme des Anciennes Usines de Fuisseaux (highly vitrified telegraph insulators) (*see* PORCELAIN & CHINA FITTINGS MAKERS), 2 & 3, East India-ave., London, E.C. (Telegrams: "Espir, London." Telephone Nos.: Nat. 1600, Avenue; & P.O. 4183, Central. A.B.C. & A1 Codes used.) *See also* CONTINENTAL DIVISION.

Esskildsen, Max K., A.I.E.E., engineer, Great Northern Telegraph Co., Ltd., 3, St. Helen's-pl., E.C.

Esslemont, A. S., A.I.E.E., general manager, County of Durham Electrical Power Supply & Distribution Cos., Royal Exchange-bldgs., Newcastle-on-Tyne.

Esson, C., electrical heating & sanitary engineer, &c., 102, Fetter-lane, London, E.C. (Telegrams: "Esson, London." Telephone No. 1064, Holborn.)

ESSON, W. B., M.I.C.E., M.I.E.E., consulting engineer & electrical expert, 1, Victoria-st., London, S.W. (Telegs.: "Powerwork, London." Teleph. No. 5386, Westminster.) Director West London & Provincial Electric Supply Co., Ltd.

Estler, Paul, M.I.E.E., Messrs. Siemens' Works, Woolwich, London, S.E.

Estler Bros., engineers, 25, Laurence Pountney-lane, E.C. (Telegrams: "Isolable, London." Telephone No. 6096, Bank.) Works: South Molton-rd., Victoria Docks, E.

Etchells, W. G., manufacturers' agent (electrical), 20, Woodfield-rd., Redland, Bristol.

Etherington, John, M.I.M.E., S.E., N.E.I.M.M.E., M.I.N.A., consulting & inspecting engineer, 39A, King William-st., London, E.C. (Telegrams: "Etherington, London.")

Euan-Smith, Sir Chas., K.C.B., C.S.I., &c., chairman International Ethiopian Railway Trust & Construction Co., Ltd.; director Cape Electric Tramways, Ltd.; director Chilian Electric Tramway & Light Co., Ltd.; director Lisbon Electric Tramways, Ltd.; chairman Marconi International Marine Communication Co., Ltd.; chairman Marconi's Wireless Telegraph Co., Ltd.

Euler, L. H., A.M.I.E.E., Western Electric Co., N. Woolwich, E.

Eurich, H. O., A.M.I.E.E., electrical engineer, 2, Park-rd., Rugby.

Europe & Azores Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telephone No. 1128, London Wall.) Registered Aug., 1893. Directors: The most Hon. the Marquess of Tweeddale, K.T. (chairman); the Hon. A. G. Brodrick; & Sir John Denison-Pender, K.C.M.G. Electrician-in-chief, Walter Judd; secretary, George R. Neilson. Nominal capital: £200,000 in £10 shares; 20,000 shares have been taken up, & are fully paid.

Eustace, John, A.M.I.E.E., 158, Osborne-rd., Forest Gate, Essex. (Teleph. No. 409, Stratford.)

Eustice, J., B.SC., A.R.S.M., A.M.I.C.E., professor of engineering, Hartley University College, Southampton.

Evan-Thomas, E. L., director British Columbia Electric Railway Co., Ltd., Threadneedle House, 28–31, Bishopsgate-st. Within, London, E.C.

Evans, A., director Mardy Electric Light Co., Ltd., Mardy, Glam.

Evans, C. J., A.M.I.E.E., 108, Castelnau, Barnes, S.W. (P.O. Telephone No. 128, Putney.)

Evans, D. H., High-st., Ogmore Vale. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Evans, D. O., M.I.E.E., manager & engineer for N. Wales National Electric Construction Co., 245, High-st., Bangor.

Evans, Edw., Brynamman Hotel, Brynamman. Director Brynamman & District Elec. Supply Co., Ltd.

Evans, Ed. A., electric lighting & power transmission engineer, Willows-rd., Birmingham.

Evans, E. M., electrician, Swan-sq., Burslem.

Evans, E. M., electrical contractor, 18a, Fountain-st., Manchester.

Evans, Evan W., Cwmgarw-rd., Brynamman. Director & secretary Brynamman & District Electric Supply Co., Ltd.

Evans, Frederick E., A.I.E.E., c/o Miss Campbell, 36, Selborne-rd., Hove, Sussex.

Evans, Frank Geo., A.I.E.E., 466, Chester-rd., Old Trafford, Manchester.

Evans, F. J., M.I.E.E., electrical engineer, Barry Railway Co., Barry, Glamorgan.

Evans, Griffith H. D., electrician, Talarfor, Barmouth, N. Wales.

Evans, John, district superintendent Edison & Swan United Electric Light Co., Ltd., 134, Royal-ave., Belfast. (Telegrams: "Ediswan, Belfast." Telephone No. 649.)

Evans, J. W., maker of stampings for electrical work, 54 & 55, Albion-st., Birmingham. (Telegrams: "Designer, Birmingham." Telephone No. 4075, Central.)

Evans, L., West End, Gorseinon. Director Gorseinon Electric Light Co., Ltd.

Evans, Malcolm T., A.M.I.E.E., 12, Queen's-sq., Bristol.

Evans, Mortimer, M.I.C.E., F.G.S., F.R.A.S., M.I.E.E., Saville Club, Piccadilly, London, W.

Evans, S., A.I.E.E., 45, Princes-ave., Church End, Finchley, London, N.

Evans, Sir D., K.C.M.G., Ewell Grove, Ewell, Surrey. Director Callender's Cable & Construction Co., Ltd.

Evans, Thomas Cleminson, A.I.E.E., 135, Coppice-st., Oldham.

Evans, W., belting manufacturer, 24, High-st., Newport, Mon.

Evans, W., 138, High-st., Tonyrefail. Director Tonyrefail & Gilfach Goch Electric Light Co., Ltd.

Evans, Wm. Hellier, A.I.E.E., Yorkshire Electrical Power Co., Central Bank-chbrs., Infirmary-st., Leeds.

Evans, Wm. Tuxford, A.M.I.E.E., 7, Courthill, Bearsden, Glasgow.

Evans Bros., Ltd., ironmongers, electrical engineers & contractors, Woodfield-st., Morriston, Glam.

Evans, Edward, & Co., consulting engineers & chartered patent agents, Lonsdale-chbrs., 27, Chancery-lane, W.C. (Telegrams: "Effugium, London." Telephone No. 4916, Holborn); Birmingham; & Manchester.

Evans, E. M., & Son, electrical engineers & contractors, 18B, Fountain-st., Manchester.

Evans, J., & Sons, pump manufacturers, Culwell Works, Wolverhampton.

Evans, Jos., & Son, Highfield Tool Works, Sheffield.

Evans, T. Arthur, & Co., electrical & mechanical engineers, Heathfield-st., Swansea.

Evans & Widowfield, dynamo makers, 5, Bute-crescent, Cardiff. (Telegs.: "Brattic, Cardiff." Tel. No. 146.)

Eve, Alfred, A.I.E.E., 33, Cairo-rd., Hoe-st., Walthamstow.

Evered & Co., Ltd., electrolier manufacturers, &c., 27–35, Drury-lane, London, W.C. (Telegrams: "Evered, London." Telephone Nos. 2502 & 2506, Gerrard); Surrey Works, Smethwick (Telegrams: "Evereds, Birmingham"); Barnet Works, Devonshire-st., Birmingham (Telegrams: "Romaine, Birmingham." Telephone No. 404); & 33, Ann-st., Glasgow. (Telegrams: "Evereds, Glasgow.") Directors: R. B. Evered, Esq. (chairman); F. A. Wallroth, Esq.; J. D. Davenport, Esq.; W. G. Kent, Esq.; R. G. Evered, Esq.; G. J. Evered, Esq.; S. Evered, Esq. Secretary, D. Bartlett. Registered Aug. 14, 1884. Nominal capital: £200,000. All subscribed & divided into 10,248 shares of £10 each, 9752 shares of £10 each, £7 paid, & 5 per cent. debenture bonds £50,000. Dividends: 1900, 1901, 1902, 10 per cent.; 1903, 8 per cent.; 1904, 7½ per cent.; 1905, 5 per cent.

Everest, A. R., M.AM.I.E.E., British Thomson-Houston Co., Rugby.

Everett, E. I., A.M.I.E.E., engineer & electrician (Everett, Edgcumbe & Co., Ltd.), Collindale Works, Hendon, London, N.W.

Everett, H. W., chief engineer, Clacton Urban District Council, Clacton-on-Sea.

Everett, Edgcumbe & Co., Ltd., electrical instrument makers, 87, Victoria-st., London, S.W. (Telegs.: "Everectus, London." Teleph. No. 83, Westminster); & Collindale Works, Hendon, Middlesex. (Telegs.: "Evergendos, London." P.O. Teleph. No. 136, Hampstead.) *See* MEASURING INSTRUMENT MFRS.—ELECTRICAL.

Everitt, A. E., electrical engineer, 5, Free School-lane, Cambridge.

Everitt, H. W., engineer, U.D.C. Electricity Works, Clacton, Essex.

Everitt, M., electrical engineer, 5, Free School-lane, Cambridge.

Everitt, Allen, & Sons, Ltd., brass & copper tubing, rolled metal & wire manufacturers, Kingston Metal Works, Smethwick, nr. Birmingham. London office: 118, Cannon-st., E.C. (Telegrams: "Everitt, Birmingham;" "Sheathing, London." Telephone No. 29, Smethwick.)

EVERITT & CO., manganese merchants & carbon makers, 40, Chapel-st., Liverpool. (Telegrams: "Persistent, Liverpool." Telephone No. 872.) *See advt., under* MANGANESE MERCHANTS.

Evershed, Sydney, M.I.E.E., Acton-lane Works, Chiswick, London, W. Director Evershed & Vignoles, Ltd.

EVERSHED & VIGNOLES, LTD., engineers, Acton-lane Works, Chiswick, London, W. (Telegrams: "Dorothea, London." Telephone No. 221, Hammersmith); & 110, Cannon-st., London, E.C. (Telegs.: "Purposeful, London." Teleph. No. 5430, Central.) Registered Feb. 5, 1895. Directors: Prof. W. E. Ayrton, F.R.S. (chairman); H. M. Gregory, Esq.; S. Evershed, Esq.; E. B. Vignoles, Esq. (secretary); P. R. Cobb, Esq. Nominal capital: £30,000 in £10 shares. 3000 shares have been taken up. £29,000 has been called & paid. Debentures issued: £14,000, part of £15,000.

Everson, C. R., general manager, Corporation Tramways, Plymouth. (Teleph. No. 518.)

Everson & Hughes, electrical engineers, 4, Masons-ave., London, E.C. (Telephone No. 4455, Central.)

Ewart, John W., A.I.E.E., Surrey House, Chiltern-rd., Wendover, Bucks.

Ewart & Son, Ltd., electrical engineers, 346–350, Euston-rd., London, N.W. (Telegrams: "Geyser, London." Telephone No. 751, King's Cross.)

Ewing, Alex. J., A.M.I.E.E., Narborough Hill, Narborough, nr. Leicester.

Ewing, J. G. A., National Telephone Co., Bristol.

Ewing, Prof. J. A., M.A., LL.D., F.R.S., M.I.C.E., M.I.E.E., Royal Naval College, Greenwich.

Ewing, J. L., & Co., electrical engineers & contractors, 156, St. Vincent-st., Glasgow. (Telegs.: "Exciter, Glasgow." Teleph. Nos.: 729, Argyle; & 1729, Corp.)

Ewins, J. A., & Co., gas-engine makers, 70, 71, Scholefield-st., Birmingham.

Exchange Telegraph Co., Ltd. Offices: 17 & 18, Cornhill, E.C. (Telegrams: "Davies, London." Telephone No. 1918, Avenue); & 64, Haymarket, London, S.W. (Telegrams: "Diocles, London." Telephone No. 3569, Gerrard.) Registered March 28, 1872. Nominal capital: £246,250, in 8125 "A" & 16,500 "B" shares, all of £10 each; the whole of the former & 16,200 of the latter class have been taken up. There has been £9 called on each of 6000 "A" shares & £1 on each of the remaining 2125 "A" shares, these being credited with £8 paid. The total received is £56,023; £179,000 has been agreed to be considered as paid. Directors: Lieut.-Col. F. F. Sheppee, R.A. (chairman); Wilfred King, Esq. (managing director); Kenneth Anderson, Esq.; H. L. Hotchkiss, Esq.; G. Montagu, Esq. Frederick Higgins, electrical engineer. Dividends: 1899, 3½ per cent.; 1900, 3½ per cent.; 1901, 4 per cent.; 1902, 1903, 1904 & 1905, 4½ per cent. per annum; 1906, *nil.*

Exeter Corporation Electricity Works, Exeter. H. D. Munro, M.I.E.E., engineer. (Telephone Nos.: 194, Central Offices; 288, Power Station.)

Exmouth Electricity Works. The Electric Supply Corp., Ltd., proprietors.

Eyears, A. E., A.M.I.E.E., electrical engineer, 4, Linkenholt Mansions, Hammersmith, London, W.

Eynon, George L., A.M.I.E.E., electrical engineer, 3, Adelaide-st., Strand, London, W.C. (Telegs.: "Speedenon, London." Teleph. No. 8967, Central.)

Eynon, Walter, A.M.I.E.E., 58, Bexley-rd., Erith, Kent.

Eyre, Wm., & Nephew, iron & metal merchants & high conductivity copper wire manufacturers, 1, Tithebarn-st., Liverpool. (Telegrams: "Eyre, Liverpool." Telephone No. 1364.)

Eyton & Co., lead merchants, Chester Wharf, Mann Island, Liverpool. (Telegrams: "Smelters, Liverpool." Telephone No. 5091.)

Fabbro & Co., electrical engineers & contractors, 158, Falcon-rd., Clapham Junction, London, S.W. (Telegs.: "Fabeln, London." Teleph. No. 576, Battersea); & at 41, St. John's-rd., Clapham Junction, London, S.W.

Fahn & McJunkin, makers of incandescent lamp-making machinery, 67a, Shaftesbury-ave., W.

Fairbairn, R. R., manager Worcester Electric Traction Co., Worcester. (Telegrams: "Tramways, Worcester." Telephone No. 81, Worcester.)

Fairbank, F., director Northallerton Electric Light & Power Co., Ltd., High-st., Northallerton.

Fairbanks, Morse & Co., electric pump makers, 126, Southwark-st., London, S.E.

Fairchild, H. E., electrical engineer, 4, Violet Hill, St. John's Wood, London, N.W.

Fairfax, J. S., A.I.E.E., A.I.N.A., consulting engineer, Kew Bridge Engineering Works, London, W. (P.O. Teleph. No. 535, Chiswick.)

Fairfax, J. S., & Co., Ltd., engineers, Kew Bridge Engineering Works, Chiswick, W. (Telegrams: "Speeduple, London." Telephone No. 535, Chiswick.)

Fairhurst, W. V. F., electrical engineer & contractor, Darwen, Lancs.

Fairley, Frank, A.M.I.E.E., Metropolitan Electric Tramways Co., 62, Finsbury Pavement, London, E.C.

Fairweather, C. W., consulting electrical engineer, Milburn House, Newcastle-on-Tyne. Engineer & general manager Northern Counties Electricity Supply Co., Ltd.; manager Northern District, Cleveland & Durham Electric Power, Ltd.

Fairweather, J. G., B.SC., consulting electrical engineer, College of Science & Technology, 53, Frederick-st., Edinburgh.

Falcke, Cecil D., electrical engineer, Birmingham Installation Co., Coleshill-st. Electrical Works, Birmingham. (Telephone No. 1607.)

Falconar, O. L., A.M.I.E.E., electrical engineer, 4, St. Nicholas-bldgs., Newcastle-on-Tyne.

Falconar, Cross & Co., electrical engineers, agents for Otis Elevator Co., Ltd., & Synchronome Co., 16, Lisle-st., Newcastle-on-Tyne. (Telegs.: "Install, Newcastle-on-Tyne." Teleph. No. 203, Central.)

Falconer, J., 52, Castle-st., Edinburgh. Chairman Mersey Railway Co.; director Cleveland & Durham County Electric Power Co.

Falk, Stadelmann & Co., Ltd., manufacturing electrical engineers, 83, 85 & 87, Farringdon-rd., London, E.C. (Telegrams: "Lamps, London." Telephone No. 2340, Holborn (6 lines)); & Glasgow.

Falkenstein, C. K., jun., A.M.I.E.E., electrical engineer, 4, Northstead-rd., Tulse Hill Park, London, S.W.

Falkirk Corporation Electricity Works, Falkirk, Scotland. (Telephone No. 230.) Engineer, J. McMillan.

Falkirk & District Tramways Co., 37, Castle-st., Edinburgh; & Larbert-rd., Larbert, N.B. (Telegs.: "Legatum, Edinburgh;" & "Trams, Falkirk." Teleph. Nos.: 2500, Edinburgh; & 154, Falkirk.) Incorporated under Falkirk & District Tramways Order Confirmation Act, 1901. Nominal capital: £150,000 in shares of £10 each. Issued: £77,990. Directors: A. D. Mackenzie, Esq., J.P. (chairman); G. M. Brown, Esq., M.P.; A. W. Tait, Esq.; R. S. Portheim, Esq. Secretary, E. I. Findlay, S.S.C.

Falkirk Electric Construction Syndicate, Ltd., 37, Castle-st., Edinburgh; & Larbert-rd., Larbert. Registered Oct. 24, 1904. Nominal capital: £100,000 in shares of £100 each. Issued: £96,200. Directors: A. D. Mackenzie, Esq., J.P. (chairman); G. M. Brown, Esq., M.P.; A. W. Tait, Esq.; R. S. Portheim, Esq. Secretary, Jas. C. Greig.

Falkirk Iron Co., manufacturers of all kinds of castings, tubes & poles, insulators, joint-box castings, dynamo castings, &c., &c., 67, Upper Thames-street, London, E.C.; 22–24, South Castle-street, Liverpool; 32–34, Bothwell-street, Glasgow; & 22, Picardy-place, Edinburgh. Works: Falkirk, N.B. (Telegrams: "Castings," London, Liverpool, Glasgow, Edinburgh & Falkirk. Telephone Nos.: 725, Bank, London; 4910, Glasgow; 5081, Liverpool.)

Fall, D., manager Giant's Causeway & Portrush Electric Tramways, Portrush, Antrim.

Falshaw, Reginald, electrical engineer, Albert-chbrs., Albert-st., Harrogate, Yorks. (Telegrams: "Falshaw, Harrogate." Telephone Nos.: 150; & night, 0373.)

Fanshawe, Harry, electrician, Thoralby, Fortune Gate, Harlesden.

Faraday House Journal (organ of the students of the Electrical Standardizing, Testing & Training Institute), Faraday House, Southampton-row, London, W.C.

Faraday House Old Student's Association, Faraday House, Southampton-row, London, W.C.

Faraday Society, to promote the study of Electrochemistry, Electrometallurgy, Chemical Physics, Metallography & kindred subjects. President, Lord Kelvin; secretary, F. S. Spiers, 82, Victoria-st., London, S.W.

Faraday Society's Transactions (quarterly), 82, Victoria-st., Westminster, London, S.W. Editor, F. S. Spiers.

Faraday & Son, manufacturers of electric light fittings, 2 & 3, Berners-street, London, W. (Telegrams: "Faraday, London." Telephone No. 3814, Gerrard.)

Fareham Urban District Council Electricity Works. Engineer, A. Blake.

Farish, A. F., Worcester House, Walbrook, E.C. Director Adelaide Electric Supply Co., Ltd.; director North Melbourne Electric Tramways & Lighting Co., Ltd.

Farley, W., & Sons, installation contractors, Market-st., Colne.

Farlow, Chas. Fitzroy, A.M.I.E.E., 54, Fitzroy-rd., Regent's Park, London, N.W.

Farmer, Henry, A.M.I.E.E., 76, King's Hall-rd., Beckenham, Kent.

Farmer, Sir James, & Sons, Ltd., machinists, mechanical & electrical engineers, Adelphi Ironworks, Salford, Manchester. (Telegrams: "Agricola, Manchester." Telephone No. 1074.) This company was registered March 1, 1895, with a capital of £15,000 in £50 shares.

Farmer, Thos., & Co., Ltd., acid manufacturers, Billiter-bldgs., London, E.C.

Farmiloe, George, & Sons, Ltd., electric bell fitters & contractors, 34, St. John-st., London, E.C. (Telegrams: "George Farmiloe, London." Telephone No. 543, Holborn.)

Farmiloe, T. & W., Ltd., zinc merchants, 19–23, Rochester-row, London, S.W. (Telegrams: "Farmiloe, London." Telephone Nos. 22, 673 & 5091, Westminster.)

Farncombe, I., electric lighting contractor, 84, London-rd., Brighton. (Municipal Telephone No. 186; & Nat., 838 X.)

Farnham & District Electricity Supply Co., Ltd., Lyenne, Fir Grove Hill, Farnham. Registered June 29, 1904. Nominal capital: £1000 in £1 shares. Directors: G. F. Roumieu, Esq.; W. T. Pressland, Esq.; R. D. Kingham, Esq. Secretary, J. Bruce Collier.

Farnworth District Council Electricity Works & Electric Tramways, Farnworth, Lancs. Engineer, R. B. Leach.

Farr, J., electrical & mechanical engineer, Sherwood-st., Nottingham. (Telegs.: "Farr, Electrician, Nottingham." Teleph No. 1313.)

Farrar, Douglas, M.SC., lecturer in electrical engineering, Hartley University College, Southampton.

Farrar, Sidney Howard, M.I.C.E., electrical engineer, 4, London Wall-bldgs., London, E.C. (Telegrams: "Civilement, London." Telephone No. 2599, London Wall.)

Farrell, A. B., engineer-in-charge Corporation Electricity Works, Belfast.

Farrell, H. O., electrical engineer, Sewerby Street Electric Works, Moss Side, Manchester. (Nat. Teleph. No. 251, Rusholme.)

Farrell, R., LL.D., Hazelmere, Douglas, Isle of Man. Director Manx Electric Railway, Ltd.

Farrer, M., A.M.I.E.E., resident engineer & manager, Electricity Works, Ramsgate & District Electric Supply Co., Ltd., Whitehall, Ramsgate.

Farrer, Right Hon. Lord, Abinger Hall, Dorking. Director Underground Electric Railways Co. of London, Ltd.; director Great Northern, Piccadilly & Brompton Railway Co.

Farrow, A. E., A.M.I.E.E., chief resident engineer, The Windsor Electrical Installation Co., Ltd., Peascod-st., Windsor (Telegrams: "Electric, Windsor." Teleph. No. 29A); & Slough & Datchet Electric Supply Co., Ltd., Slough.

Farrow, Ernest I., A.M.I.E.E., 12, Sterndale-rd., West Kensington, London, W.

Farrow, James, & Sons, petrol engine manufacturers, York-rd., King's Cross, London, N.

Farwig, Johnson & Co., Ltd., zinc, copper & wire merchants, 7, East India-ave., London, E.C. (Telegrams: "Farwig Johnson, London." Telephone No. 360, Avenue.)

Faunthorpe, C. L., A.M.I.E.E., 10, Burlington-st., Blackburn.

Faversham Corporation Electricity Works, Faversham, Kent. Engineer, Gordon Sommerville.

Fawcett, D. L., electrical engineer, 32, Sholebroke Mount, Leeds.

Fawcett, E. M., electrical engineer, 4, Sydney-ter., New-st., Paignton.

Fawcett, Ivan, A.M.I.E.E., 3, Mansfield Villas, Horsforth, Leeds.

Fawcett, Preston & Co., Ltd., mechanical engineers & boiler makers, 17, York-st., Liverpool. (Telegrams: "Fawcett, Liverpool." Telephone No. 116. A1 & A.B.C. Codes used.)

Fawcus, Geo. H., electrical & mechanical engineer, 38, Deansgate, Manchester. (Teleph. No. 4945.)

Fawcus, W. P. James, M.I.C.E., M.I.E.E., electrical engineer, 38, Deansgate, Manchester; 2, Queen Anne's-gate, London, S.W.; & 4, Queen Victoria-st., E.C. (Telegs.: "Fawcus, Manchester;" "Eminencies, London." Teleph. Nos.: 4945, Manchester; 678, Westminster; & 7234, Central.) Director Railway Lighting, Ltd.; director Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Light Co., Ltd.; director Lancashire Electric Power Co.; director Yorkshire Electric Power Co.

Fawssett, Evelyn, A.M.I.E.E., 20, Osborne-ter., Gosforth, Newcastle-on-Tyne. (Telegrams: "Supply, Newcastle-on-Tyne.")

Fay, J. G., & Co., Ltd., electric light engineers, 89 & 90, High-st., Southampton (Telegrams: "Fay, Southampton." Telephone No. 10); & Northam, Southampton. (Telephone No. 9.)

Fazakerley, J., electrical engineer, Victoria Station, Manchester.

Fearnhead, Alex., electric light & power engineer, 354, Caledonian-rd., London, N. (P.O. Teleph. No. 7674, Central.)

Fecher, M. J., manufacturer & importer of electrical porcelain work, 1, James-st., Old-st., London, E.C. (Telegrams: "Fecher, London." P.O. Central Telephone No. 2278.)

Fedden, S. E., M.I.C.E., M.I.MECH.E., general manager & engineer, Corporation Electric Supply, Sheffield.

Feeny, V. F., chartered patent agent, 60, Queen Victoria-st., London, E.C. (Telegs.: "Victor Feeny, London.")

Feeny, V. I., consulting engineer & chartered patent agent, 60, Queen Victoria-st., London, E.C. (Telegrams: "Victor Feeny, London.")

Feetham, Mark, M.I.M.E., M.I.E.E., London Electric Supply Corp., Stowage Wharf, Deptford, London, S.E.

Feilden, T. J. V., A.I.E.E., editor-in-chief, *Electrical Magazine & Popular Electricity*, 4, Southampton-row, Holborn, London, W.C. (Telegs.: "Unconform, London." Teleph. No. 6494, Gerrard.)

Felgate, A. E., electrical engineer, 10, Queen Victoria-st., Reading. (Nat. Teleph. No. 596.)

Felixstowe Pier Electric Railway, Felixstowe. Coast Development Corp., Ltd., proprietors. Engineer, E. A. Lambert.

Felixstowe Urban District Council Electricity Works, Felixstowe, Suffolk. Engineer & manager, N. Prentice.

Fell, Alfred W., electrical engineer, 22, Pennington-st., Rugby.

Fell, A. L. C., M.I.E.E., M.I.MECH.E., chief officer London County Council Tramways, 62, Finsbury Pavement, E.C. (Teleph. Nos. 1327 & 340, London Wall.)

Fell, John, tramway engineer & contractor, 25, Victoria-st., London, S.W. (Telegrams: "Fellosum, London." Telephone No. 435, Westminster.)

Fell & James, consulting engineers & chartered patent agents, 1, Queen Victoria-st., London, E.C. (Telegrams: "Lodestone, London." Telephone No. 317, Bank.)

Fellheimer, J. M. & D., manufacturers' agents for all kinds of movements for electrical purposes, 26, City-rd., London, E.C.

Felling Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Pelaw, Durham. Consulting engineer, C. W. Fairweather.

Fellingham, E. E., electrical contractor, 78, Shaftesbury-rd., Brighton.

Fellowes, Henry, & Co., electric light & power engineers, & contractors, Seamoor-bldgs., Westbourne, Bournemouth. (Telephone No. 202.)

Fellows, S. J. & E., Ltd., iron discs, transformer & other stampings, Vulcan Works, Wolverhampton. (Telegrams: "Vulcan, Wolverhampton.")

FELTEN & GUILLEAUME LAHMEYERWERKE ACTIEN GESELLSCHAFT, Mülheim am Rhein, manufacturers of wire of all descriptions for electrical & telegraphic purposes—speciality: patent double bronze wire for telegraph & telephone purposes. For insulated wires & cables for electric light & transmission of power & for rail bonds, THE LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W. For other manufactures, W. F. DENNIS & CO., Albert-bldgs., 49, Queen Victoria-st., London, E.C.).

Feltham, John B., A.M.I.E.E., station engineer, Electricity Works, & "Wincott," Malvern-rd., Gloucester.

Feneley, G. H., mechanical & electrical engineer, Tonbridge Villas, Great Longstone, nr. Bakewell, Derbyshire.

Fennell, W., A.M.I.E.E., engineer & manager, Corporation Electricity Works, Wednesbury. (Teleph. No. 15 B.)

Fenner, N. J., & H. B. Alder & Co., Ltd., insulating paint & varnish manufacturers, 120, Fenchurch-st., London, E.C. (Telegrams: "Tropic, London." Telephone No. 1081, Avenue.)

Fenning, E. G., A.I.E.E., c/o Rev. R. R. Fenning, Larchester Vicarage, Durham.

Fenton, E. S., assistant electrical engineer, Corporation Electricity Works, Bridlington.

Fenton, W., engineer, Burton-pl., Hanley.

Fentum-Phillips, H., F.S.A., A.M.I.E.E., consulting electrical engineer, Parkfield, Guildford. (Telegrams: "Fentum-Phillips, Guildford." Telephone Nos. 0182 & 92.)

Fenwick, J. B., corporation electrical engineer, East Retford, Notts.

Ferbeck Chimney Construction Co., 222, Finsbury Pavement House, London, E.C. *See* CHIMNEY BUILDERS—REPAIRERS.

Ferguson, Chas. Joseph, electrician, 74, Chiswell-st., London, E.C.

Ferguson, F. J., Hillside, Whitchurch-on-Thames, Oxon. Chairman Whitchurch & Pangbourne Electric Supply Co., Ltd.

Ferguson, James, M.I.E.E., electrical instrument maker & engineer, 61, Pollok-st., Pollokshaws, Glasgow. (Teleph. No. 33, Pollokshaws.)

Ferguson, John, A.I.E.E., chief engineer, Corporation Tramways, Glasgow.

Ferguson, P. F. H., director Whitchurch & Pangbourne Electric Supply Co., Ltd., King Edward-bldgs., Station-rd., Reading, Berks.

Ferguson, Russell Forrester, M.I.E.E., A.M.I.MECH.E., borough electrical engineer, Hastings. (Telegrams: "Electric, Hastings." Nat. Telephone No. 46.)

Ferguson, R. S., electrical engineer, Southampton Docks, Southampton.

Ferguson, T., A.I.E.E., c/o British Westinghouse Electric & Manufacturing Co., Ltd., Trafford Park, Manchester.

Ferguson, Thos., installation contractor, 17, W. Maitland-st., Edinburgh.

Ferguson, W. J., A.I.E.E., engineer & works manager Redditch Urban District Council Electricity Works, Redditch. (Telephone No. 53.)

Ferguson & Carver, electric light contractors, 28, Swan-st., Brechin.

Ferguson & Co., electrical engineers, 10, South Anne-st., Dublin. (Telephone No. 80 X.)

Fergusson, John C., consulting electrical engineer, 75, New-st., Birmingham.

Fergusson, Rt. Hon. Sir J., Bart., 80, Cornwall-gardens, S.W. Director National Telephone Co., Ltd. (Telephone No. 422, Kensington.)

Fernie, F., A.M.I.E.E., Corporation Electricity Works, Edinburgh.

Fernie, James, consulting engineer, 30, Brunswick-st., Liverpool. (Telegrams: "Frozen, Liverpool." Telephone No. 5767, Central.)

Ferranti, S. Z. de, M.I.E.E., electrical engineer, Grindleford Bridge, Sheffield. Director Ferranti Ltd.; director British Insulated & Helsby Cables, Ltd.

Ferranti Ltd., manufacturing electrical & general engineers, Hollinwood, nr. Manchester. (Telegrams: "Ferranti, Hollinwood." Nat. Telephone Nos. 31 & 48, Failsworth, Manchester.) Registered Feb. 27, 1905. Nominal capital: £130,000 in 60,000 preference, 60,000 ordinary & 10,000 deferred shares of £1 each, £100,000 first mortgage debentures & £30,000 second mortgage debentures. Issued: all the ordinary & 53,281 preference shares as fully paid, & all the debentures. Directors: A. W. Tait, Esq. (chairman); A. Whittaker, Esq.; J. M. Henderson, Esq.; S. Z. de Ferranti, Esq. Secretary, T. H. Morris.

Ferrier & Hillestrom, manufrs.' agents, 119A, Exchange-bldgs., Cardiff. (Telegs.: "Bracketing, Cardiff.")

Ferris, S., wiring contractor, 12, Wellington-st., Swindon.

Ferris & Co., Ltd., scientific apparatus makers, Union-st., Bristol. (Telegrams: "Ferris, Bristol." A.B.C. Code. Telephone No. 480.)

Festing, Major-Gen. C. B., R.E., F.R.S., M.I.E.E., 56, Queen's Gate-ter., London, S.W.

Few, W. E., A.I.E.E., Corporation Electric Light Works, Burton-on-Trent.

Ffinch, B. T., C.I.E., M.I.E.E., North Lodge, Kidbrook Park-rd., Blackheath, S.E.

Fidler, T. Claxton, M.I.C.E., professor of engineering, University College, Dundee, N.B.

Field, Allan B., M.A., B.SC., A.I.E.E., Hoath, Crowborough Cross, Sussex.

Field, A. M. C., electrical engineer, Consett Iron Co., Ltd., Consett, co. Durham.

Field, F., electrical engineer, Corporation Electricity Works, Blackpool.

Field, Howard, A.I.E.E., 2, St. Dunstan's Hill, London, E.C. (Telegrams: "Mallett, London." Telephone No. 2158, Avenue.)

Field, John E., jun., A.I.E.E., 13, Leinster-sq., Rathmines, co. Dublin.

Field, M. B., M.I.E.E., A.M.I.C.E., chief engineer, Ferranti Ltd., Hollinwood, nr. Manchester.

Field, J. C. & J., Ltd., wax manufacturers, 15, Upper-marsh, Lambeth, London, S.E. (Telegrams: "Ozokerit, London." Telephone No. 756, Hop.)

Field, Mallett & Co., Ltd., frames & covers, winches, 2, St. Dunstan's Hill, London, E.C. (Telegrams: "Mallett, London." Telephone No. 2158, Avenue.)

Field & Son, manufacturing electricians, Market-sq., Aylesbury.

Fielden, S. H., electrical engineer & managing director Rhodes Electrical Manufacturing Co., Ltd., Riverside Works, Doncaster.

Fielder & Rees, manufacturing electricians, 35, Chiswell-st., London, E.C.

Fielding, John Wm., A.I.E.E., 59, Dairyhouse-rd., Derby.

Fielding, John Wm., A.I.E.E., 31, Birley-st., Blackpool.

Fielding, J. W., & Co., electrical engineers & contractors, 31, Birley-st., Blackpool. (Teleph. No. 28.)

Fielding & Platt, Ltd., gas & oil engine makers, Atlas Iron Works, Gloucester (Telegrams: "Atlas, Gloucester." Telephone No. 58); & 118, Queen Victoria-st., London, E.C. (Telegrams: "Ironbound, London." Telephone No. 8148, Bank.)

Fife Electric Power Co., Scotsman-bldgs., 34, North Bridge-st., Edinburgh. (Telegrams: "Farad, Edinburgh." Telephone No. 594, Central.) Incorporated 1903. Proposed capital: £600,000 in shares; £200,000 in loans.

Fife Electric Power Co., Ltd., 5, Great George-st., Westminster, London, S.W.; & Dunfermline. (Telegs.: "Unit, Dunfermline." Teleph. No. 187.) Nominal capital: £30,000 in £10 shares. Issued: 3000 shares fully called up. A trust deed, dated Aug. 15, 1905, securing £15,000 debentures created by resolutions of June 6 & Aug. 15, 1905, has been registered, together with a disposition & an assignation, both of even date, executed in pursuance thereof. Directors: R. E. Walker, Esq. (chairman); R. Russell, Esq.; Sir R. H. Saukey; T. O. Callender, Esq.; H. Mungall, Esq.; D. Russell, Esq.; W. Robertson, Esq.; A. R. Young, Esq.; H. W. Hutchison, Esq. Secretary, G. D. Prince.

Figueria, —, Funchal, Madeira. Director Madeira Electric Lighting Co., Ltd.

Fildes, Samuel, A.M.I.E.E., 16, St. Andrew-st., Dublin.

Fildes & Barlow, electrical engineers, Howard-st., Stockport. (Nat. Teleph. No. 35 Y.)

Fileman, M., electrical engineer, 99, Queen's-rd., Brighton.

Filgate, Col. A. J., R.E., 107, Jermyn-st., W. Chairman Hove Electric Lighting Co., Ltd.; chairman Calcutta Electric Supply Corp., Ltd.

Finchley Urban District Council Electricity Works. Engineer, E. Calvert, A.M.I.E.E.

Findlay, W. H. d'A., M.S.A., 11, Prospect-pl., Burgess Hill. Chairman Burgess Hill & District Electric Supply Co., Ltd.

Finlay, Archibald Henry, A.I.E.E., "Willesden," Holywood, Co. Down, Ireland.

Finlay, Wm., jun., A.I.E.E., 77, Great King-st., Edinburgh.

Finlay, John, & Co., Ltd., electric light engineers & contractors, 18, Renfield-st., & Overnewtown Works, Glasgow. (Telephone Nos.: 1551, Corp.; & 1455, Nat.)

Finlay, Wm., & Co., electrical engineers & contractors, 16, North St. Andrew-st., Edinburgh. (Teleph. No. 138, Central.)

Finlay, W. & W., electrical contractors, 18, Frederick-st., Edinburgh.

Finn, Meyer, M.SC., head of department of physics, mathematics & electrical engineering, Technical School, Southend-on-Sea.

Finnegan, Robt., tramway contractor, East Park, Northampton.
Finnis, T., general manager & secretary Direct United States Cable Co., 240, Winchester House, Old Broad-st., London, E.C.
Fippard, A. J., A.M.I.E.E., 39, Victoria-st., Westminster, London, S.W.
Fire Resisting Corp., Ltd., electric wire casing manufacturers, Townmead-rd., Fulham, London, S.W. (Telegrams: "Antipyrine, London." Telephone No. 988, Kensington.)
Fireproof Celluloid Syndicate, Ltd., 82, Victoria-st., London, S.W. (Telegs.: "Swooper, London." Teleph. No. 292, Westminster.)
Firth, H. W., A.I.E.E., electrical engineer, Great Eastern Railway Electricity Department, Norton Folgate, London, N.E.; & "Crawford," Eglinton-rd., Chingford, Essex.
Firth, D., & Son, electrical contractors, 14, Cannon-st., Manchester.
Fish, J., director Fleetwood & District Electric Light & Power Syndicate, Ltd., Old Bank-chbrs., Fleetwood, Lancs.
Fish & Co., electrical & mechanical engineers, Park-rd., Wellingborough.
Fishenden, E. G., A.M.I.E.E., 175, Fentiman-rd., Vauxhall, London, S.W.
Fisher, Chas. V., electrical engineer, 4, Nether Hall-rd., Doncaster. (Teleph. No. 6 X. 2.) Branch: 1, West-st., Mexborough.
Fisher, Frederick, A.M.I.E.E., electrician, c/o Eastern Telegraph Co., Electra House, Moorgate, E.C.
Fisher, G. B., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.
Fisher, J. Greevz, lubricator manufacturer, 78, Harrogate-rd., Leeds. (Telegrams: "Kingfisher, Chapel Allerton.")
Fisher, N., director Ingleton Electric Lighting & Power Co., Ltd., Greta Printing Works, Ingleton, Yorks.
Fisher, P., general manager of Corporation Tramways, Dundee. (Telephone No. 1340.)
Fisher, Percy Arthur, A.I.E.E., Ashbourne, Lewin-rd., Streatham, London, S.W.
Fisher, W. Clark, A.M.I.C.E., A.I.E.E., mechanical & electrical engineer, 24, Albany-rd., Ealing, W.
Fisher, Wm. Hayes, 13, Buckingham Palace-gdns., S.W. Director Westminster Electric Supply Corporation, Ltd.
Fisher & Co., engineers, St. Mirren Works, Macdowall-st., Paisley, N.B. (Telegrams: "Fisher, engineers, Paisley." Telephone No. 244.)
Fisher & Ludlow, Ltd., metal stampers, 83 & 87, Rea-st., Birmingham. (Telegrams: "Tinmen, Birmingham." Telephone No. 413.)
Fisher, S., & Co., manufacturers of malleable castings, Pelham Works, Mitchell-st., Sheffield. (Telegrams: "Malleable, Sheffield." Telephone No. 1388.)
Fitch, Bennett, M.I.C.E., Lauriston House, Grange-rd., Ealing. Director Central Elec. Supply Co., Ltd.; director St. James's & Pall Mall Electric Light Co., Ltd.
Fithian, A. W., A.M.I.E.E., electrical engineer, Hunston, Harehills-ave., Leeds.
Fitt, Frank Herbert, A.M.I.E.E., 57, Belmont-rd., Beckenham.
FitzGerald, F., director Coventry Electric Tramways Co.; director New General Traction Co., Ltd.; director Norwich Electric Tramways Co., 20, Bishopsgate-st. Within, London, E.C.
FitzGerald, M., B.A., examiner in engineering, Royal University of Ireland, Dublin.
Fitzgerald, Prof. W., electrical inspector, B.O.T., Queen's College, Belfast.
FitzGerald, Sir G., K.C.M.G., 18, Cadogan-gdns., S.W. Director Chilian Electric Tramway & Light Co., Ltd.
FitzGerald, Wm. A., A.I.E.E., "Lynwood," Hampton Wick.
FitzHerbert, C. K., assistant engineer, County of London Electric Supply Co., Oak Wharf, City-rd., E.C.
Fitzmaurice, Maurice, C.M.G., chief engineer to the London County Council, Spring-gardens, London, S.W.
Fitzsimons, Hiram, electrical engineer, 9, Stanley-st., Govan, Glasgow.
Fladbury Electric Light & Power Co., Ltd., Fladbury, Worcestershire. Registered Oct. 25, 1899, with a capital of £2000 in £1 shares, of which 855 have been issued & fully paid. Debentures issued: £300. Directors: J. W. Wagstaffe, Esq. (chairman); L. H. Elkington, Esq.; G. T. Stephens, Esq. (secretary); A. L. Stephens, Esq.
Fladgate, W. F., 2, Craig's-ct., Charing Cross, S.W. Chairman Charing Cross, West End & City Electricity Supply Co., Ltd.; chairman Suppliers Construction Co., Ltd.
Flamwell, T. H., A.I.E.E., Church Walk, Worksop.
Flamwell, Thos., & Son, mechanical & electrical engineers, Worksop. (Telegrams: "Flamwell, Worksop." Telephone No. 1 Y. 4.)
Flannery, Sir J. F., 9, Fenchurch-st., E.C. Director Callender's Cable & Construction Co., Ltd.
Flannery, Baggallay & Johnson, consulting engineers, 9, Fenchurch-street, London, E.C. (Telegrams: "Drafting, London." Telephone No. 338, Avenue.)
Flather & Co., Ltd., electrical engineers, Park Electrical Works, Marshall-st., Holbeck, Leeds. (Telegrams: "Flather, Marshall-st., Leeds." Telephone No. 1829.)
Fleet, H. A., station superintendent, Yorkshire Electric Power Co., Thornhill.
Fleetwood, Chas. T., M.I.E.E., "Westerlee," Alexandra-grove, Woodside Park, North Finchley, London, N.
Fleetwood, H. O., A.I.E.E., Lighting Station, Head Post Office, Cardiff.

Fleetwood & District Electric Light & Power Syndicate, Ltd., Old Bank-chbrs., Albert-sq., Fleetwood. (Telegs.: "Dynamo, Fleetwood." Teleph. No. 3 Y.) *In liquidation.* W. Cash, receiver.

Fleming, A. H., A.I.E.E., 91, Sidney-grove, Newcastle.

Fleming, A. P. M., A.M.I.E.E., c/o British Westinghouse Co., Trafford Park, Manchester.

Fleming, Edward G., A.I.E.E., Tower House, South Hill, Bromley, Kent.

Fleming, H. S., director Fort William Electric Lighting Co., Ltd., Fort William.

Fleming, M. J., electrician, borough surveyor, Town Hall, Waterford.

Fleming, Prof. J. A., M.A., D.SC., M.I.E.E., F.R.S., professor of electrical engineering, University College, Gower-st., London, W.C.; & 212, Finchley-rd., Hampstead, London, N.W.

Fleming, R., 2, Princes-st., Bank, E.C. Director Central London Railway Co.

Fleming, T. J., M.I.E.E., c/o British Thomson-Houston Co., 83, Cannon-st., London, E.C.

Fleming, A. B., & Co., Ltd., patent solidified oil, 15, Whitefriars-st., London, E.C. (Telegs.: "Fleming, London." Teleph. No. 115, Holborn. A.B.C. Code used.)

FLEMING, BIRKBY & GOODALL, LTD., MANUFACTURERS OF LEATHER & OTHER DRIVING BANDS & TELEGRAPH & TELEPHONE STAPLES, West Grove Mill, Halifax. (Telegrams: "Fleming, Halifax." Nat. Telephone Nos.: Halifax, 49; Hull, 33Y; Fleetwood, 0186.) London office: 39, Lime-st., E.C. (Telegrams: "Jimcrow, London." Telephone No. 2800, Avenue.) Registered Jan. 26, 1892. Directors: W. Wright, Esq. (chairman); F. Fleming, Esq.; T. B. Birkby, Esq.; J. T. Goodall, Esq., J.P.; W. Healey, Esq. Secretary, J. Townsend. Nominal capital: £50,000 in £10 ordinary shares, £50,000 in £10 preference shares, £30,000 in 4½ per cent. £100 debentures. All issued & fully paid. Dividends: 1904, 6 per cent. on preference, 7½ per cent. on ordinary; 1905, 6 per cent. on preference, 10 per cent. on ordinary; & first half of 1906 (*interim*), 6 per cent. on preference & 10 per cent. on ordinary.

Fleming & Co., electric light & power contractors, 9, Lothian-st., Edinburgh.

Flemming, A. H., A.I.E.E., 91, Sidney Grove, Newcastle.

Fletcher, Alfred S., A.I.E.E., 130, Great Clowes-st., Broughton, Manchester.

Fletcher, Aubrey, A.M.I.E.E., Electricity Works, Braywick-rd., Maidenhead.

Fletcher, B. Morley, A.M.I.C.E., consulting electrical engineer, 20, Victoria-st., London, S.W. (Telegrams: "Agonium, London." Telephone No. 5085, Westminster.)

Fletcher, F. P., A.M.I.MECH.E., A.M.I.E.E., engineer, Admiralty Power Station, Chatham Dockyard, Kent.

Fletcher, Geo., Briar Gate House, Long Eaton. Director Harrington Electric Light Co., Ltd.

FLETCHER, G. E., A.M.I.C.E., M.I.E.E., consulting electrical engineer, 77, King-st., Manchester. (Telegrams: "Rheostat, Manchester." Nat. Telephone No. 5670.)

Fletcher, J. W., A.M.I.C.E., M.I.E.E., Homestead, Stockport. (Telephone No. 167.)

Fletcher, James Young, A.I.E.E., Grosvenor Lodge, Rathgar, Dublin.

Fletcher, R. Howard, B.A., M.I.E.E., consulting electrical engineer, Essendene, Llanishen, Glam.

Fletcher, T., M.I.E.E., National Telephone Co., Ltd., Telephone House, Victoria Embankment, London, E.C.

Fletcher, Wm., A.I.E.E., M.I.M.E., Ovingham House, Beech Grove, Whickham, R.S.O., co. Durham. (Nat. Teleph. No. 2.)

Fletcher Bros., electrical engineers & contractors, 130, Great Clowes-st., Broughton, Manchester.

Fletcher, George, & Co., mechanical & hydraulic engineers, Masson & Atlas Works, Derby (Telegs.: "Amarilla, Derby." Teleph. No. 368); & 21, Mincing-lane, London, E.C. (Telegs.: "Amarilla, London." Teleph. No. 2813, Avenue.)

Fletcher, Kilpatrick & Co., electricians, 15, East Vermont-st., Glasgow. (Teleph. No. 718 X., Corp.)

Fletcher & Phillipson, dealers in electrical supplies, 10, Lower Baggot-st., Dublin. (Teleph. No. 900.)

Fletcher, Sons & Udal, metal workers & manufacturers of electric light fittings, 51–53, Edgbaston-st., Birmingham. (Telegrams: "Udals, Birmingham." Nat. Telephone Nos. 1640 & 558.)

Flett, Geo., A.I.E.E., joint managing director Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C. Director Hyderabad Electric Light & Traction Co., Ltd.

Flew, F. R., A.I.E.E., 199, North End-rd., West Kensington, London, W. (Teleph. No. 927, Kensington.)

Flint, W., electric bell fitter, High-st., Uckfield, Sussex.

Flint, Wm. J., manganese merchant, 79–81, Ethelburga House, 70 & 71, Bishopsgate-st. Within, London, E.C. (Telegrams: "Exogen, London." Telephone No. 891, London Wall.)

Flitton & Coombs, electric fittings, Caroline-st., Old Kent-rd., London, S.E. (Telegrams: "Fanwheels, London.")

Flockton, Tompkin & Co., Ltd., steel manufacturers, converters & refiners, Newhall Steel Works, Sheffield. (Telegrams: "Tompkin, Sheffield." A.B.C. Code. Telephone No. 480, Nat.)

Flood, G. S., A.M.I.E.E., c/o Johnson & Phillips, Victoria Works, Old Charlton, Kent.

Flower, J. W., A.M.I.E.E., electrical engineer, Brush Electrical Engineering Co., Ltd., Belvedere-rd., London, S.E. (Telegs.: "Magneto, London." Teleph. No. 1647, Hop.)

Flower, Spencer, A.I.E.E., Middle Hill, Broadway, Worcester.

Flower, S. A., director Stratford-on-Avon Electricity Co., Ltd., Stratford-on-Avon.

Floyd, R. N., electric bell fitter, 3, East-terrace, Penzance.

Foale, W. S., A.M.I.E.E., engineer & manager, Corporation Electricity Works, Portsmouth.

Foinette, Rev. T. W., A.I.E.E., Bristol.

Folkestone Electricity Supply Co., Ltd., Folkestone. (Teleph. No. 97.) Registered March 26, 1897. Nominal capital: £100,000 in 10,000 £5 ordinary shares & 10,000 5 per cent. cumulative preference shares of £5 each, & £100,000 4½ per cent. debentures. Issued: £50,000 ordinary shares, fully paid, & £50,00 preference, & £90,000 debentures, secured by trust deed. Directors: Geo. Spurgen, Esq. (chairman); S. Penfold, Esq.; D. Baker, Esq.; C. J. Pursey, Esq.; F. E. Gripper, Esq.; W. B. Hopkins, Esq. Managing engineer, Thos. Hesketh, M.I.E.E.; secretary, Fredk. Hall. Dividends: 1901, 4½ per cent.; 1902, 5 per cent.; 1903, 1904 & 1905, 5½ per cent.; first half of 1906, 4 per cent.

Follenfant, Chas., A.M.I.E.E., 261, Clapham-rd., London, S.W.

Fooks-Bale, J. H., M.I.E.E., M.I.MECH.E., manager, Motor Department, London General Omnibus Co., London, E.C.

Foote, Henry, electrical engineer, 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Foote & Milne, Ltd., electrical engineers & contractors, 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Forbes, F. E., electrical, mechanical & motor car engineer & contractor, 16, Chestnut-st., Southport.

Forbes, John, Windle-chbrs., St. Helens. Director West Cumberland Electric Tramways Co.

Forbes, Prof. G., M.A., F.R.S., M.I.C.E., M.I.E.E., consulting & electrical engineer, 34, Great George-street, Westminster, London. (Telegrams: "Tailrace, London.")

Forbes, Sir Chas., consulting engineer, 28, Queen's Gate-ter., South Kensington, London, S.W. (Telephone No. 8511, Kensington.)

Force, S. R., & Son, electrical contractors, 15, Sidwell-st., Exeter.

Ford, F. W., A.I.E.E., St. Keverne, Park Hill-rd., Wallington, Surrey.

Ford, Major P. B., director Pontypool Electric Light & Power Co., Ltd., Club-chbrs., Pontypool.

FORD & MARGRETT, plain or enamelled slate for electrical work, Camphill Slate Works, Birmingham. (Telegrams: "Mantel, Birmingham." Telephone No. 2475.) *See advt. under* SLATE TURNERS.

Ford, Thomas, & Co., electric light fittings makers, Victoria Works, 114, Emily-st., Birmingham.

Ford, Thos. W., & Co., engineers & agents, Palace-chbrs., 9, Bridge-st., Westminster, London, S.W.

Ford-Lloyd, A., & Co., electrical engineers, 63–65, Cavendish-st., Brighton.

Ford-Moore & Sutton, civil & electrical engineers, 28, Warwick-rd., Ealing. (Teleph. No. 1052, Ealing.)

Fordham, W. B., & Sons, Ltd., emery & emery cloth & glass paper manufacturers & merchants, St. Pancras Works, 36–40, York-rd., & Railway-st., King's Cross, London, N. (Telegs.: "Fordhams, London." A.B.C. Code. Teleph. No. 514, North.)

Foreign & Colonial Concessions, Ltd. Registered Sept. 30, 1905. Nominal capital: £5000 in £1 shares.

Forest City Electric Co., manufacturers of commutator segments & rail bonds, 13, Cornbrook-rd., Chester-rd., Manchester. (Telegs.: "Rolldrop, Manchester.")

Formby & Freshfield Electric Light Co., Ltd., Middlehurst-bldgs., Manchester-st., Liverpool. Registered Oct. 20, 1906. Nominal capital, £25,000 in £1 shares.

Forrest, Frank, sub-stations superintendent, Electricity Supply Department, Birmingham.

Forrest, J. H., electrical engineer, Metropolitan Amalgamated Railway Carriage & Wagon Co., Ltd., Lancaster.

Forrest, R., St. Fagans, Cardiff. Chairman South Wales Electrical Power Distribution Co.

Forrest, Thos., & Sons, electrical engineers, 29, South Clerk-st., Edinburgh. (Tel. No. 02774, Central.)

Forrester, E., & Co., electrical engineers, 8 & 10, Moorfields, & 20, Pall Mall, Liverpool. (Telephone No. 5588, Central.)

Fors Accumulator Co., 110, Strand, London, W.C. (Teleph. No. 8372, Gerrard.)

Forshaw, A. C., A.I.E.E., Direct United States Cable Co., Ltd., 39, Mark-lane, London, E.C.

Forster, A. L., A.M.I.E.E., Chance Bros. & Co., Ltd., Smethwick, Birmingham.

Forster, C. W., A.I.E.E., "Wynnstay," Roebuck, Milltown, co. Dublin.

Forster, H. R. G., A.I.E.E., Electricity Works, Gillingham, Kent.

Forster, R. B., A.M.I.E.E., Winona, Victoria-pl., Blackrock, co. Dublin.

Forster & Gregory, Ltd., manufacturing chemists, Greyhound-lane, Streatham Common, London, S.W. (Telegrams: "Redantim, London.")

Forster & Sons, Ltd., glass tube makers, St. Helens.

Fort, J., coal tar creosote oil manufacturer, 19, South John-st., Liverpool. (Telegs.: "Fort, Liverpool.")

Fort & Bean, electrical engineers, Market-pl., Colne.

Fort William Electric Lighting Co., Ltd., Fort William, Inverness. (Telephone No. 10.) Registered Dec. 17, 1895. Nominal capital: £9000 in £5 shares, all issued. Directors: J. C. Hawkshaw, Esq. (chairman); D. Macniven, Esq.; N. B. Mackenzie, Esq.; D. MacLeish, Esq.; A. Shepherd, Esq.; E. Brocklehurst, Esq.; J. M. Dobson, Esq.; H. S. Fleming, Esq. Secretary, A. Campbell; electrical engineer, Irvine Reid. Dividends: 1903, 2½ per cent.; 1904, *nil.*

Forth, F. C., A.R.C.SC.I., principal Municipal Technical Institute, & director of Technical Instruction, Belfast.

Forwood, Sir W. B., J.P., Bromborough Hall, Bromborough, Cheshire. Chairman Liverpool Overhead Railway Co., Ltd.

Foslett, J., electric bell manufacturer, 8, Charles-street, Newport, Mon.

Fossett, J. H., B.SC., assistant superintending engineer, General Post Office, Dublin.
Foster, E. D., M.SC., head of engineering department, Municipal Technical School, Brighton.
Foster, H. Fraser, engineer, Epsom Urban District Council, Electricity Works, Epsom.
Foster, H. Llewellyn T., A.M.I.C.E., M.I.E.E., chief electrical engineer to the British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester; & St. Winnon, West Didsbury, Manchester.
Foster, Herbert S., electrical engineer, 41, Mather-st., Newcastle-upon-Tyne.
Foster, James, electrical engineer-in-charge, City Meat Market, Birmingham.
Foster, John Arnold, A.I.E.E., 11, Hills-pl., Oxford Circus, London, W.
Foster, L. C., Liskeard, Cornwall. Chairman Cornwall Electric Power Syndicate, Ltd.
Foster, Ll. Ll., A.M.I.E.E., electrician, Charing Cross, West End & City Electricity Supply Co., Ltd., 85, Fenchurch-st., E.C., & 4, Dunoon-gdns., Forest Hill, S.E.
Foster, Prof. G. Carey, LL.D., M.I.E.E., Ladywalk, Rickmansworth, Herts.
Foster, R., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Aston Manor, nr. Birmingham.
Foster, S. S., A.I.E.E., resident engineer, Derby & Notts Electric Power Co., Ilkeston, Derby.
Foster Bros., Ltd., telegraph & telephone pole manufacturers, Lea Brook Tube Works, Wednesbury. (Telegrams: "Fosters, Wednesbury." Telephone No. 5.)
Foster & Co., arc lamp manufacturers, Worple-rd., Wimbledon, London, S.W. (Telegrams: "Fosteraco, London." Telephone Nos.: 265, P.O.; & 92, Nat., Wimbledon.)
Foster, Edward, & Son, Ltd., electrical engineers, Central Brass Works, Halifax. (Telegrams: "Foster, Halifax." Telephone No. 99.) Registered Oct. 14, 1897. Nominal capital: £50,000 in £5 shares.
Foulds, H., F.C.I.S., secretary, Electrical Standardizing, Testing & Training Institution, Faraday House, Southampton-row, London, W.C. (Telegs.: "Standardizing, London." Teleph. No. 9999, Central.)
Fournier, E. E., electrician, Chapelizod, Dublin, Ireland.
Fourniss, C. W., A.M.I.E.E., 18, Birnam-rd., Tollington Park, London, N.
Fowkes, Frederic, A.I.E.E., "Hawkeshead," Ambleside.
Fowle Bros., electric bell fitters, King-st., Gravesend. (Telephone No. 083.)
Fowler, Ald. V., Huntriss Hall, Huntriss Row, Scarborough. Director Scarborough Tramways Co.
Fowler, C. C., A.M.I.E.E., deputy manager, Corporation Electricity Works, North-rd., Brighton.
Fowler, H., electrician, William-st., Windsor.
Fowler, H., Bridge-st., Witney. Director Witney Electric Supply Co., Ltd.
Fowler, Walter Ernest, A.M.I.E.E., 11, Beckwith-rd., Herne Hill, London, S.E.
Fowler, W. H., J.P., Queen Anne's-chbrs., London, S.W. Director National Electric Construction Co., Ltd.; chairman Musselburgh & District Electric Light & Traction Co., Ltd.; director Mexborough & Rawmarsh Construction Synd., Ltd.
Fowler, W. H., WH.SC., M.I.C.E., M.I.M.E., &c., consulting engineer, 53, New Bailey-st., Manchester. (Telegrams: "Scientific, Manchester." Telephone No. 08628.)
Fowler, John, & Co. (Leeds), Ltd., mechanical engineers, 6, Lombard-st., London, E.C. (Telegrams: "Steamplow, London." Telephone Nos.: 290, Avenue, Nat.; & 8384, Central, P.O.) Works: Leeds. (Telegrams: "Fowler, Leeds." Telephone No. 513.)
FOWLER-WARING CABLES CO., LTD. *See* Western Electric Co.
Fownes Forge & Engineering Co., Ltd., electricians' forgings & mechanical engineers. Works: Tyne Dock, Newcastle; & Cardiff.
Fox, A. G., engineer-in-charge, Electrical Works, Chatham Dockyard.
Fox, Chas. G., electrician, Ernest F. Moy, Ltd., Greenland-pl., Camden Town, London, N.W.
Fox, Duke, J.P., Marlbro' House, Dewsbury. Director Nottinghamshire & Derbyshire Tramways Development Co., Ltd.
Fox, E. J., A.M.I.E.E., electrical engineer, Grosvenor House, Clifton-rd., Rugby.
Fox, F. W., electrical engineer, 39, Bank-st., Ashford, Kent. (Teleph. No. 1 Y. 5.)
Fox, Francis, M.I.C.E., consulting engineer, 28, Victoria-st., Westminster, London, S.W. (Telegrams: "Traction, London." Telephone No. 10, Westminster.)
Fox, H., M.I.E.E., electrical engineer, managing director Morley Electrical Engineering Co., Ltd., Troy Works, Stanningley, nr. Leeds.
Fox, Sir Douglas, M.I.C.E., M.I.E.E., consulting engineer, 28, Victoria-st., London, S.W. (Telegrams: "Traction, London." Telephone No. 10, Westminster.) Director Venezuela Telephone & Electrical Appliances Co., Ltd.; director Houghton-le-Spring & District Electric Lighting Co., Ltd.; director Durham Collieries Electric Power Co., Ltd.
Foxcroft, J., electrical engineer, Brabourne Lees, Surrey-rd., Bournemouth.
FOXCROFT & DUNCAN, electrical & mechanical engineers, Phœnix Works, Mentmore-ter., London Fields, N.E. (Telegs.: "Foxship, London.") *See* ARC LAMP MFRS.—ELEC., & MEASURING INSTRUMENTS—ELECTRIC.
Foyster, A. H., M.I.E.E., Corporation Electricity Works, Dewar-pl., Edinburgh.
Frain, W., representative of the Edison & Swan United Electric Light Co., Ltd., Castle-st., Dundee. (Telegrams: "Ediswan, Dundee." Telephone No. 143.)

Frampton & Paine, electrical engineers, 29, Old Queen-st., Westminster, S.W. (Telegs.: "Tryfram, London." Teleph. No. 866, Westminster.)

France, A., second station engineer, Kensington & Knightsbridge Electric Lighting Co.'s Station, Knightsbridge, London, S.W.

France, E., electric light, bells & telephones, Cannon-passage, Birmingham. (Teleph. No. 396.)

France, W. M., A.M.I.E.E., c/o National Telephone Co., Telephone House, Victoria Embankment, London, E.C.

Francis, Arthur H. M., A.M.I.E.E., The Den, 76, Culverden-rd., Balham, London, S.W. (Telegrams: "Agencies, London.")

Francis, F. H., A.M.I.E.E., chief electrical engineer, Oxford Electric Co., Ltd., 45, Broad-st., Oxford.

Francis, F. W., Engineer-in-Chief's Department, National Telephone Co., Victoria Embankment, London, E.C. (Teleph. No. 62, Head Office.)

Francis, G. C., St. Tewdric, Mathern, Chepstow. Director Chepstow Electric Lighting & Power Co., Ltd.

Francis, G. E., A.I.E.E., Hastings Tramway Co., Silver Hill, St. Leonards-on-Sea.

Francis, H. F., A.M.I.E.E., 45, New Inn, Hall-st., Oxford.

Francis, O. F., A.M.I.E.E., borough electrical engineer & tramways manager, Kirkcaldy, N.B.

Francis, T. E., installation contractor, 64, Colston-st., Bristol.

Francis, Wm., wiring contractor, Guildhall-st., Folkestone.

Francis & Son, electric bell fitters & contractors, High Cross-st., St. Austell, Cornwall.

Francis & Ward, waterproof telegraph street tents for repairers, 92, Thomas-st., Bristol. (Telegs.: "Sunproof, Bristol." Nat. Teleph. No. 2436 Y.)

Franke & Co., manufacturers of arc lamp globes, 8, Long-lane, Aldersgate-st., London, E.C.

Frankenburg, I., & Sons, Ltd., makers of insulated cables & wires for electric lighting, power transmission, &c., Greengate Rubber & Cable Works, Salford, Manchester (Telegrams: "Sincolor, Manchester." Telephone No. 5273, Manchester); & 1, Cripplegate-bldgs., Wood-st., London, E.C. (Telephone No. 8168, Central.)

FRANKFORT MICA MANUFACTURING CO. (Landsberg & Ollendorff), mica merchants & micanite manufacturers, Frankfort-on-Main-Bockenheim, Germany. (Telegrams: "Glimmerfabrik, Frankfort-main.") London office: 68, Basinghall-st., E.C. Manager, L. Lehmann. (Telegrams: "Richtig, London." Telephone No. 2180, Central.) *See advt.*, MICA MERCHANTS.

Franklin, A. E., J.P., director Notting Hill Electric Lighting Co., Ltd., 21, Cornhill, E.C.

Franklin, C. B., A.M.I.E.E., 62, Ranelagh-rd., Dublin.

Franklin, Geo., Imperial-chbrs., Norfolk-row, Sheffield. President National Telephone Co., Ltd.; director British Thomson-Houston Co., Ltd.; director Lanarkshire Tramways Co.

Franklin, R., director Chesham Electric Light & Power Co., Ltd., Higham-rd., Chesham.

Franklin & Isaacson, Ltd., electrical, mechanical & consulting engineers, 40, Great Wilson-st., Leeds.

Franks, A., manufacturing optician & electrician, 95 & 97, Deansgate, & 44, Market-st., Manchester; 60, Bradshawgate, Bolton; & 55, Lichfield-st., Wolverhampton.

Fraser, Andrew, A.I.E.E., Relay Station, Haverfordwest.

Fraser, A., electrician, Eastern Telegraph Co., Ltd., Electra House, Moorgate, London, E.C.

Fraser, Dr. E. H., Wellington House, Nottingham. Chairman Derbyshire & Nottinghamshire Electric Power Co.

Fraser, Fred A., engineer, Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C. (Teleph. No. 5542, Avenue.)

Fraser, James, A.I.E.E., 43, Harlescott-rd., Nunhead, London, S.E.

Fraser, W., electrical contractor, 91 & 93, Waterloo-st., Glasgow.

Fraser, W. J., 33, Brunswick-sq., Brighton. Director Southern Counties Mono-Rail Syndicate, Ltd.

Fraser, W. T., A.M.I.E.E., South Wales E. P. D. Co., Royal-chbrs., Queen-st., Cardiff.

Fraser & Chalmers, Ltd., manufacturing engineers, 3, London Wall-bldgs., London, E.C. (Telegrams: "Vanner, London." Telephone Nos.: 351, Central; & 1024 & 1025, London Wall.)

FRASER & FRASER, LTD., engineers & boiler makers. Only Address: Bromley-by-Bow, E. (Telegrams: "Pressure, London." Telephone No. 66, Eastern.)

Fraser, J., & Son, Ltd., boiler makers, Millwall Boiler Works, Wharf-rd., London, E. (Telegrams: "High-pressure, London." Telephone Nos. 3385 & 3386, Eastern. A.B.C. Code used.)

Frazer, T., A.M.I.C.E., electrical engineer, 114, Broadway, Plaistow, Essex.

Frazer, Borthwick & Co., installation contractors, 91 & 93, Waterloo-st., Glasgow. (Nat. Teleph. Nos.: 1093, Argyle; & 5452, Corp.)

Frazer, Norwich, Ltd., manufacturers of electric cable casings, &c., Palace Plain Joinery Works, Norwich. (Telegrams: "Frazers, Norwich." Telephone No. 231.)

Frazier, H. P., & Co., installation contractors, Birmingham. (Telephone No. 2951, Central.)

Frederison, M., electrician, 8, Regent-st., London, W.

Freeland, W. J. F., A.M.I.E.E., c/o Crompton & Co., Ltd., Arc Works, Chelmsford.

Freeman, E. H., A.I.E.E., Tyler & Freeman, 20, New Bridge-st., London, E.C.

Freeman, J. G., A.M.I.E.E., electrical engineer, London Electric Supply Corporation, 25A, Cockspur-st., London, S.W.

Freeman, O. F., "Stonehurst," Hagley-rd., Edgbaston, Birmingham. Director Stratford-on-Avon Electricity Co., Ltd.

Freeman, W. S., electrical engineer, Invicta Works, Otford, Kent.

Freeman & Co., electric light engineers & contractors, 21, Swallow-street, Piccadilly, London, W.

Freeman Hines, Ltd., conduit makers for underground cables, 20, Victoria-st., S.W.

Fremantle, Hon. Sir Chas. W., K.C.B., 4, Lower Sloane-st., S.W. Director British Electric Traction Co., Ltd.

French, A. H., A.M.I.E.E., chief engineer, Chelmsford Electric Lighting Co., Ltd., Chelmsford.

French, Archibald John, A.M.I.E.E., 10, Radford-rd., Lewisham Park, London, S.E.

French, J. L., & Co., electrical engineers, 36, Devonshire-rd., Bexhill.

Freshwater & Totland (I. W.) Electricity Supply Co., Ltd. Registered March 11, 1899, with a capital of £15,000 in £1 shares, nine of which have been taken up, but nothing has been called up. Directors: A. Bayliffe, Esq.; J. P. C. Shrubb, Esq.; C. H. Hands, Esq.

Freudemacher, P. W., A.M.I.E.E., electrician, "Astolat," Berlin-rd., Catford, London, S.E.

Freund, Edwin, A.M.I.E.E., electrical & mechanical engineer, 39, Victoria-st., Westminster, S.W. (Telegrams: "Alacrious, London." Telephone No. 5075, Westminster.)

Frew, T. Dow, A.I.E.E., 2, King James'-pl., Perth.

Frew & Co., Ltd., hydraulic & electrical engineers & brass founders, 6 & 7, Mill-st., Perth. (Telegs.: "Frews, Perth." Teleph. No. 30.)

Fricker, Guy C., M.I.E.E., "Nevin," Avenue-rd., Southfields, London, S.W.

Fricker & Miller, consulting engineers & electricians, 82, Victoria-st., London, S.W. (Telephone No. 222, Victoria.)

Frictionless Engine Packing Co., Ltd., mfrs. of Karmal packing & Roko belting, Hendham Vale Works, Harpurhey, Manchester. (Telegs.: "Packless, Manchester." Teleph. No. 1496. A.B.C. Code used.)

Friederichs, H. F., M.I.C.E., borough electrical engineer, West Hartlepool.

Friedlaender, P. R., A.I.E.E., head of Electrical Engineering Department, West Ham Municipal Technical Institute, Romford-rd., West Ham, London, E.

Friedland Manufacturing Co., Ltd., engineers & electricians, c/o Hatchell, Jones & Co., 47, Mark-lane, London, E.C.

Friend, J., electrical contractor, 6, Iron Bridge, Exeter.

Frinton-on-Sea & District Electric Light & Power Co., Ltd., 6, Old Jewry, London, E.C. (Telegs.: "Authorized, London." Teleph. No. 8012, Bank.) Registered July 1, 1901. Directors: W. Webster, Esq. (chairman); P. Collins, Esq.; W. Hayne, Esq.; W. R. Dockrell, Esq. Secretary, H. Barker. Nominal capital: £5000 in £1 shares, & £1500 in £1 preference shares. Debentures securing £3000, created May 7, 1903, have been registered. Issue on Dec. 29, 1905, of £1100, & on Oct. 4, 1906, of £1500 second debentures, part of series created Oct. 26, 1905, to secure £3000 & 5 per cent. interest.

Frisby, W., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Colchester.

Friswell, Richard John, F.I.C., F.C.S., consulting chemist & chemical engineer, 43, Great Tower-st., London, E.C. (Telegrams: "Doctoreth, London." Telephone No. 6597, Central.)

Frith, Julius, M.SC., A.M.I.E.E., The Homestead, Victoria Park, Manchester.

Frizell Bros. & Louis, electrical engineers & contractors, 79, Denmark Hill, London, S.E. (Teleph. No. 2308, Hop.)

Frodsham, Harold, A.I.E.E., E. C. Powder Co., Green Street Green, via Dartford, Kent.

Frome Electricity Supply, Frome, Somerset. Engineer, F. H. Merritt. (Teleph. No. 26.)

Frost, C. A., chief assistant electrical engineer, Electricity Works, Bexhill.

Frost, H. G., electrician, 54, High-st., Deal. (Telegs.: "Frost, Deal." Teleph. No. 2 X. 5.)

Frost, W., installation contractor, 11, Lodge-rd., Aston, Birmingham.

Frost & Reed, manufacturers of mathematical instruments, 47, Queen's-rd., Clifton.

Fry, H., electrician, c/o J. Sunderland & Co., Halifax.

Fry, Sir Th., Bart., Woodburn, Darlington. (Telegrams: "Fry, Woodburn, Darlington." Telephone No. 38.) Vice-chairman Cleveland Trust, Ltd.

Fry, Miers & Co., importers & exporters of electrical & telegraph plant, 5, Laurence Pountney Hill, E.C. (Telephone No. 6880, Central.)

Fryer, W. J., & Co., electrical contractors, Bravington-rd. Works, Paddington, London, W.

Fryers, Ltd., electric light fittings, 6, Henrietta-st., Cavendish-sq., W.

Fuerst Bros., importers, exporters, & merchants of all chemical & manufacturing materials, 1, Philpot-lane, London, E.C. (Telegrams: "Fuerst, London." Telephone Nos.: 1050, Avenue; & 5690, Central. A.B.C. Code used.)

Fulford, Edwin, A.M.I.E.E., 7, Anson-rd., Tufnell Park, London, N.W.

Fulham Borough Council Electricity Works, Townmead-rd., Fulham, S.W. (Telephone No. 9, Kensington.) Engineer, A. J. Fuller, A.M.I.E.E.

Fulham Pottery & Cheavin Filter Co., Ltd., The, makers of battery jars, porous & glass cells, insulator, Fulham, London, S.W. (Telegrams: "Stoneware, London.")

Fullarton, John, Thornwood, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

Fuller, Arthur J., burgh electrical & consulting engineer, Borough Council Electricity Works, Townmead-rd., Fulham, S.W.

Fuller, Edwin E., A.M.I.E.E., A.M.AM.I.E.E., electrical engineer, c/o British Thomson-Houston Co., 83, Cannon-st., London, E.C.

Fuller, G. J. A., A.I.E.E., Woodland Works, Wick-lane, Old Ford-rd., Bow, E.

Fuller, George, M.I.E.E., electrical engineer, Woodland Works, Wick-lane, Old Ford-road, Bow, E.

Fuller, H. J., manager, Electrical Department, John Fowler & Co. (Leeds), Ltd., Leeds.

Fuller, John C., M.I.E.E., Woodland Works, Wick-lane, Old Ford-road, London, E.

Fuller, John L., A.I.E.E., Fuller Electrical & Manufacturing Co., Norfolk House, Laurence Pountney Hill, London, E.C.

Fuller, Leonard, A.I.E.E., Woodland Works, Wick-lane, Old Ford-rd., Bow, E.

Fuller, Robert Fleetwood, A.I.E.E., Neston Park, Corsham, Wilts.

FULLER ELECTRICAL & MANUFACTURING CO., makers of dynamos, alternate current motors (single-, two- & three-phase), transformers, motors, switches, &c., Norfolk House, Laurence Pountney-lane, London, E.C. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., under* DYNAMOS.

Fuller, Horsey, Sons & Cassell, electrical & mechanical valuers, 11, Billiter-sq., London, E.C. (Telegrams: "Fuller, Horsey, London." Telephone No. 746, Avenue.)

Fuller, J. C., & Son, telegraph engineers, Woodland Works, Wick-lane, Old Ford-rd., Bow, London, E. (Telegs.: "Fuller, Wick Lane, Bow." Teleph. No. 500, Eastern.)

Fullerton, R. A., A.I.E.E., consulting engineer & electrician, 1, Strathmore-gdns., Hillhead, Glasgow. (Telegs.: "Rhodique, Glasgow." Nat. Teleph. No. 1358, Argyle.)

Fullerton, Hodgart & Barclay, Ltd., engine makers for electrical purposes, Paisley. (Telegrams: "Vulcan, Paisley." Telephone No. 63. A.B.C. Code used.)

Fullerton, R. A., & Co., manufacturers' representatives for electrical & engineering plant & accessories, 116, Hope-st., Glasgow. (Telegs.: "Rhodique, Glasgow." Teleph. No. 1358, Argyle.)

Fulton, D. B., district manager National Telephone Co., Ltd., 9, Berkeley-st., Gloucester.

Fulton, R. N., A.M.I.E.E., 2, Wood-st., Rugby.

Fulton, T. Crichton, A.I.E.E., consulting electrical engineer, 44, West George-st., Glasgow. (Corp. Teleph. No. 01826.)

Furneaux, A. L., electrical engineer & contractor, 10 & 11, York-st., Swansea. (Telegs.: "Switch, Swansea." Nat. Teleph. No. 335 Y.)

Furness, Charles, A.M.I.E.E., M.I.M.E., borough electrical & tramway engineer, Blackpool. (Telegrams: "Electricity, Blackpool." Telephone No. 67.)

Furness, Sir C., M.P., 23, Upper Brook-st., W. Director Metropolitan Railway Co.

Furniss, D., A.I.E.E., Central Drive, Shirebrook, nr. Mansfield.

Furniss, V. E., assistant engineer, Corporation Electricity Works, Great Grimsby.

Furniss, W. M., electrical engineer, Electric Construction Co., Ltd., Wolverhampton.

Furnival & Co., Ltd., makers of the "Express" gas engine, Reddish Ironworks, Stockport. (Telegrams: "Furnival, Reddish." Telephone No. 35, Heaton Moor.)

Furse, W. J., & Co., electrical engineers & contractors, Traffic-st., Nottingham. (Telegrams: "Furse, Nottingham." Telephone No. 539.)

Furze, J., superintendent Commercial Cable Co., Liverpool.

Fuse Box Co., 1, Boundary-rd., Notting Hill, London, W.

Fyfe, Alex. M., A.I.E.E., 74, York-st., Glasgow.

Fyfe, J. W., A.I.E.E., Metropolitan Asylums Board, Embankment, London, E.C.

Fyfe, Wilson & Co., manufacturers' agents, 74, York-st., Glasgow. (Telegs.: "Polyphase, Glasgow." Teleph. Nos.: 2052, Argyle, Nat.; & 68 Red, Corp.)

Fyfield, E., West End, Witney. Director Witney Electric Supply Co., Ltd.

Fylde Electrical Engineering Co., Back Clifton-st., Blackpool.

Fynn, Valère A., M.I.E.E., electrical engineer, 18, Blessington-rd., Blackheath, S.E.

"G. B." (Griffiths Bedell) Surface Contact Co., electric tramway contractors. Offices: Hamilton House, Bishopsgate-st. Without, London, E.C. Works: Ilford, E. (Telegrams: "Opalite, London." Telephone Nos. 2868 & 2869, London Wall.)

Gabriel Lamp Co., incandescent lamp manufacturers, 15, Victoria-st., London, S.W. (Telegs.: "Gabionage, London." Teleph. No. 5223, Westminster.)

Gabriel, T., & Son, creosote manufacturers, Thames-st., Rotherhithe, London, S.E. (Telegrams: "Gabrielson, London." Telephone No. 718, Hop.)

Gadd, Thomas, manufacturer of all kinds of bolts, rivets & nails, for electrical engineers, &c., Ross Rivet Works, Rowley Regis, nr. Birmingham. (Telegs.: "Thomas Gadd, Rowley Regis.")

Gadsby, C. H., WH.SCH., M.I.E.E., consulting engineer, 20, Victoria-st., Westminster, S.W. (Telegrams: "Gadsby, London." Telephone No. 787, Westminster.)

Gadsby, D. J., A.M.I.C.E., M.I.E.E., assistant engineer, Hove Electric Lighting Co., Ltd., Davigdor-rd., Hove.

Gaine, W. E. L., M.I.E.E., general manager of the National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.; & 19, Hans Mansions, Basil-st., S.W. (Telegs.: "National Telephone, London." Teleph. No. 500, Kensington.)

Galbraith, Wm., electrical engineer, J. Finlay & Co., Ltd., 18, Renfield-st., Glasgow.

Gale, C. J., Fore-st., Topsham. Director Topsham Electricity Supply Co., Ltd.

Galgey, J. M., electrician, 2, Clifton-terrace, Cork.

Gall, John R., A.I.E.E., National Telephone Co., Telephone House, Victoria Embankment, London, E.C. (Telephone No. 11, Head Office.)

Galliers, H. J., electrician, 32, St. James-st., Brighton (Teleph. Nos.: 1501, Nat.; & 151, Corp.); 172, Church-rd., Hove (Nat. Teleph. No. 791 X.); & 15, Charter-st., Lewes.

Gallimore, W., & Sons, wire manufacturers in nickel silver, copper & brass, Arundel Works, Sheffield. (Telegrams: "Gallimore, Sheffield." Telephone No. 1069.)

Gallinagh, Jas. P., corporation electrical engineer, Limerick.

Galloway, M. P., Ltd., makers of electric light fittings, lubricators, &c., 24, Shore, Leith. (Telegrams: "Galloway, Leith." Telephone No. 495.)

Galloways Ltd., steam engine & boiler makers, Knott Mill Iron Works & Branch Works, Ardwick, Manchester. London office: 17, Philpot-lane, E.C. (Telegs.: "Galloway, Manchester;" "Rought, London." A.B.C., A1 & Eng. Telegraphic Codes. Teleph. Nos. 195 & 5004, Manchester.)

Galsworthy, Montague Herbert, A.M.I.E.E., director London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., London, N.W.

Galsworthy, S. S., A.M.I.E.E., director London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., London, N.W.

Galt, Alex., D.SC., F.R.S.E., Keeper of the Technological Department, Royal Scottish Museum, Edinburgh.

Galvano Chemical Co., Ltd., 21, Spring-gdns., Manchester.

Galway Electric Co., Ltd., electrical & mechanical engineers, Newtownsmyth, Galway. Registered Dec. 21, 1896. Nominal capital: £8000 in £1 shares, all of which are issued with 15*s.* per share paid. Directors: Prof. J. Perry (chairman); James Perry, Esq. (managing); Miss A. M. Perry; Miss M. Perry; Miss J. Park. Secretary, F. J. Moon. Dividends: 1897, *nil;* 1898, 3¾ per cent.; 1899, 4 per cent.

Gamble Institute Municipal Technical School, St. Helen's, Lancs. *See* SCHOOLS.

Gambrell, Tom E., A.I.E.E., "Grasmere," Allfarthing-lane, Wandsworth, S.W.

Gambrell Bros., electricians & manufacturers of scientific instruments & apparatus, Durham House, 23, North Side, Clapham Common, London, S.W.

Gameson, Thos., & Sons, Ltd., malleable iron founders, Britannia Foundry, Walsall. (Telegrams: "Malleable, Walsall." Telephone No. 20.)

Gandil, Viggo, A.I.E.E., 9, Waverton-st., Mayfair, London, W.

Gant, L. W., electrical engineer, c/o C. J. Hall, 10, East Parade, Leeds.

GARBE LAHMEYER & CO., LTD., c/o Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London.")

Garbutt, Alfred E., A.M.I.E.E., 8, Clowes-st., Palatine-rd., Withington, Manchester.

Garbutt, Harry, cable representative, I. Frankenburg & Sons, Ltd., Salford, Manchester.

Garcke, Emile, M.I.E.E., director Electric & General Investment Co., Ltd.; a managing director British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. (Telegs.: "Garcke, London." Teleph. No. 6821, Gerrard); chairman Oldham, Ashton & Hyde Electric Tramway, Ltd.; chairman South Staffordshire Tramways (Lessee) Co., Ltd.; chairman Tramways & Light Railways Estates Co., Ltd.; chairman Leamington & Warwick Electrical Co., Ltd.; chairman Metropolitan Electric Tramways, Ltd.; chairman Yorkshire (Woollen District) Electric Tramways, Ltd.; chairman City of Birmingham Tramways Co., Ltd.; director North Metropolitan Electric Power Supply Co.; director Birmingham & Midland Tramways Joint Committee; director Bombay Electric Supply & Tramways Co., Ltd.; director South Metropolitan Electric Tramways & Lighting Co., Ltd.; director British Automobile Development Co., Ltd.

Gardiner & Co., electric bell fitters, 53, St. Vincent-st., Glasgow.

Gardiner, Sons & Co., Ltd., electrical agents, Nelson-st., Bristol. (Teleph. Nos. 278 & 762.)

Gardner, Edward, consulting engineer, Barton Hall Engine Works, Patricroft, Manchester. (Telegrams: "Theorem, Patricroft." Telephone No. 48, Eccles.)

Gardner, J., manager, Corporation Electric Tramways, Chester. (Telephone No. 166.)

Gardner, M. R., A.I.E.E., 27, Thurlow-rd., Hampstead, London, N.W.

Gardner, T. A., electrical & scientific instrument maker, 53, St. Vincent-street, Glasgow.

Gardner, T. H., consulting engineer, Barton Hall Engine Works, Patricroft, Manchester. (Telegrams: "Theorem, Patricroft." Telephone No. 48, Eccles.)

Gardner & Co., electrical engineers, Brewer-st., Maidstone.

Gardner Electric Drill & Hammer Co., Ltd., 138, Salisbury House, London Wall, London, E.C. (Telephone No. 2681, Central.)

Gardner, H., & Son, patent & design registration agents, 173, 174 & 175, Fleet-st., London, E.C. (Telegrams: "Fiduciarum, London." Telephone No. 1850, Holborn.)

Gardner, L., & Sons, Ltd., oil & gas engine makers, Barton Hall Engine Works, Patricroft, Manchester. (Telegrams: "Theorem, Patricroft." Nat. Telephone No. 48, Eccles.)

Gardner, R., & Co., electric light fittings makers, 66, Granville-st., Birmingham. (Telegrams: "Phipson, Birmingham." Telephone No. 784.)

Gardonyi, Max, electrical engineer, International Electric Co., 115, Salusbury-rd., London, N.W.

Garland, J. S., electric light & bell fitter, 51–55, Bridge-st., Warrington. (Teleph. No. 79, Nat.)

Garnett, Chas., A.M.I.E.E., borough electrical engineer, Electricity Works, Darwen. (Teleph. No. 185.)

Garnett, T., A.I.E.E., 7, Hartwood-rd., Southport.

Garnett's, W. T., Cable Co., manufacturers of electric light & power cables, flexibles, &c., Barkerend Mills, Bradford. (Telegs.: "Scroll, Bradford." Teleph. No. 43.)

Garnham, G. B., copper & brass, 132, Upper Thames-st., London, E.C.

Garnier & Co., enamellers, &c., 86, Farringdon-st., Ludgate Circus, London, E.C. (Telegrams: "Enduring, London." P.O. Telephone No. 547, Central.)

Garrard, Dr. C. C., A.M.I.E.E., electro-chemist & engineer, Ferranti Ltd., Hollinwood.

Garrard, E. E., A.M.I.E.E., Percy House, Enfield, N. (Teleph. No. 78, Enfield.)

Garrard, R., & Co., wood casings, 206, Bethnal-green-road, London, E. (Telegrams: "Acajou, London." Telephone No. 2542, London Wall.)

Garrett Bros., electricians, 19, Cowper-st., Northampton.

Garrett, F. T. & A, manufacturing electricians & electrical engineers & contractors, High-st., Dunstable; High-st., Towcester; & 23, Mount-st., Northampton. (Telegrams: "Garrett, Dunstable;" & "Garrett, Towcester." Telephone No. 33 Y., Northampton.)

Garrod, H. J., High-st., Newmarket. Director Newmarket Electric Light Co., Ltd.

Garroway, R. & T., manufacturing chemists, 58, Buchanan-st., Glasgow. (Telegrams: "Garroway, Glasgow." Telephone No. 608.)

Garside, E., engineer, Urban District Council Tramways, Hurst, Lancs.

Garside, F., electrical engineer, Urban District Council Electricity Works, Aldershot.

Garstang, H., electrical engineer, 69, Darwen-st., Blackburn. (Telegs.: "Garstang, Darwen-st, Blackburn." Teleph. No. 19 X.)

Garton, E., A.I.E.E., Claremont Villa, Clifton-rd., Rugby.

Garton & King, electric light engineers, 190, High-st., Exeter. (Telephone No. 104.)

Gartside, J. H., Overstone Park, Northampton. Director North-Western Electricity & Power Gas Co.

Garvey, G. B., A.M.I.E.E., electrical engineer, Carrigduve, Greystones, co. Wicklow, Ireland.

Gas Power & By Products Co., Ltd., 59, Bath-st., Glasgow. (Telegs.: "Fresco, Glasgow." Teleph. Nos.: Nat. (Royal), 3656; Corporation, 3659.)

Gaskell, H., jun., Ermdale, Frodsham, Cheshire. Director Liverpool District Lighting Co., Ltd.

Gaskell, P., director South of England Development Co., Ltd.

Gaskell & Grocott, china for electric light fittings, Longport, Stoke-on-Trent. (Telegrams: "Insulator, Longport." Telephone No. 3088.)

Gaster, Léon, A.M.I.E.E., consulting electrical engineer & technical adviser, 32, Victoria-st., Westminster, S.W. (Telegrams: "Gaster, London." Telephone No. 5215, Westminster.)

Gatehouse, J. W., F.I.C., electrical inspector under Board of Trade, 36, Broad-st., Bath.

Gatehouse, T. E., F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer & electrician, *Electrical Review*, 4, Ludgate-hill, London, E.C.

Gateshead & District Tramways Co., Tramway Depôt, Sunderland-rd., Gateshead (Teleph. No. 204); & Donington House, Norfolk-st., Strand, London, W.C. Secretary, W. F. Cox. *The majority of the shares of this Co. have been purchased by the British Electric Traction Co., Ltd.*

Gath Electrical Engineering Co., electrical engineers & contractors, Horton-st., Halifax (Teleph. No. 104, Y.); & Westgate, Elland.

Gatrill, A. F. M., A.M.I.E.E., "Unsworth," Filey-ave., Upper Clapton, London, N.

Gatti, Jno. M., 436, Strand, W.C. Managing director Charing Cross, West End & City Electricity Supply Co., Ltd.; director Suppliers Construction Co., Ltd.

Gatti, R., director Charing Cross, West End & City Electricity Supply Co., Ltd., 60, St. Martin's-lane, London, W.C.

Gatward, John, & Son, electric light & general engineers, Swan Iron Works, Hitchin; & at Stevenage. (Telegrams: "Gatward, Hitchin.")

Gaumont, L., & Co., cinematograph specialists, electrical engineers, 22, 23, 25 & 27, Cecil-ct., Charing Cross-rd., London, W.C.

Gauntlett, Reginald Wilson, A.M.I.E.E., 3, Clifton-rd., Maida Vale, London, W. (Teleph. No. 4442, Padd.)

Gauntlett, W. E., district manager National Telephone Co., Ltd., Mount-st., Swansea.

Gauthier & Co., magneto makers, 6, Leather-lane, London, E.C. (Telegrams: "Ovantis, London." Telephone No. 902, Holborn.)

Gavey, Arthur, A.M.I.E.E., electrical & mechanical engineer, c/o J. Gavey, Engineer-in-Chief's Office, G.P.O., London, E.C.

Gavey, John, C.B., M.I.C.E., PAST PRES.I.E.E., engineer-in-chief & electrician, Engineer-in-Chief's Office, G.P.O., London, E.C.

Gay, Albert, M.I.E.E., consulting & resident electrical engineer to the Islington Borough Council, 50, Eden-grove, Holloway, N.; & 8, Upper Hornsey Rise, London, N.

Gayler, D., electrician, c/o Wm. McGeoch & Co., Ltd., 11, Charing Cross-rd., London, W.C.

Gaze, H. P., A.M.I.C.E., A.M.I.E.E., engineer, Central Electric Supply Co., Grove-rd., St. John's Wood, N.W.

Geare, H. W., A.M.I.E.E., 25, St. John's-rd., Richmond.

Geary, F. C., A.M.I.E.E., Camden House, Burnt Tree, Tipton.

Gedge & Co., chemicals, lacquers, &c., St. John's-st., London, E.C. (Telegs.: "Lacquer, London." Teleph. No. 4716, Holborn.)

Gedge & Feeny, chartered patent agents, 60, Queen Victoria-st., London, E.C. (Telegrams: "Victor Feeny, London." Telephone No. 8013, Bank.)

Gee, J. A., A.M.I.E.E., 29, Crofton-st., Moss Side, Manchester.

Gee, L., electrical engineer, 102, Albert-rd., Sheffield.

Gee, W. W. Haldane, B.SC., M.SC.TECH., A.M.I.E.E., professor pure & applied physics, School of Technology, Manchester; Oak Lea, Sale, Cheshire.

Gee, J. H., & Co., electrical engineers, 5, Nun-st., Newcastle-on-Tyne.

Geen, Chas., Culver Lodge, Newton Abbot. Consulting engineer & director Lynton & Lynmouth Electric Light Co., Ltd.

Geen, Henry, A.M.I.C.E., A.I.E.E., electrical engineer, Sun-bldgs., Clare-st., Bristol.

Geipel, Edward, A.M.I.E.E., Brunswick-st., West Hartlepool.

Geipel, Wm., M.I.E.E., Vulcan Works, 72A, St. Thomas-st., London, S.E.

GEIPEL & LANGE, electrical & mechanical engineers, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.

Gell, John, M.I.E.E., 2, Queen's Wood-ave., Highgate, London, N.

Gell Telegraphic Appliances Syndicate, Ltd., 9 & 10, Pancras-lane, London, E.C. Registered Aug. 25, 1903.

Gem Dynamo Brush Co., Ltd., manufacturers of & dealers in brushes for dynamo-electric machines, 233, Park-lane, Aston, Birmingham. (Telephone No. 2533.)

Gemmel, T., A.I.E.E., Electric Generating Station, G. & S.W.R. Co., St. Enochs, Glasgow.

Gemmell, G. H., F.I.C., F.C.S., analytical & consulting chemist & assayer, Chemical Laboratory, 4, Lindsay-pl., Edinburgh. (Telegrams: "Readman, Edinburgh.")

General Construction Co., Ltd., Crown Works, Maygrove-rd., Brondesbury, London, N.W. (P.O. Teleph. No. 958, Hampstead.)

General Electric Co. of Ireland, Ltd., electrical & general engineers, 22, Nassau-st., Dublin.

General Electric Co. of New York, U.S.A., 83, Cannon-st., London, E.C. (Cable address: "Hypsometer, London." Telephone No. 5589, Bank. A1, A.B.C., Lieber's & Private Codes.)

GENERAL ELECTRIC CO. LTD. (G. Byng, chairman), manufacturers of all kinds of electrical machinery & supplies. Reconstructed & registered Sept. 27, 1900. Nominal share capital: £800,000 in 40,000 ordinary & 40,000 5 per cent. preference shares of £10 each & £200,000 4 per cent. debentures. Issued: £331,220 ordinary shares & £250,000 preference shares, all fully paid, & all the debentures. Directors: G. Byng, Esq.; H. Hirst, Esq.; Max Byng, Esq.; M. Railing, Esq.; H. Bevis, Esq. Secretary, K. Alwood. Dividends: 1906, 5 per cent. on ordinary.

	Telegrams.	*Telephone Nos.*
Head Offices: 67, 69 & 71, Queen Victoria-st., London, E.C.	Electricity, London.	3600, 10 lines, London Wall.
Works: Peel Works, Adelphi, Salford, Manchester.	Sparkless, Manchester.	2186.
Witton, Birmingham.	Polyphase, Witton, Birmingham.	2001, Birmingham.
Ileene Works, Sherlock-st., Birmingham.	Fixture, Birmingham.	1238.
Union-st., Southwark, London.		
Incandescent Lamp Factory: Brook Green Works, Hammersmith, London, W.	Voltamento, London.	27, Hammersmith.
Steel Conduit Works: Witton, Birmingham.	Conduit Co., Witton, Birmingham.	
Branch Offices:		
Belfast: 13, Queen-st.		26.
Birmingham: 54 & 56, Barwick-st.	Insulator, Birmingham.	1238.
Cardiff: East Wharf, St. Mary-st.	Magneto, Cardiff.	1121.
Dublin: 16, St. Andrew-st.	Push, Dublin.	673.
Glasgow: 71, Waterloo-st.	Apparatus, Glasgow.	566.
Manchester: Victoria Bridge.	Induction, Manchester.	1643 & 5060.
Newcastle-on-Tyne: 6, Clayton-st. East.	Switch, Newcastle-on-Tyne.	1872.

See advts., under CARBONS, CONDUITS, MOTORS & TELEPHONES.

General Electric de France, Ltd., 67, Queen Victoria-st., London, E.C. K. Alwood, secretary.

General Electric Sign & Engineering Co., Ltd., contractors for signs & electrical apparatus, 15, Dufferin-st., Bunhill-row, London, E.C. (Teleph. No. 4134, Central.)

General Electric Tramways Co., Ltd., Donington House, Norfolk-st., London, W.C.; & Hartlepool. (Nat. Telephone No. 73, Hartlepool.) Registered Feb. 28, 1895. Capital: £50,000 in £1 shares, of which 18,500 have been allotted. The full amount has been called & paid. Mortgages & charges, £15,000. Directors: J. S. Raworth, Esq.; W. J. Greer, Esq.; G. Somerville, Esq. Secretary, W. Fred Cox. Dividends: 1899–1905, 5 per cent.

General International Wireless Telegraph & Telephone Co., Ltd., 110, Cannon-st., E.C. (Telegrams: "Pinos, London." Telephone No. 748, Bank.) Registered Oct. 31, 1902. Nominal capital: £175,000 in £1 shares. Issued: 121,615 shares, fully paid. A charge, dated Nov. 28, 1905, to secure £550, has been registered. A charge, dated April 18, 1906, to secure £150 & further advances up to £450, has been registered. Directors: C. J. Buckland, Esq., J.P. (chairman); F. W. Corby, Esq.; A. Orling, Esq. Secretary, W. H. Dove.

Generators, Ltd., manufacturing electrical engineers, 79, Corporation-st., Manchester.

Geneva Tramways Co. (1906), Ltd., 241, Salisbury House, London Wall, London, E.C. (Telegs.: "Opacous, London." Teleph. No. 2454, London Wall.) Registered, Dec. 17, 1906. Capital: £550,000, in 550,000 shares of £1 each. £30,000 4 per cent. debentures authorized.

Gent, F. E., scientific, optical & general instrument maker, 96, Rosoman-street, London, E.C.

GENT & CO., LTD., wholesale manufacturing electricians, Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; 67, High Bridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 26, Bath-st., Bristol. (Telegrams: "Lodestone, Leicester;" & "Knifeedge, London." Telephone Nos.: 151, Leicester; & 8135, Bank, London.) *See* CLOCKS & SYNCHRONIZATION—ELECTRIC & TELEPHONE APPARATUS MAKERS.

Gent & Hurley, contractors for electric lighting, bells & telephones, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)

Geoffroy & Delore, electric cable makers (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Geographical Journal, The (monthly, 2s.), 12, 13 & 14, Long Acre, London, W.C.

Georgi, W. C. H. M., A.M.I.E.E., 26, George-st., Edinburgh.

Gerhardi, C. H. W., A.I.E.E., 9, Gladwell-rd., Stroud Green, London, N.

Gerhardt, Charles Frederick, mica merchant, 34, Seething-lane, London, E.C. (Telegrams: "Gerhardt, London." Telephone No. 1039, Central.)

Gerland, Dr. B. W., PH.D., analytical chemist, Plantation-st., Accrington.

Gerland, R. P., & Co., electrical engineers & electro-platers, Electric Works, Dale-st., Accrington. (Telephone Nos. 169 & 169A, Private.)

Gerrard, Alexander, A.M I.E.E., electrical engineer, 5, Leslie-st., Pollokshields, Glasgow.

Gerrard, F. J., electrician, c/o National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.

Gerrard Cross & District Electrical Co., Gold Hill, Gerrards Cross, Bucks. (Telegs.: "Electric, Chalfont St. Peter.")

Gheury, M. E. J., A.I.E.E., 16, Balcaskie-rd., Eltham, Kent.

Ghrimes, Wm., electric bell fitter, High-st., Ringwood, Hants.

Giants' Causeway & Portrush Electric Tramway Co., Portrush. (Telegs.: "Tramway, Portrush.") Generating station: Walkmills, Bushmills, Co. Antrim. (Telegs.: "Trailway, Bushmills.") Capital authorized: £50,000; loans, £25,000. Issued: £25,500 in shares of £10 each; £23,854 loans. Directors: A. Traill, Esq., J.P., LL.D. (chairman); C. M'D. Stuart, Esq.; J. S. Moore, Esq.; W. A. Traill, Esq. (managing & engineer). Secretary, D. Fall.

Gibb, Sir Geo. S., Hamilton House, Victoria Embankment, E.C. Director Baker-st. & Waterloo Railway Co.; chairman Great Northern, Piccadilly & Brompton Railway Co., Ltd.; director Metropolitan District Railway.

Gibb, James, & Co., Ltd., driving band makers (leather, cotton & hair), 99, Fenchurch-st., London, E.C. (Telegrams: "Tannergram, London." Telephone No. 4154, Avenue. A.B.C. Code used.)

Gibbard, Thos., & Sons, electrical engineers, 37, High-st., Wimbledon, London, S.W. (Telephone No. 31, P.O. Wimbledon.)

Gibbings, Alfred H., M.I.E.E., consulting engineer, 41, North John-st., Liverpool.

Gibbings, W., M.I.E.E., Hazeldene, 11, Howard Drive, Grassendale, Liverpool.

Gibbons, A. C., M.A., A.M.I.E.E., electrical engineer, managing director Christian & Phipps, Hampton Wick.

Gibbons, F. C., M.I.E.E., electrical engineer, managing director Browett, Lindley & Co., Ltd., Patricroft, Manchester.

Gibbons, Henry, lecturer on electricity, &c., to the County Council Technical Instruction Committees, Seldoun Villa, Poole, Dorset.

Gibbons, James, electrician, Haseley, near Tetsworth, Oxfordshire.

GIBBONS BROS., LTD., elevating & conveying plants, Dibdale Works, Dudley, Worcs. (Telegs.: "Gibbons, Lower Gornal." Tel. No. 10A); 128, Palace-chbrs., Westminster, S.W.; & 83, Trevelyan-bldgs., 52, Corporation-st., Manchester. *See advt. under* ELEVATING & CONVEYING MACHINERY.

Gibbs, G. J., A.M.I.E.E., Bamber Bridge, Lancs.

Gibbs, John, & Son, Ltd., makers of electric ventilating fans & patent safety controlling switches, 72–78, Duke-st., Liverpool. (Telegrams: "Ventilation, Liverpool." Telephone No. 2579, Royal.)

Gibson, A. H., A.I.E.E., 44, Bushwood-rd., Kew.

Gibson, B., 31, Warrington-cres., W. Director Crompton & Co., Ltd.

Gibson, Chas. R., A.I.E.E., Mansewood, by Pollokshaws, Glasgow.

Gibson, George A., M.A., F.R.S.E., Glasgow & West of Scotland Technical College, Glasgow.

Gibson, G. H., A.M.I.E.E., electrical engineer, 246, Bath-st., Glasgow.

Gibson, G. Marsden, B.A., A.M.I.C.E., electrical engineer & managing director Mountain & Gibson, Ltd., Elton Fold Works, Bury, Lancs.

Gibson, J., LL.B., Burnbrae, Hexham. Director Hexham & District Electric Supply Co., Ltd.

Gibson, John Wm., A.M.I.E.E., Davidson & Co., 37, Corporation-st., Manchester. (Telegs.: "Sirocco, Manchester." Nat. Teleph. No. 3363.)

Gibson, Joseph Rayner, A.I.E.E., 5, Cambridge-rd., Rathmines, Dublin.

Gibson, Mansfield, telephone engineer, electric bell fitter, electric light engineer, &c., Pilgrim-st. & Market-lane, Newcastle-on-Tyne. (P.O. Telephone No. 566, & Nat. No. 1087.)

Gibson, S. C., A.M.I.E.E., resident electrical engineer, U.D.C. Electricity Works, Nuneaton.

Gibson, T. G., J.P., Lesbury House, Lesbury, Northumberland. Director Newcastle-on-Tyne Electric Supply Co., Ltd.

Gibson, W. Everett, managing director I.T.E. Electric Co., Ltd., 20, Great Russell-st., London, W.C. (Telegs.: "Useite, London." Teleph. No. 7479, Central.)

Gibson, Arthur L., & Co., electric lift & pump makers, &c., 19, 20 & 21, Tower-st., Upper St. Martin's-lane, London, W.C. (Telegrams: "Shannies, London.")

Giddings & Dacre, Ltd., manufacturers of electric light fittings, Victoria Works, Chapel-st., Salford. (Telegrams: "Giddings, Manchester." Telephone No. 191.)

Gideon, Edgar T., A.I.E.E., electrical engineer, 17, Sussex-st., London, W.

Gifford, Hon. M. R., C.M.G., director British Columbia Electric Railway Co., Ltd., 28-31, Bishopsgate-st. Within, E.C.

GIFKINS, A. V., & CO., electrical, mechanical & hydraulic engineers, 68, Victoria-st., London, S.W. (Telegrams: "Availing, London." Telephone No. 612, Westminster.)

Gilbert, A. C., municipal tramways manager, Ilkeston.

Gilbert, C. E. G., A.I.E.E., director Gilbert Arc Lamp Co., Ltd., Chingford, Essex.

Gilbert, John J., A.I.E.E., 72, Cambridge-street, The Crescent, Birmingham. (Telegrams: "Gilbert, Crescent, Birmingham." Telephone No. 1578.)

Gilbert, Urban B., A.M.I.E.E., 24, Queen's Grove-rd., Chingford, Essex.

Gilbert, A., & Co., makers of globes for electric lighting, 82, Turnmill-st., London, E.C. (Telegs.: "Nymphlike, London." Teleph. No. 2290, Holborn.)

GILBERT ARC LAMP CO., LTD., MANUFACTURERS OF EVERY TYPE ARC LAMP & ACCESSORIES, CHINGFORD, ESSEX. (TELEGRAMS: "GILBERT, CHINGFORD.")

Gilbert, W. K., & Co., manganese merchants, 6, Dowgate Hill, London, E.C. (Telegrams: "Gilbertia, London." Telephone No. 4570, Central.)

Gilbertson, W., & Co., Ltd., steel, tin plate & galvanized iron manufacturers, Pontardawe. (Telegrams: "Gilson, Pontardawe." Telephone No. 607.) London agents: Phillips & Hill, 122, Cannon-st., London, E.C. (Telegrams: "Punnett, London." Telephone No. 821, Bank.)

Gilchrist, J. G., 3, Dalhouse-ter., Dundee. Director Tayside Electric & Gas Light Co., Ltd.

Giles, Bertram S., M.I.E.E., elec. engr., Mather & Platt, Ltd., Queen Anne's-chbrs., Westminster, S.W.

Gilham & Shephard, electrical engineers & contractors, Bulwell, Nottingham.

Gilkes' Engraving Works, engraving on brass, ivorine, ebony, &c., to the trade, Reading, Berks. (Telegrams: "Gilkes, Reading.")

Gilkes, Gilbert, & Co., Ltd., turbine manufacturers, Canal Iron Works, Kendal. (Telegrams: "Gilkes, Kendal." Telephone No. 28.)

Gill, Alfred, electric bell manufacturer, 1, Arthur-st.-west; & 11, Crooked-lane, London, E.C.

Gill, Frank, M.I.E.E., engineer-in-chief, National Telephone Co., Ltd., Telephone House, Victoria Embankment, London, E.C. (Teleph. No. 2001, Holborn.)

Gill, H. Macdonald, engineer & manager, Urban District Council Electricity Works, Surbiton.

Gill, J. C., A.M.I.C.E., corporation electrical engineer, Peterborough.

Gill, J. S., station superintendent, Electricity Works, Whitby.

Gill, Richard, A.M.I.E.E., Penlu, Tuckingmill, Camborne.

Gill & Co., electrical engineers, Holbeck-lane, Leeds.

Gill & Co., ironmongers & electricians, 4 & 5, High-st., Oxford.

Gill & Reigate, Ltd., electric light engineers, 73–85, Oxford-st., & 6 & 7, Dean-st., London, W. (Telegrams: "Requirable, London." Telephone No. 4152, Gerrard.)

Gillard & Co., electricians, Terretts-pl., Upper-st., Islington, London, N.

Gillespie, M. M., M.I.E.E., electrical engineer & manufacturers' representative, Amberley House, Norfolk-st., Strand, London, W.C. (Telegs.: "Gillesands, London." Teleph. No. 2681, Gerrard.)

Gillespie, John D., & Co., engineers & merchants, Leadenhall-bldgs., E.C. (Telegs.: "Jamnut, London." Teleph. No. 1867, Avenue.)

Gillett, E. J., local manager, National Telephone Co., Commercial-bldgs., Leeds.

Gilliat, R., & Sons, cotton waste merchants, 15, Medlock-st., Oldham. (Telegrams: "Gilliat, Oldham." Telephone No. 233.)

Gillies, T., A.I.E.E., The Cottage, Finmere, Buckingham.

Gillies & Hornidge, electrical & mechanical engineers & contractors, 6, Holborn Viaduct, London, E.C.; & Electric Light Works, Buckingham.

Gillin, C. A., A.M.I.E.E., 10, Mayfield-ter., Barkerend-rd., Bradford.

Gilling, Algernon Coste, A.I.E.E., Electricity Works, Epsom, Surrey.

Gilling, A. H., A.M.I.E.E., M.I.MECH.E., c/o Mitrovich Bros., Old Castle-bldgs., Preeson's-row, Liverpool. (Telegs.: "Mitrovich, Liverpool." Teleph. No. 6434, Central.)

Gillingham Corporation Electricity Department. Works: Gillingham-rd., Gillingham, Kent. (Telegrams: "Electricity Works, Gillingham." Telephone No. 22, New Brompton.) Borough electrical engineer, A. D. Chalmers, A.M.I.E.E., A.M.I.MECH.E.

Gillitt, Septimus, A.I.E.E., 91, Pilgrim-st., Newcastle-on-Tyne.

Gillmore, G., electrical engineer, 11, Athol-st., Douglas, Isle of Man.

Gilman, Frank, dealer in electrical machinery, &c., High Park-rd., Smethwick, Birmingham.

Gilmore & Co., electrical engineers, 25, Fountain-st., Belfast.

Gilmour, Robert, A.I.E.E., National Telephone Co., Telephone-bldgs., Upper Queen-st., Belfast.

Gilson, D., & Co., screw & terminal manufacturers, 360, Kingsland-rd., London, E.

Gimingham, Edward, M.I.E.E., 21, Stamford Hill Mansions, Stamford Hill, London, N.

Gimson & Co. (Leicester), Ltd., general & electrical engineers & boiler makers, Vulcan-st., Leicester. (Telegrams: "Gimson, Leicester." A.B.C. Code. Telephone Nos. 6 & 734, Nat.)

Girdlestone, J. O., M.I.E.E., 16, Davies-st., Berkeley-sq., London, W. (Telegs.: "Regency, London." Teleph. No. 2635, Gerrard.)

Girdlestone & Co., electrical engineers, 16, Davies-st., Berkeley-sq., London, W. (Telegs.: "Regency, London." Teleph. No. 2635, Gerrard.)

Girling, Harry Percy, A.M.I.E.E., Meadow Lea, Highfield-rd., Stretford, Manchester.

Gittins, G. E., A.I.E.E., Harris Institute, Preston, Lancs.

Glamorgan County Council Light Railway. Engineers, Sinnott & Stracey, Western Mail-chbrs., Cardiff. (Nat. Telephone No. 0803.)

Glamorgan Spelter Co., Ltd., lead & silver smelters, Swansea Smelting Works, Llansamlet, R.S.O. Glamorganshire. (Telegrams: "Stannic Works, Llansamlet." Teleph. Nos.: 4, Nat.; & 5037, Morriston, Corp.)

Glanvill, C., light contractor, electric & general bell hanger, 13, Ruston-st., Birmingham.

Glasgow Alum & Ammonia Co., Ltd., manufacturing chemists, 401, West-st., Glasgow.

Glasgow Corporation Electricity Supply. Works: Port Dundas, Pollokshaws-rd., & Kelvinside. Office: 75, Waterloo-st., Glasgow. (Telegs.: "Ampere, Glasgow." Nat. Teleph. Nos. 936 & 1304, Argyle; P.O. Nos. 834 & 835.) Electrical engineer, W. W. Lackie.

Glasgow Corporation Telephone Department, Castle-chbrs., 65, Renfield-st., Glasgow. (Telegrams: "Phonos, Glasgow." Telephone No. 44, Corp.)

Glasgow Corporation Tramways, 46, Bath-st., Glasgow. (Telegrams: "Trams, Glasgow." Telephone Nos.: Nat., 825, 826 & 827, Royal; & 213, 214 & 215, Corp.) General manager, Jas. Dalrymple; engineer, J. Ferguson, A.I.E.E.

Glasgow Iron & Steel Co., Ltd., steel manufacturers, Wishaw, N.B. (Telegrams: "Ingot, Wishaw." Telephone No. 825, Argyle, Glasgow.)

Glasgow Local Section of the Institution of Electrical Engineers. Right Hon. Lord Kelvin, O.M., P.C., G.C.V.O., F.R.S., president; E. George Tidd, A.M.I.C.E., M.I.E.E., hon. sec., 68, Gordon-st., Glasgow. (Teleph. Nos. 1020, Post Office & Royal, Nat.)

Glasgow Patents Co., Ltd., makers of Edmiston Feed Filter, 94, Hope-st., & Wellington Works, Kinning-park, Glasgow; & 1½, Stuart-st., Docks, Cardiff. (Telegrams: "Voltaic, Glasgow;" "Patents, Cardiff." Telephone No. 130, Glasgow.)

Glasgow Railway Engineering Co., railway & tramway material manufacturers, Govan, Glasgow. (Telegrams: "Expansion, Glasgow." Telephone No. 53, Govan.)

Glasgow Steel Roofing Co., 52, St. Enoch-sq., Glasgow.

Glasgow & West of Scotland Technical College, Glasgow. (Telephone Nos.: 1850, Corp.; & 4715, Nat.)

Glasier, G. H. Brougham, 7, St. James's-st., S.W. Deputy-chairman Charing Cross, West End & City Electricity Supply Co., Ltd.; deputy-chairman Suppliers Construction Co., Ltd.; chairman Kent Electric Power Syndicate, Ltd.; director Derbyshire & Nottinghamshire Electric Power Co.; director Kent Electric Power Co.

Glass, J. H., C.I.E., Tamworth House, Mitcham, Surrey. Director Calcutta Electric Supply Corporation, Ltd.

Glazebrook, R. T., M.A., D.SC., F.R.S., PRES. I.E.E., National Physical Laboratory, Bushy House, Teddington, Middlesex. (Telegs.: "Physics, Teddington." P.O. Teleph. No. 229A, Richmond.)

Glazier, W. H., director Railway Construction & General Development Co. (Tasmania), Ltd., 231-3, Dashwood House, E.C.

Gledson, J., local manager, Sunbeam Lamp Co., Ltd., 19 & 21, Northumberland-st., Newcastle-on-Tyne.

Gleeson, C. & R., electricians, 45, Bell-st., Edgware-rd., London, N.W.

Glegg, Alexander, A.M.I.E.E., c/o Bowen & Co., Phœnix Foundry, Mount Pleasant, London, E.C.

Glen, J. B., mains superintendent, Electricity Works, Tynemouth.

Glenboig Union Fire Clay Co., Ltd., makers of street boxes for electric mains, 48, West Regent-st., Glasgow. (Telegs.: "Glenboig, Glasgow." Teleph. No. 1009.)

Glendenning, S. E., A.M.I.E.E., Thorpe Hamlet Cottage, Norwich.

Glendenning, Wm. M., electrical engineer, 19, Rathgar-rd., Brixton, London, S.W.

Glenfield & Kennedy, Ltd., iron founders & engineers, Kilmarnock. (Telegrams: "Glenfield, Kilmarnock." Telephone No. 28.)

Glenn, J. Barber, Moorgate Station-chbrs., London, E.C. Director London Street Tramways Co.; director Brisbane Tramways Co., Ltd.; director City of Carlisle Electric Tramways Co., Ltd.; managing director & secretary Provincial Tramways Co., Ltd.; managing director & secretary Gosport & Alverstoke Electric Lighting Co., Ltd.

Glenn, John, consulting engineer, 11, Queen Victoria-st., London, E.C. (Telegs.: "Glenoid, London." Teleph. No. 7211, Central.)

Glenn, J. Fereday, resident engineer & manager, Portsdown & Horndean Light Railway, Cosham, Hants. (Telegrams: "Glenn, Cosham." Telephone Nos.: Nat. 3, Cosham; & 5, Municipal); & resident engineer & manager, Gosport & Fareham Tramways, & Gosport & Alverstoke Electric Lighting Co., Ltd., Gosport, Hants. (Telegs.: "Glenn, Tramways, Gosport." Teleph. Nos.: 3, Gosport; & 16, Municipal.)

Glenny, R. Bagot, A.M.I.E.E., 32, Bachelor's Walk, Dublin.

Glenny & Co., electrical installation contractors, 32, Bachelor's Walk, Dublin. (Telephone No. 1733.)

Globe Telegraph & Trust Co., Ltd., Electra House, Finsbury-pavement, London, E.C. Authorized capital: £5,000,000 in £10 shares (half being ordinary & half preference). Issued capital: £3,622,540 in 181,127 ordinary shares & 181,127 preference shares, both kinds being fully paid up. Directors: the Marquis of Tweeddale, K.T. (chairman); Sir John Wolfe Barry, K.C.B.; Sir Albert J. Leppoc Cappel, K.C.I.E.; Sir James Pender, Bart.; Sir J. Denison-Pender, K.C.M.G. Sidney Collett, secretary. Dividends: July, 1902, to April, 1903, 6 per cent. per annum on preference shares & £3 16s. 7d. per cent. per annum on ordinary shares; 1903–4, 6 per cent. on preference & 5½ per cent. on ordinary shares; 1904–05, 6 per cent. on preference & 5⅝ per cent. on ordinary shares; 1905–06, 6 per cent. on preference & 5½ per cent. on ordinary shares.

Glossop Electric Tramways (Urban Electric Supply Co., Ltd., proprietors), Glossop. Manager, C. E. Knowles, A.M.I.C.E.

Glossop Electricity Works. Urban Electric Supply Co., Ltd., proprietors, Glossop, Derbyshire. (Telephone No. 34, Glossop.) Engineer, C. E. Knowles, A.M.I.C.E.

Gloucester Corporation Electricity Supply Works & Tramways, Gloucester. (Telegs.: "Electricity Works, Gloucester." Teleph. No. 218.) Engineer, Geo. R. White.

Gloucester Corporation Light Railways, Gloucester. L. Johnston, A.M.I.E.E., A.M.I MECH.E., general manager & engineer. (Teleph. No. 155.)

Gloucestershire Electric Power Co., 5, Rowcroft, Stroud, Glos.; & 7, St. Helen's-pl., London, E.C. Nominal capital: £250,000 in shares, £83,333 loan. Issued: *nil*. Directors: J. H. Bellamy, Esq.; J. H. Borrer, Esq.; T. N. A. Grove, Esq.; W. J. P. Marling, Esq.; J. D. Robertson, Esq.; A. Thorne, Esq. Engineer, G. L. Addenbrooke; secretary, Jas. French, Stroud.

Gloucestershire Electric Power Syndicate, Ltd., 5, Rowcroft, Stroud, Gloucestershire. Registered March 22, 1902. Nominal capital: £7530 in 75 ordinary shares of £100 each & 600 deferred shares of 1s. each. Issued: £3121 4s. Issue on Feb. 22, 1905, of £850 debentures, part of series created same date to secure £1500. Directors: W. A. Buchanan, Esq.; J. H. Borrer, Esq.; T. N. A. Grove, Esq.; W. J. P. Marling, Esq.; J. D. Robertson, Esq.; F. Winterbotham, Esq. Engineer, G. L. Addenbrooke; secretary, J. French.

Gloucestershire Engineering Society. Secretary, A. J. Cullis, 21, Park-rd., Gloucester.

Glover, F. A., A.M.I.E.E., Vine-st., Clerkenwell-rd., E.C.

Glover, G. T., resident engineer, Tynemouth Electric Railway (owned by N.E. Co.), Heaton Shops, Walker Gate.

Glover, R., maker of small meter movements, Cronton, near Prescot, Lancashire.

Glover, F. A., & Co., Ltd., electrical & mechanical engineers, Vine-st., Clerkenwell-rd., E.C. (Telegrams: "Appprompt, London." Telephone No. 11099, Central.)

Glover, Taylor & Co., electrical engineers, 16, South Castle-st., Liverpool.

Glover, W., & Sons, Ltd., gas & oil engine makers, 142, Moor-st., Birmingham.

GLOVER, W. T., & CO., LTD., Manchester, manufacturers of insulated wire & cable of all descriptions for telegraphic, telephonic, electric lighting & power purposes. Registered Feb. 16, 1898. Nominal capital: £214,850 in £1 shares (100,000 £5 per cent. cumulative preference & 114,850 ordinary) & £100,000 4¼ per cent. first debenture stock & £80,000 5 per cent. second debenture stock, all of which have been issued & are fully paid up. Directors: C. Cooper, Esq. (chairman); H. Edmunds, Esq.; G. B. Samuelson, Esq.; E. A. Claremont, Esq. (managing); Ll. B. Atkinson, Esq. Secretary, E. L. Baddeley.

	Telegrams.	*Telephone Nos.*
Head Office & Works: Trafford Park, Manchester.	Cables, Manchester.	411, 1187, 3049 & 4927; No. 1187 T, Trunk.
Branch Offices:		
London: Parliament Mansions, Victoria-st., S.W.	Phonoscope, London.	191, Westminster.
Glasgow: 196, St. Vincent-st.	Conductors, Glasgow.	956, Argyle, Nat.; 1174, Corp.
Belfast: 43A, High-st.	Ardrey, Belfast.	1134.

Branches also at Johannesburg, Melbourne, Sydney, Calcutta, Bombay, Chili.

Glyco Metal Co., 9, South Parade, Manchester; & at 19 & 20, Strand-st., Liverpool.

Glyn, T., chairman Western Electric Distributing Corporation, Ltd., 38, Parliament-st., Westminster, S.W.

Glyn & Co., makers of lubricators & gas engine oil, 28, Budge-row, E.C.; & at Stratford, E., & Barrow.

Glynn, H. Justice, A.I.E.E., 19, Colman-st., Southend-on-Sea.

Glynn, H. R., director Limerick Electric Tramway Co., Ltd., Star Life-bldgs., College Green, Dublin.

Glynn, Lt.-Col. T. G. H., 186, Cromwell-rd., S.W. Director The Halifax & Bermudas Cable Co., Ltd; director Direct West India Cable Co., Ltd.

Goad, Chas. E., jun., A.I.E.E., civil engineer, 53, New Broad-st., E.C. (Telegrams: "Revision, London.")

Goadsby & Co., manganese merchants, 2, 4, & 6, Albert-bridge, Manchester. (Telegrams: "Prompt, Manchester." Telephone No. 735.)

Godalming Electricity Works. Urban Electric Supply Co., Ltd., proprietors. (Telegrams: "Electricity, Godalming." Telephone No. 8, Godalming.) Engineer, R. S. Robertson.

Goddard, D. F., M.P., J.P., chairman South African Lighting Association, Ltd.

Goddard, J., The Elms, Crawley, Sussex. Director Metropolitan Electric Tramways, Ltd.

Goddard, S. J., A.I.E.E., National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.; & Heathbourne Cottage, Bushey Heath, Herts. (Telephone No. 43, Bushy Heath.)

Goddard, Massey & Warner, Ltd., electrical engineers & contractors, Nottingham. (Telegrams: "Goddassey, Nottingham." Telephone No. 236.)

Godfray, H. C., 42, Finsbury-sq., E.C. Director Imperial Tramways Co., Ltd.

GODFREY, H. J., electrical engineer, 188, Balham High-rd., London, S.W. (Teleph. No. 1216, Battersea.)

Godfrey, W. B., M.I.E.E., M.I.C.E., 23, St. Swithin's-lane, London, E.C.

Godfrey & Clowes, electrical engineers, 92, High-st., Saffron Walden, Essex.

Godsland & Son, wiring contractors, 51, South-st., Exeter. (Teleph. No. 15 X. 3.)

Gold, R. S., 6, Clarence-ter., Leamington. Director Leamington & Warwick Electrical Co., Ltd.

Gold & Silver Re-Plating Co., Ltd. (manager, W. Buck), electro-platers, 166, Queen's-rd., Bayswater, W. (Telegs.: "Buckolian, London." Teleph. No. 700, Western.)

Golding, R. A., A.M.I.E.E., Corporation Electricity Works, Ealing, London, W.

Golding, W., electrical engineer, G.P.O., Drogheda.

Goldschmidt, R., A.M.I.E.E., 34, Talbot-rd., Old Trafford, Manchester.

Goldston, R. C., resident engr., Yorkshire (Woollen District) Elec. Tramways Ltd., Tramway Depôt, Frost Hill, Liversedge, Yorks. (Telegs.: "Tramways, Heckmondwike." Tel. No. 8, Heckmondwike.)

Goldsworthy, T., & Sons, emery & emery cloth & glass paper & cloth manufacturers, Britannia Emery Mills, Hulme, Manchester. (Telegrams: "Goldsworthy, Manchester." Telephone No. 993.)

Golledge, W. T., A.M.I.MECH.E., A.I.E.E., electrical engineer, Aublet, Harry & Co., Ltd., 53 & 55, Curtain-rd., London, E.C.

Gomersal Electricity Works. Gomersal Electrical Distribution of Yorkshire, Ltd., proprietors. Engineer, Wm. B. Woodhouse.

Gomersall, J., director Hemsworth Electricity Supply Co., Ltd., Cross Hill, Hemsworth, nr. Wakefield.

Gooch, F., electric light fittings maker, 38, Eagle-st., London, W.C. (Telephone No. 1550, Central.)

Good, P., A.M.I.E.E., electrical engineer, c/o Neville, Williams & Co., 11 & 13, Southwark-st., London, S.E. (Teleph. No. 3356, Hop.)

Goodale, W. P., manufacturers' agent, 64, Leadenhall-st., London, E.C. (Telegrams: "Goldknopf, London." P.O. Telephone No. 734, Central.)

Goodall, F. H., A.M.I.E.E., electrical engineer, 52, Toothill-rd., Loughborough.

Goodbody, W. W., 50, Dame-st., Dublin. Director Marconi's Wireless Telegraph Co., Ltd.

Goodbrand & Co., fuel economisers, Clarence-st., Stalybridge.

Goodburn, G. C., electrical engineer, Western Electric Co., North Woolwich, London, E.

Goodchild, Walter C., M.I.E.E., Electrical Department, Locomotive Works, Midland Railway, Derby.

Goode, Thos., & Co., electric light fittings makers, 19, South Audley-st., London, W. (Teleph. No. 44, Mayfair.)

Gooden, C. Wynn, chief assistant engineer, Electricity Works, Maidstone-rd., & 5, Orsett-rd., Grays, Essex.

Gooding, H., & Son, electrical engineers, Stowmarket.

Gooding & Taylor, electrical engineer, 43, Upper Russell-st., Brighton.

Goodman, A. C., resident electrical engineer, Corporation Electricity Works, Carnarvon. (Teleph. No. 30.)

Goodman, H., director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.

Goodman, H. Greenway, electrical contractor, 191, Westbourne Grove, London, W. (Teleph. No. 2371, Western.)

Goodman, P. H., director South of England Development Co., Ltd.

Goodman, Prof. J., A.M.I.C.E., M.I.M.E., consulting engineer, Yorkshire College, Leeds.

Goodman, S. S., M.I.E.E., 7, Hardy-rd., Westcombe Park, London, S.E.

Goodman, C., & Co., composition makers for preventing incrustation in steam boilers, Balfour House, Finsbury Pavement, London, E.C. (Telegrams: "Dependable, London." A.B.C. Code used.)

Goodsall, Captain W., A.I.E.E., Chiltern, Tankerton, nr. Whitstable, Kent.

Goodson & Co., insulating material manufacturers, 13, Maze Pond, St. Thomas's-st., London Bridge, S.E.

Goodwin, F. H., electrical engineer, 28, Sefton-rd., Sale, Manchester.

Goodwin, Robert, electrical engineer, 58, Renfield-street, Glasgow.

Goodwin, G. S., & Co., consulting engineers, 19, James-st., Liverpool. (Telephone No. 1335, Central.)

Goodwin, H. G., & Son, pattern makers & turners, 16, Charles-st., Hatton-garden, London, E.C. (Telephone No. 4649, Holborn.)

Goodyer, T. B., A.I.E.E., manager, Corporation Tramways, Croydon.

Goodyers, electric light shade makers, 198 & 174, Regent-st., W. (Telegrams: "Aesthetic, London.")

Goolding, C. L., A.M.I.E.E., 335, Liverpool-rd., Islington, London, N.

GOOSSENS, E., POPE & CO., manufacturers of incandescent lamps, 5, Arthur-st., New Oxford-st., London, W. (Teleph. No. 3000, Gerrard); 21, Manesty's-lane, Liverpool; & 15, Douglas-st., Glasgow.

Gordon, C. W., manager Dublin United Tramways Co., 9, Upper Sackville-st., Dublin.

Gordon, F. W. Beauchamp, consulting electrical engineer, 4, Park-pl., St. James's, London, S.W.

Gordon, G. F. C., A.I.E.E., Kenmure House, Blundellsands, Liverpool.

Gordon, Home, 13, Ovington-sq., S.W. Director Totnes Electricity Supply Co., Ltd.; director Chelmsford Electric Lighting Co., Ltd.; director Electric Supply Corporation, Ltd.

Gordon, J., electrician, Pim Bros., Great George-st., Dublin. (Telegs.: "Gordon, Pims, Dublin." Teleph. No. 103.)

Gordon, J., installation contractor, 12, Cathedral-st., Glasgow.

Gordon, Major Sir Wm. Evans, M.P., chairman The Para Electric Railways & Lighting Co., Ltd., 20, Birchin-lane, E.C.

Gordon College, Aberdeen. *See* SCHOOLS, CLASSIFIED SECTION.

GORDON, JAMES, & CO., water power engineers, 81 & 83, Knightrider-st., London, E.C. (Telegs.: "Gordolobo, London." P.O. Teleph. No. 1674, Central. A.B.C. & Lieber's Codes.)

Gordon-Smith, Arthur T., A.M.I.E.E., assistant engineer, Electricity Works, Hammersmith, London, W.

Gore, George, LL.D., F.R.S., electro-metallurgical chemist, 20, Easy-row, Birmingham.

Gore, Wm., A.M.I.C.E., A.I.E.E., c/o G. F. Deacon, 16, St. George-st., London, S.W.

Gorham, J. M., M.I.C.E., M.I.E.E., joint managing director Drake & Gorham, Ltd., 66, Victoria-st., London, S.W.; director Jandus Arc Lamp & Electric Co., Ltd.; director D.P. Battery Co., Ltd.; director Daimler Motor Co., Ltd.

Gorrill, J., German silver wire manufacturer, Sydney Works, Sydney-street, Sheffield.

Gorrissen, Ch., c/o Siemens Bros. & Co., Ltd., York Mansions, York-st., Westminster, London, S.W. Director Rand Central Electric Works, Ltd.

Gorseinon Electric Light Co., Ltd., Gorseinon, Glamorgan. Registered Nov. 17, 1893. Nominal capital: £1000 in £1 shares. All the shares have been taken up, & are fully paid. Debentures, £800. Directors: Major D. Lewis; T. Lewis, Esq.; T. Jones, Esq.; D. Jones, Esq.; L. Evans, Esq.; P. Williams, Esq. Engineer, D. Powell; secretary, D. Jones.

Gorton, Henry, electrical engineer, 19, Grand Parade, Archway-rd., N. Works: Warlters-rd., Parkhurst-rd., Holloway, London, N.

Gosling & Gatersbury, engineers, Victoria-rd., Hanley, Staffs.

Gosport & Alverstoke Electric Lighting Co., Ltd., Moorgate Station-chbrs., London, E.C.; & Gosport, Hants. Registered Nov. 28, 1904. Nominal capital: £5000 in £10 shares. Directors: J. B. Glenn, Esq. (managing & secretary); A. Beattie, Esq.; S. Hern, Esq. Engineer, J. Fereday Glenn.

Gosport & Farcham Tramways, Gosport, Hants. Provincial Tramways Co., Ltd., proprietors. Engineer & manager, J. Fereday Glenn.

Gössell, Otto (Aix-la-Chapelle Iron & Steel Co.), telegraph wire manufacturer, 110, Cannon-street, London, E.C. (Telegrams: "Gossotto, London." Telephone No. 761, Bank.)

Gossler, John von Berenberg, 52, Ferdinandstr., Hamburg. Director Indo-European Telegraph Co., Ltd.

Gott, Arthur E., A.M.I.E.E., electrical engineer, 30, Cecil-rd., Gravelly Hill, Birmingham.
Gott, J., electrician, Commercial Cable Co., 55 & 56, Bishopsgate-st. Within, London, E.C.
Gott, John, M.I.E.E., 6, Lorna-road, Hove, Brighton.
Gott, Ralph Edgar, A.I.E.E., 8, Charles-st., Bradford.
Gotts, Frank, director Delagoa Bay Development Corp., Ltd., 3, Gracechurch-st., London, E.C.
Gottschalk, —, manager Corporation Electric Tramways, Northampton.
Goude & Son, electric bell fitters, Syer's-lane, Whittlesea, Cambs. (Telegrams: "Goude, Whittlesea.")
Gough, C., electrical engineer, Westgate-st., Gloucester.
Gough, H. W., patent & trade marks registration agent, 28, Heskey-st., Nottingham.
Gough, T. J., electrical engineer, 32, High Bank, Gorton, Manchester.
Gough & Felgate, electric bell fitters, Uxbridge-st., Burton-on-Trent.
Gould, C., electrical engineer, Trafford Park Estates, Ltd., Trafford Park, Manchester.
Gould, T., chemical manufacturer, Chestergate, Stockport.
Goulding, T. Waldemar, European general manager Western Union Telegraph Co., 252, Gresham House, London, E.C. (Telegs.: "Teletique, London." Teleph. No. 11444, Central.) Director West India & Panama Telegraph Co., Ltd.
Goundry, J. E. J., electrical engineer, 31, High-st., Reigate.
Gourlay, Alex., electrical engineer & contractor, 35, George-st., Stranraer.
Govan Town Council Electricity Works, Govan. T. C. Parsons, A.M.I.E.E., engineer. (Teleph. Nos.: Nat., 10, Govan; Corp., 12, Govan.)
Gover, H. Charles, secretary to the Edison & Swan United Electric Light Co., Ltd., Ediswan-bldgs., Queen-st., London, E.C. (Telephone No. 925, Bank.)
Govett, A. F., Laleham, Staines. Director Waterloo & City Railway Co.
Gow, A., B.A., B.SC., principal Municipal Technical School, Blackburn.
Gowdy, S. H., A.M.I.E.E., electrical engineer, 39, Queen's-ter., Jesmond, Newcastle-on-Tyne.
Gower, Geo. F., A.M.I.E.E., electrical engineer, S. E. & C. Railway, Victoria Station, London, S.W.
Gowthorpe, E. L., & Son, engineers, Victoria-bldgs., London-rd., Nottingham. (Telegrams: "Gowthorpe, Nottingham." Telephone No. 401.)
Grace, Abraham, electrical engineer, 18, Gordon-st., Keighley, Yorks.
Grace, F. H., A.I.E.E., electrical engineer, Park House, Thornbury, Glos.
Grace & Sutcliffe, electrical & motor engineers, Cavendish-st., Keighley. (Tel. No. 34 Y., Keighley.)
Graff, Victor, A.I.E.E, Holbrook House, The Parade, Sandgate.
Grafton, Alexander, consulting engineer, 113, Cannon-st., London, E.C. (Telegrams: "Graftonian, London.")
Grafton, Henry, consulting engineer, Wardrobe-chambers, London, E.C.
Grafton & Co., makers of steam & electric cranes, Vulcan Works, Bedford. (Telegrams: "Grafton, Bedford.")
Graham, Alfred, A.I.E.E., 5, Ravensbourne Park, Catford.
Graham, A. H. Irvine, A.M.I.C.E., A.M.I.E.E., Castle Crine, Six Mile Bridge, co. Clare, Ireland; & c/o Thermit, Ltd., 27, Martin's-lane, Cannon-st., E.C.
Graham, A. I., A.M.I.C.E., A.M.I.E.E., c/o Thermit, Ltd., 27, Martin's-lane, Cannon-st., London, E.C. (Telegs.: "Fulmen, London." Teleph. No. 3749, Central.)
Graham, C. H., electric light fittings manufacturer, 26, Foundry-st., Brighton.
Graham, Ernest V., A.I.E.E., Royal Arsenal, Woolwich; & 33, Wellington-rd., Old Charlton, S.E.
Graham, Frank, A.I.E.E., 12, Ladbroke-gardens, Notting Hill, London, N.
Graham, Gerard, A.M.I.E.E., 24, Marlborough Mansions, Cannon Hill, West Hampstead, London, W.
Graham, H. B., M.I.M.E., A.I.E.E., 120–124, Alcester-rd., Birmingham.
Graham, John, B.A., B.E., consulting engineer, demonstrator & lecturer in mathematics, Finsbury Technical School, Leonard-st., Finsbury, London, E.C.
Graham, J. Parmley, electrical agent, 26, Cloth Market, Newcastle-on-Tyne. (Telegs.: "Order, Newcastle-on-Tyne." Teleph. No. 2383, Central.)
Graham, W. J., M.I.E.E., F.I.I., 78, Woodland-terrace, Charlton, London, S.E.
Graham, Alfred, & Co., electrical engineers & telephone contractors, St. Andrew's Works, Crofton Park-rd., London, S.E.; & 4, Great Winchester-st., E.C. (Telegs.: "Navalhada, London.")
Graham & Banks, Ltd., electrical engineers, 445, Oxford-st., London, W. (Telegrams: "Citronniers, London." Telephone No. 3667, Gerrard.)
Graham & Biddle, electric light contractors, Graham House, 463, Oxford-st, London, W. (Telephone No. 3596, Gerrard); & 38, North-row, Grosvenor-sq., W.
Graham & Graham, electric light engineers & contractors, 2, Weymouth-st., London, W. (Telephone No. 364, Paddington.)
Graham, J. W. & R., electricians, metal polishers & lacquerers, Faraday Works, Fitzwilliam-st., Huddersfield. (Telephone No. 0856.)
Graham & Morton, electric light engineers & contractors, King-st., Stirling. (Telegrams: "Morton, Stirling." Telephone No. 10.)

Graham, Morton & Co., makers of conveying plants. Head office: Carlton-chbrs., Albion-st., Leeds. (Telegs.: "Accouple, Leeds." Teleph. No. 1982, Leeds.) Works: Hunslet, Leeds.

Graham, Wm., & Sons, engineers, 3, Rochester-row, Westminster, S.W.

Grainge & Grainge, wiring contractors, High-st., Uxbridge.

Grainger, T. J., A.I.E.E., secretary & assistant manager, Sunbeam Lamp Co., Ltd., Park-rd., Gateshead-on-Tyne (Telegs.: "Sunbeam, Gateshead." Teleph. No. 20); & 8, Ashgrove-ter., Gateshead.

Gramme, Société, Paris. Electrical machinery manufacturers, 144, Gray's Inn-rd., London, W.C. (Telephone No. 1511, Holborn.)

Grangemouth Gas Co., Ltd., electric light, gas, & mechanical engineers & electricians, Grange-st., Grangemouth. (Teleph. No. 38.)

Granger, B. B., A.M.I.E.E., 9, Crossflat-cres., Paisley, Scotland.

Granger, W. A. (Forced Draught), 12, Eaton Park-rd., Palmer's Green, London, N. (Telegrams: "Nozzles, London.")

Grangetown Electricity Works, Grangetown, Yorks. Cleveland & Durham County Electric Power Co., proprietors. Manager, E. E. Soden.

Grant, A. E., A.M.I.E.E., British Insulated & Helsby Cables, 2, Berthwin-st., Cathedral-rd., Cardiff.

Grant, Jas., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester.

Grant, J. Macpherson, telephone contractor, Kingussie. (Telegs.: "Macpherson Grant, Insh.")

Grant, Selwyn, A.C.G.I., A.M.I.E.E., electrical engineer, 31, Glenloch-rd., Hampstead, London, N.W.

Grant, William, engineer & general manager, Burgh Electric Tramways Department, Ayr, N.B. (Telegrams: "Trams, Ayr." Telephone No. 123; & Works, No. 124.)

Grant, J. O., & Taylor, electrical engineers & contractors, 63, Queen Victoria-st., London, E.C. (Telephone No. 5410, Bank.)

Grantham, G. E., electrician, 245, Elm Grove, Brighton.

Grantham Electricity Works. Urban Electric Supply Co., Ltd., proprietors. Resident engineer, J. E. Edmundson, A.M.I.E.E. (Telegs.: "Electricity Works, Grantham." Nat. Teleph. No. 23, Grantham.)

Granville, William P., M.I.E.E., 214, Green-lanes, Finsbury-park, London, N.

Graphite Plumbago Crucible Co., Ltd. (W. Leathes, manager), Heald-st., Tanner's Hill, Deptford, London, S.E. (Telegrams: "Welldoers, London.")

Gratrix, Samuel, jun., & Bro., Ltd., manufacturers of electric fittings & accessories, Alport Works, Quay-st., Deansgate, Manchester. (Telegs.: "Lead, Manchester." Teleph. Nos. 6401-2-3.)

Gratze Patents & Engineering Syndicate, Ltd., electrical & mechanical engineers, 44A, Whitfield-st., Tottenham Court-rd., W. (Telegs.: "Gratzelim, London." Teleph. No. 7337, Gerrard.)

Grave, Lancelot W. de, M.I.M.E., A.M.I.E.E., 9, Iron Gate, Derby.

Graves, James, M.I.E.E., electrician, supt. Anglo-American Telegraph Co., Ltd., Valentia, Ireland.

Graves, J. W., superintendent Direct United States Cable Co., & Western Union Telegraph Co., Ltd., 4, Waterloo-st., Glasgow.

Graves, T. W., A.M.I.E.E., 7, Birkbeck-rd., Mill Hill, London, N.W.

Graves, W. J., officer-in-charge, Eastern & South African Telegraph Co., 37, Holborn Viaduct, E.C.

Gravesend Corporation Electricity Works, Gravesend, Kent. C. F. McInnes, A.M.I.E.E., borough electrical engineer.

Gravesend & Northfleet Electric Tramways, Ltd., Donington House, Norfolk-st., Strand, W.C. Registered April 18, 1901. Authorized & subscribed capital: £40,000 6 per cent. preference shares of £1 each, £40,000 ordinary shares of £1 each & £40,000 debentures. Directors: W. G. Bond, Esq. (chairman); J. F. Albright, Esq.; A. C. Miles, Esq. Secretary, P. N. Gray. Manager, A. W. Kipping. A trust deed, dated April 23, 1903, to secure £40,000 debenture stock (with power to make further issues up to half the nominal capital), has been registered. Dividends: 1902 & 1903, 3 per cent.; 1904, *nil*.

Gray, Albert, A.I.E.E., 32, Bushwood-rd., Kew.

Gray, Andrew, A.M.I.C.E., Marconi's Wireless Telegraph Co., Ltd., 18, Finch-lane, Threadneedle-st., London, E.C.

Gray, Andrew S., A.I.E.E., King & Co., Leith Electric Works, Leith, N.B.

Gray, C. E., engineer, Ross Electric Light & Power Co., Ltd., Ross, Herefordshire.

Gray, Chas. F., A.I.E.E., A.AM.I.E.E., 80, Melbourne Grove, East Dulwich, London, S.E.

Gray, E. B., manufacturing electrical engineer, Hythe, Colchester. (Telegs.: "Gray, Hythe, Colchester.")

Gray, Harold, A.M.I.E.E., borough electrical engineer, Accrington, Lancs. (Telephone No. 2.)

Gray, Harry, consulting engineer, Dominion House, 110, Fenchurch-st., London, E.C. (Telegrams: "Hypnotism, London.")

Gray, H. C., A.M.I.E.E., Engineer-in-Chief's Office, National Telephone Co., Telephone House, Victoria Embankment, London, E.C.

Gray, James, 12, Wellfield-ave., Muswell Hill, N. Managing director Electric Construction Co., Ltd.; director Madras Electric Tramways (1904), Ltd.

Gray, John, B.SC., A.M.I.E.E., electrical engineer, 83, Cannon-st., London, E.C.

Gray, J. Hunter, A.I.E.E., 3, Crown Office-row, Temple, London, E.C.

Gray, Matthew Hamilton, F.G.S., A.R.S.M., M.I.M.M., telegraph engineer, Silvertown, London, E.

Gray, Prof. A., LL.D., F.R.S., professor of natural philosophy, The University, Glasgow.

Gray, Robert Kaye, M.I.E.E., M.I.C.E., 106, Cannon-st., London, E.C. Chairman Spanish National Submarine Telegraph Co., Ltd.; chairman South American Cable Co., Ltd.; director Cuba Submarine Telegraph Co., Ltd.; director West African Telegraph Co., Ltd.; managing director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.

Gray, Tom L., electrical engineer, 18, Grainger-st. West, Newcastle-upon-Tyne.

Gray, William E., M.I.E.E., Silvertown, London, E.

Gray, Wm. E., accumulator maker, 53, Bayham-pl., Camden Town, London, N.W.

Gray, W. Turnbull, A.I.E.E., 49, Winstanley-rd., Waterloo, Liverpool.

Gray, Avon & Co., wood turners, Breedon Cross Works, Stirchley, nr. Birmingham.

Gray, James, & Co., electrical agents, 212, St. Vincent-st., Glasgow. (Telegs.: "Grandesco, Glasgow." Teleph. No. 225 X. 4, Argyle.)

Gray, James, & Son, smiths, electric bell fitters & electricians, 89, George-st., Edinburgh. (Telegrams: "Grates, Edinburgh." Telephone No. 2018.)

Gray, J. W., & Co., electric bell manufacturers, 69, Commercial-st., London, E. (Telegrams: "Gendarme, London." Telephone No. 12310, Central.)

Gray, J. W., & Son, electricians, lightning conductor manufacturers, 115, Leadenhall-st., London, E.C. (Telegrams: "Grandson, London." Telephone No. 6453, Central.)

Gray & Palmer, electric lighting, bells, &c., 144, King-st., Great Yarmouth. (Telephone No. 67.)

Grays Thurrock Urban District Council Electricity Works, Grays, Essex. Engineer, E. D. Long.

Great Central Railway (Electrical Engineers' Department), Guide Bridge, nr. Manchester. C. W. Neele, electrical engineer.

Great Crosby Electricity Works. Liverpool District Lighting Co., Ltd., proprietors. Consulting & electrical engineer, W. Miles Horsfall, M.I.E.E.

Great Eastern Railway Co., Liverpool-st. Terminus, London, E.C. Secretary, W. H. Peppercorne.

Great Grimsby Corporation Electricity Works. (Telephone No. 64, Grimsby.) Engineer, W. A. Vignoles, M.I.E.E.

Great Grimsby Street Tramways Co., Moorgate Station-chbrs., London, E.C.; & Great Grimsby. (Telegs.: "Blanco, Cleethorpes." Teleph. No. 16, Cleethorpes.) Directors: A. Beattie, Esq., J.P., D.L. (chairman); S. Hern, Esq.; A. W. White, Esq., J.P.; J. Barber Glenn, Esq. (managing & secretary). Electrical engineer, S. E. Barnes. *All shares in this company are held by the Provincial Tramways Co., Ltd.*

Great Northern & City Railway Co., 3, Highbury-pl., London. (Telegs.: "Rapidness, London." Teleph. No. 853, North.) Power House: Poole-st., New North-rd., N. Incorporated by Act of Parliament, June 28, 1892. Nominal capital: £2,010,000 in 78,000 4 per cent. preferred ordinary "A" shares of £10 each, 78,000 5 per cent. deferred ordinary "B" shares of £10 each & £450,000 in 4 per cent. preference stock; £670,000 in loans. Issued: 78,000 4 per cent. preferred ordinary "A" shares of £10 each & 78,000 5 per cent. deferred ordinary "B" shares of £10 each. £504,216 4 per cent. debenture stock. Directors: The Right Hon. the Earl of Lauderdale (chairman); Charles Steel, Esq. (deputy chairman); Sir H. C. Burdett, K.C.B.; C. G. Hyde, Esq.; The Right Hon. Lord Knollys, G.C.V.O., &c. Engineers, Sir Douglas Fox & Francis Fox; secretary, H. Barrow Doo; engineer & traffic manager, R. P. Brousson.

Great Northern, Piccadilly & Brompton Railway Co., Hamilton House, Victoria Embankment, E.C. Nominal capital: £5,405,000 & debentures £1,801,000. Issued: £4,225,000. Directors: Sir Geo. S. Gibb (chairman); Lord Farrer; Sir Lesley Probyn; Rt. Hon. Lord Geo. Hamilton; W. M. Acworth, Esq. Engineers, Sir J. & W. W. Szlumper; Alexander Ross; C. A. Brereton; Sir John Wolfe Barry & Partners; Jas. R. Chapman; & H. H. Dalrymple Hay; secretary, W. E. Mandelick. *Under construction.*

Great Northern Railway Co. (Ireland), Amiens-st. Terminus, Dublin. (Telegs.: "Railroad, Dublin." Teleph. No. 171.) Directors: Lucius O. Hutton, Esq. (chairman); Fane Vernon, Esq. (deputy); & others. Engineer-in-chief, W. H. Mills; electrical engineer, A. W. Whieldon; secretary, T. Morrison.

Great Northern Telegraph Co., Ltd., The, of Copenhagen. Head office: 26, Kongens Nytorv, Copenhagen. Nominal capital: £1,500,000 ordinary shares of £10 each, all issued & fully paid. Directors: Commodore E. Suenson, D.R.N. (chairman & managing director); M. Melchior, Esq.; F. C. Tobiesen, Esq.; Admiral F. C. C. Bardenfleth, D.R.N.; Col. V. E. Tychsen, D.R.E.; P. Vedel, Esq., D.C.L.; Baron Reedtz-Thott. Engineer-in-chief, K. Gulstad. Dividends: 1902, 12½ per cent.; 1903, 15 per cent.; 1904 & 1905, 24 per cent. London office (representative, F. C. C. Nielsen): 3, St. Helen's-pl., Bishopsgate-st. Within, London, E.C. (Telegs.: "Nordiske, London.")

Green, C. E., Oakfield, Forest Row, Sussex. Director Yale Electric Power Co., Ltd.

Green, F., 13, Fenchurch-ave., London, E.C. Director United River Plate Telephone Co., Ltd.; director Electrical Power Storage Co., Ltd.

Green, F. W., A.M.I.E.E., A.M.I.MECH.E., Electricity Works, Pier's-rd., Handsworth, Staffs.

Green, G. W., M.I.E.E., A.M.I.C.E., 12, Mortlake-rd., Kew, Surrey.

Green, Harry, A.I.E.E., Engineers' Department, National Telephone Co., 102, Portland-st., Manchester.

Green, Harry H. R., A.M.I.E.E., 18, St. German's-rd., Forest Hill, S.E.

Green, Robert, A.M.I.C.E., consulting engineer, Pritchard, Green & Co., 37, Waterloo-st., Birmingham. (Telegs.: "Pritchard, Birmingham." Teleph. No. 4450.)

Green, W., mains superintendent, Corporation Electricity Department, Town Hall, Southport.

Green, W. J. S., electrician & lime-light operator, 214, Birchfield-rd., Birmingham. (Teleph. No. 0519, Handsworth.)

Green, W. P., Towerhurst, Roundhay, Leeds. Director Roundhay & District Electric Lighting Co., Ltd.

Green & Abbott, electricians, 473, Oxford-st., W. (Telegs.: "Skyblue, London." Tel. No. 4099, Gerrard.)

Green & Boulding, Ltd., injector & metallic packing makers, 28, New Bridge-st., London, E.C. (Telegrams: "Temperature, London." A.B.C. Code used. Telephone No. 12455, Central.)

Green, E., & Son, Ltd., fuel economiser makers, Wakefield, Manchester, London & Glasgow. (Telegs.: "Economiser." Teleph. Nos.: Wakefield, 43; Manchester, 1375.)

Green, Ralph, & Co., electrical apparatus makers, 142, Bute-st. Docks, Cardiff. (Telegrams: "Ralph Green, Cardiff." Telephone Nos. G.P.O. & Nat. 191.)

Green, Thos., & Son, Ltd., engineers, machinists, &c., Leeds. (Telegrams: "Smithfield, Leeds." Telephone Nos. 158 & 1227.)

Green, W., Son & Waite, makers of dynamo brushes, 134, Albany-rd., London, S.E. (Telegs.: "Deckle." Teleph. No. 13768, Central, P.O.)

Greenall, E. B., A.I.E.E., electrical engineer, 5, Gertrude-rd., West Bridgford, Nottingham; & Danks & Co., Thurland-st., Nottingham.

Greenberg & Sons, agents Deutsche Celluloid-Fabrik Leipzig, 8, Water-lane, Ludgate Hill, London, E.C. (Telegrams: "Greenberg, London." Telephone No. 5846, Bank.)

Greene, Cuthbert J., A.I.E.E., 16, Foxgrove-rd., Beckenham, Kent.

Greene, F. A., A.M.I.E.E., consulting engineer, 3, Miles-lane, London, E.C. (Telegs.: "Fagreeneer, London." Teleph. No. 7683, London Wall.)

Greene, R. R., general manager, Wallasey Council Tramways, Liscard, Cheshire. (Telegrams: "Greene, Tramways, Liscard." Telephone No. 439, Liscard.)

Greener, A. E., 4, Ashfield, Wavertree, Liverpool. Lancashire & Yorkshire representative, Electromotors, Ltd., Openshaw, Manchester.

Greener, W. B., A.I.E.E., Sandal House, Wakefield.

Greenhalgh, C. E. D., assistant, Corporation Electricity Works, Wakefield.

Greenhalgh, Wm., electrical engineer, 57, Beauvale-rd., Nottingham.

Greenhill, J. E., electrician, Downs Park-road, Clapton, London, E.

Greenhill, J. H., electrical & mechanical engineer, 37, New King-st., Belfast. (Telegrams: "Vermont. Belfast." Telephone No. 419.)

Greenhill & Craig, electrical engineers & contractors, 33, 35 & 37, King-st., Belfast.

Greening, N., & Sons, Ltd., wire manufacturers & metal perforators, Warrington. (Telegrams: "Greenings, Warrington." Telephone No. 15.)

Greenock Corporation Electricity Works & Electric Tramways. (Telegs.: "Energy, Greenock." Teleph. No. 330.) Burgh electrical engineer, J. A. Robertson, M.I.E.E.

Greenock & Glasgow Electro Co., electro-silver platers & bronzers, &c., 14, Charles-st., Greenock. (Telephone No. 0593.)

Greenock & Port Glasgow Tramways Co., Donington House, Norfolk-st., Strand, London, W.C. (Telegrams: "Greenock, c/o Tramway, London.") Incorporated 1887. Authorized capital: £185,000 in £10 shares, 70,000 being in 5 per cent. non-cumulative preference & 115,000 in ordinary shares, & the whole amount has been subscribed & called up. There is also a temporary loan of £30,000, secured by first mortgage debenture bonds for a similar sum. Directors: F. W. Chanter, Esq. (chairman); C. S. B. Hilton, Esq.; D. J. Dunlop, Esq.; A. C. Miles, Esq.; H. S. Day, Esq. Secretary, W. F. Herring; manager, G. W. King.

Greenwell, B. E., director Manx Electric Railway Co., Ltd., 78, Cornhill, London, E.C.; director Buenos Ayres Electric Tramways Co. (1901), Ltd.

Greenwich Photographic & Optical Stores, manufacturers of X-ray, electrical & scientific instruments, 23, Nelson-st., Greenwich, S.E.

Greenwood, Arthur, J.P., M.I.C.E., consulting engineer, Albion Works, Armley-rd., Leeds; chairman Greenwood & Batley, Ltd.; director Power & Traction Co., Ltd.

Greenwood, J., 1, Marsden-st., Manchester. Director Blackpool & Fleetwood Electric Tramroad Co.; chairman Blackpool & Garstang Light Railway Co.

Greenwood, R. A., electric light & power contractor, Mansfield. (Telegs.: "Greenwood, Electrician, Mansfield." Nat. Teleph. No. 0186.)

Greenwood, Thomas, engineer & engineers' tool maker, Waterside, Halifax. (Telegrams: "Tackle, Halifax." Telephone No. 354A.)

GREENWOOD & BATLEY, LTD., steam turbine makers & electrical engineers, Albion Works, Leeds; 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London." Telephone No. 270, Leeds.) Registered July 7, 1888. Directors: A. Greenwood, Esq. (chairman); Major-Gen. E. Micklem; Lieut.-Col. R. Vivian; H. Greenwood, Esq.; S. T. Batley, Esq.; A. G. Hopper, Esq. Electrical engineer, Harold Hill; secretary, Geo. Hagger. Nominal capital: £260,000 in ordinary shares, £140,000 preference, & £100,000 debentures. Issued: 18,052 ordinary, 11,066 preference shares, & all the debentures, as paid. £3 each share has been called on 1466 preference & 1252 ordinary, & £10 per share on the rest, & £272,154 has been paid. Preference shares Nos. 1 to 2666 & ordinary shares Nos. 1 to 4666 were issued as fully paid to the vendors. Dividends: 1900–01, 1901–02, 7 per cent. on preference & 5 per cent. on ordinary; 1902–03, 7 per cent. on preference & 4 per cent. on ordinary; 1903–04, 7 per cent. on preference & 5 per cent. on ordinary; 1904–05, 7 per cent. on preference & 6 per cent. on ordinary; 1905–06, 7 per cent. on preference & 5 per cent. on ordinary. *See advt., page* 20.

Greer, Wm. J., A.I.E.E., c/o H. S. King & Co., 45, Pall Mall, London, S.W. Director Tynemouth & District Electric Traction Co., Ltd.; chairman Hartlepool Electric Tramways Co., Ltd.; director Yorkshire (Woollen District) Electric Tramways, Ltd.; director Barnsley & District Electric Traction Co., Ltd.; director General Electric Tramways Co., Ltd.; director County of Northampton Electric Power & Traction Co., Ltd.; chairman Peterborough Electric Traction Co., Ltd.; director Durham & District Electric Traction Co., Ltd.; director Jarrow & District Electric Traction, Co., Ltd.

Greeves, O. V., A.I.E.E., electrician, Portadown, Ireland.

Gregory, J. P., engineer, Central Station Department, British Thomson-Houston Co., Ltd., Rugby.

Gregory, V. H., A.I.E.E., designer & draughtsman, 2, Burlington-gardens, Chiswick, London, W.

Gregory, W., & Son, wiring contractors, 28, Steep Hill, Lincoln.

Grenfell, A. M., director De Forest Wireless Telegraph Syndicate, Ltd., 6, Princes-st., London, E.C.

Grenfell, C. A., Hamilton House, Victoria Embankment, E.C. Chairman Charing Cross, Euston & Hampstead Railway Co.; chairman Edgware & Hampstead Railway Co.

Grenfell, C. Seymour, Elibank, Taplow, Bucks. Chairman Buenos Ayres Electric Tramways (1901), Ltd.; director City & Brixton Railway Co.

Gresham & Craven, Ltd., engineers & makers of the "Gresham" injectors & ejectors, Craven Iron Works, Ordsall-lane, Manchester. (Telegs.: "Brake, Manchester." Tel. No. 613. A.B.C. Code.)

Grevener, J. & H. (sole agents for Metallwerk Electra G. m. b. H., Gummersbach, Rheinland), Eldon-st. House, Eldon-st., London, E.C. (Telegs.: "Grevener, London." Teleph. No. 1842, Central.)

Greville, Arthur W., A.I.E.E., 9, Park-rd., Beckenham, London, S.E.

Grëwing, Henry, 4, Austin Friars, E.C. Director Telephone Co. of Egypt, Ltd.; director Oriental Telephone & Electric Co., Ltd.; chairman China & Japan Telephone Co., Ltd.

Grëwing, H. Johnstone, 26, Queen Anne's-gate, S.W. Director China & Japan Telephone Co., Ltd.; director Oriental Telephone & Electric Co., Ltd.; director Telephone Co. of Egypt, Ltd.

Grey, Leonard, electrical engineer & contractor, 6, Percy-circus, King's Cross-rd., W.C.

Grey & Marten, Ltd., lead tube makers, Southwark-bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Grice, Grice & Son, Ltd., brass & copper tube manufacturers, Sheepcote-st., Birmingham. (Telegrams: "Grice, Birmingham." Telephone No. 102.)

Gridley, A. B., manager Cleveland & Durham County Electric Power Co., Hinton's-bldgs., Middlesborough. (Telegs.: "Unit, Middlesborough." Teleph. No. 474, Nat.)

Gridley, H. J., A.I.E.E., electrical engineer, Hampton Wick, Kingston-on-Thames.

Grier, C. W. M., M.B., Polpier, Mevagissy. Chairman Mevagissy Electric Lighting Co., Ltd.

Grieve, John, & Co., manufacturers of hand, steam, hydraulic & electric cranes, Motherwell. (Telegrams: "Grieve, Motherwell." Telephone No. 56.)

Griffin, Gen. E., M.I.C.E., vice-chairman British Thomson-Houston Co., Ltd., 83, Cannon-st., London, E.C.

Griffin, C., & Co., Ltd., publishers of electrical & scientific works, Exeter-st., Strand, London, W.C.

Griffin Engineering Co., gas & oil engine makers, Kingston Iron Works, Oldfield Park, Bath. (Telegrams: "Motor, Bath.")

Griffin, John J., & Sons, Ltd., scientific apparatus & chemicals, Kingsway, London, W.C. (Telegs.: "Gramme, London." Teleph. No. 2621, Gerrard.)

Griffith, F. P., B.A., A.I.E.E., Rathmines Castle, Dublin.

Griffith, M., 8, Seymour-pl., Park-lane, W. Director Metropolitan District Railway.

Griffith, S., electrical & mechanical engineer, Railway Foundry & Engineering Works, Reading (Teleph. No. 258); & London.

Griffith, S. B., A.I.E.E., electrical engineer, 8, John-st., Adelphi, London, W.C. (Teleph. No. 6364, Central.)

Griffith, Wm. G., A.M.I.E.E., Siemens Bros. Dynamo Works, Stafford.

Griffith, W., & Sons, makers of railway & tramway springs, Napier Steel Works, Sheffield (Telegrams: "Griffith, Sheffield." Telephone No. 846); & 9, Bridge-st., London, S.W.

Griffiths, Edward, Cerednen-st., Mardy. Chairman Mardy Electric Light Co., Ltd.

Griffiths, G. M., Nantymoel. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Griffiths, Harold, A.I.E.E., "Thornbury," Woodbourne-rd., Edgbaston, Birmingham. (Teleph. No. 3668.)

Griffiths, Harry D., electric bell fitter & contractor, Griffithstown, Monmouth.

Griffiths & Brakell, electrical engineers & contractors, 79A, Grange-rd., Birkenhead. (Teleph. No. 208, X.)

GRIFFITHS BROS. & CO., paints, enamels, lacquers, & varnishes, Mack's-rd., Bermondsey, London, S.E. (Telegs.: "Aquol, London." Teleph. No. 807, Hop.) Inventors & sole makers of "ANTI-SULPHURIC" ENAMEL, "Armacell" insulating varnish, "SHAYDOLITE," "OHMALINE," "DRIOROL" quick-drying finishing coat (dries over greasy surfaces), FLEXIBLE SHELLAC INSULATING VARNISH, & other specialities for the electrical trade. *See advt., page* 18.

Griffiths, Isaac, & Sons, steel conduits, Imperial Tube Works, Wednesbury.

Griffiths, Knight & Co., makers of paint for insulating purposes, 114, Ford-st., Vauxhall-rd., Liverpool. (Telegrams: "Varnish, Liverpool." Telephone No. 2033.)

Grigg, Robert, A.I.E.E., electrical engineer, c/o Robert W. Blackwell & Co., Ltd., 59, City-rd., London, E.C.; & 28, Melody-road, East Hill, Wandsworth, London, S.W.

Griggs, J. W., A.I.E.E., Chelsea Electric Supply Co., Alpha-pl., Chelsea, London, S.W.

Grimley, W. R. N., A.I.E.E., A.M.I.M.E., 8, Marlboro'-rd., Ealing, W.

Grimsdale, Wm. H., A.I.E.E., Preece & Cardew, 8, Queen Anne's Gate, London, S.W.; & Brantwood, Twickenham.

Grimsdick, E. P., A.M.I.E.E., British Thomson-Houston Co., Rugby.

Grimshaw, C. O., M.I.C.E., M.I.E.E., electrical engineer, Westminster Electric Supply Corporation, Ltd., Eccleston-pl., London, S.W. (Telephone No. 271, Westminster.)

Grimshaw, J. Walter, M.I.E.E., 4 & 5, Ilchester-gdns., Prince's-sq., Bayswater, London, W.

Grimshaw & Baxter, dealers in tools for electricians, 29–37, Goswell-rd., London, E.C. (Telegrams: "Grimbax, London." Telephone No. 485, Holborn.)

Grimsley, F. C., electrician, Dorothea Works, Belgrave-rd., Leicester.

Grimsley & Co., electrical engineers, St. George's Engineering Works, Queen-st., Leicester. (Telegs.: "Automatic, Leicester." Teleph. No. 79.)

Grimwade Bros., earthenware manufacturers, Stoke-rd., Hanley, Staffs.

Grindlay, Ross & Co., installation contractors, 278, St. Vincent-st., Glasgow.

Grindley & Co., Ltd., manufacturers of pitch & bitumen for insulating, Upper North-st., Poplar, London, E. (Telegrams: "Resinous, London." Telephone No. 58, Eastern.)

Grindrod, J. K., electrical engineer & contractor, Oulder Hill, Rochdale.

Grinsted, D., Lynton House, Bromley. (Teleph. No. 388.) Director Bromley (Kent) Electric Light & Power Co., Ltd.; & Chislehurst Electric Supply Co., Ltd.

Grinyer, W. C., A.M.I.E.E., Science-bldgs., Tunbridge Schools.

Gripper, F. E., M.I.E.E., electrician, Broad Sanctuary-chbrs., London, S.W. Managing director Edmundson's Electricity Corporation, Ltd.; director Salisbury Electric Light & Supply Co., Ltd.; director Folkestone Electricity Supply Co., Ltd.; chairman Bromley (Kent) Electric Light & Power Co., Ltd.; chairman Alderley & Wilmslow Electric Supply, Ltd.; director Winchester Electric Light & Power Co., Ltd.; director Wycombe (Borough) Electric Light & Power Co., Ltd.; director Newmarket Electric Lighting Co., Ltd.; chairman Isle of Wight Electric Light & Power Co., Ltd.; chairman North of Scotland Electric Light & Power Co., Ltd.; director Urban Electric Supply Co., Ltd.; director Melton Mowbray Electric Light Co., Ltd.; director Lymington Electric Light & Power Co., Ltd.; director Ilfracombe Electric Light & Power Co., Ltd.; director Lancashire Electric Power Co.; director Scarborough Tramways Co.; chairman St. Helen's Electric Lighting Co., Ltd.; director Ramsgate & District Electric Supply Co., Ltd.; chairman Chislehurst Electric Supply Co., Ltd.; director Camborne Electricity Supply Co., Ltd.

Gritton, Chas. E., representative of the Goheen Manufacturing Co., makers of metal preservative compositions (U.S.A.), 33, King-st., London, W.C.

Grocers' Engineering Co., makers of electric elevators, &c., Cole-st., Swan-st., London, S.E. (Telegrams: "Metrical, London." Telephone No. 760, Hop.)

Grogan, F. S., A.M.I.E.E., c/o British Electric Equipment Co., Ltd., 265, Strand, London, W.C.; "Dunmore," Foxley-lane, Purley, Surrey.

Groombridge & South, electro-magnetic motor manufacturers, 40, New Bond-street, London, W.

Groome, H., electrical engineer, Electricity Works, Ventnor.

Groos & Graf, electrical accessories makers, 59–61, Hatton Garden, London, E.C.

Grossmith & Co., electrical engineers, Southsea & Portsea.

Grosvenor, Dr. A. O., director Mazarron Electric Light Co., Ltd.

Grosvenor, H., tin & lead foil manufacturer, 6, Golden-lane, London, E.C. (Telegs.: "Tinfolia, London." Teleph. No. 926, Central.)

Grosvenor Electrical Co., 16, Eccleston-st., London, S.W.

Grosvenor Engineering Works, Ltd., 20, Danvers-st., London, S.W.

Grotrian, H. B., director Urban Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W. Director Camborne Electricity Supply Co., Ltd.

Grove, A., J.P., Celfunte, Chalfont St. Giles, Bucks. Director Southern Counties Mono-Rail Syndicate, Ltd.

Grove, E. P., chief engineer, Central London Railway, Shepherd's Bush, London, W. (Telephone No. 196, Hammersmith.)

Grove, T. N. A., Celfunte, Chalfont, St. Giles, Bucks. Director Gloucestershire Electric Power Co.; director Gloucestershire Electric Power Syndicate, Ltd.

Grover, A., Cecil-ct., Charing Cross, W. Director Hindhead & District Electric Light Co., Ltd.

Grover, Frederick, A.M.I.C.E., M.I.M.E., consulting engineer, Greek-st.-chbrs., Leeds.

Grover, John, Hindhead, Surrey. Chairman Hindhead & District Electric Light Co., Ltd.

Grover & Co., Ltd., mechanical engineers, St. Peter-st., Wharf-rd., London, N. (Telegrams: "Adopted, London." Telephone No. 617, King's Cross.)

Groves, J. R., manager Peterborough Electric Traction Co., The Depôt, Peterborough.

Groves, W. E., A.M.I.E.E., 26, Stanmore-rd., Edgbaston, Birmingham.

Groves & Co., electrical contractors & manufacturers, 96, Churchfield-rd., Acton, London, W. (Telephone No. 106, Chiswick); & at Archer-st. Works, Piccadilly Circus, W. (Telephone No. 2796, Central.)

Groves, Richard, & Sons, Ltd., file manufacturers, Beehive Works, Sheffield.

Grubb, Robert Walter, A.M.I.E.E., assistant electrical engineer, Corporation, Swindon, Wilts.

Grubb, W., electric bell fitter & contractor, 83, Blackstock-road, Finsbury-park, London, N.

Grunbaum, L. N., & Son, ozokerite for insulating, 84, Leadenhall-st., London, E.C. (Telegrams: "Ozonometer, London.")

Grundy, A., electrical engineer, Amberley House, Brassey-sq., London, S.W.

Grundy, Sidney S., electrical engineer, Amberley House, Brassey-sq., London, S.W.

Grundy & Coombs, electrical engineers, High-st., Walton-on-Thames; & 7, The Parade, East Molesey.

Guernsey Electricity Supply Co., Les Amballes, St. Peter's Port, Guernsey; & Broad Sanctuary-chbrs., London, S.W. A. G. Bird, A.M.I.E.E., engineer.

Guernsey Railway Co., Ltd., Guernsey. Registered September 22, 1888. Nominal capital: £18,670 in ordinary shares of £1 each, £9330 in 5 per cent. preference shares of £5 each & £12,000 3 per cent. debentures. 13,822 ordinary shares, all the preference shares & debentures have been issued & are fully paid. Directors: G. F. Peek, Esq. (chairman); J. B. Collings, Esq.; W. D. Murdoch, Esq.; A. C. Quick, Esq.; T. Stedman, Esq. Electrical engineer & manager, A. L. Davis, A.M.I.E.E.; secretary, J. de Mouilpied. Dividends: Feb., 1900, Feb., 1901, Feb., 1902, 5 per cent. on preference & 4 per cent. on ordinary, for each year; Feb., 1903, Feb., 1904, Feb., 1905, & Feb., 1906, 5 per cent. on preference & 5 per cent. on ordinary.

Guernsey (States of) Telephone Department, St. Peter Port, Guernsey. (Telegrams: "States Telephones, Guernsey." Telephone No. 33.) Robert McLean, manager.

GUEST, JOHN, & SON, malleable iron castings, Wolverhampton-rd., Walsall. (Telegrams: "Guests, Ironfounders, Walsall.")

Guest, Keen & Nettlefolds, Ltd., engineers & makers of steel rails, bolts & nuts, &c., London Works, nr. Birmingham; & at West Bromwich; Newport, Mon.; & Dowlais.

Guest & Son, electrical engineers, North-lane, Headingley, Leeds.

GUILBERT-MARTIN, manufacturer of glass & crystal tubes, rods, enamels, &c., 9, Edmund-pl., London, E.C. (Telegrams: "Photophore, London." Telephone No. 2799, Central.)

Guildford Electricity Supply Co., Ltd., Onslow-st., Guildford. Registered June 30, 1892. Nominal capital: £30,000 in 6000 £5 ordinary shares & £25,000 in £1 cumulative preference shares, & £25,000 in 5 per cent. debentures. 2742 ordinary & 9901 preference shares have been taken up; the full amount has been called & paid. Debentures issued: £19,400. Directors: Dr. F. R. Russell (chairman); C. J. Scott, Esq.; H. P. Smallpiece, Esq. Engineer & manager, H. L. Alderton; secretary, R. Harold Piper, L.A.A. Dividends on ordinary shares: 1902, 1903, 1904, 3 per cent.; 1905, *nil.*

Guilford & Co., Ltd., electrical engineers & electric bell fitters, 78 & 79, Victoria-rd., Surbiton. (Teleph. No. 541, P.O., Kingston.)

Guillaume, E., electrical accessories manufacturer, 335, Goswell-rd., London, E.C. (Telegrams: "Guilandina, London.")

Gulich & McIntyre, installation contractors, 17 & 18, Little Edward-st., Albany-st., London, N.W.

Gullette, J. W., technical manager General Electric Co., Ltd., Peel Works, Manchester.

Gümpel, C. Godfrey, A.I.E.E., 3, Elm-rd., Beckenham, Kent.

Gunn, G. A., electric lighting contractor, 159, Falcon-rd., Clapham Junction, London, S.W.

Gunner, C. E., A.I.E.E., Eton Cottage, Sunnybank, South Norwood, S.E.

Gunning, H. F., Bienvenida, Arlington-rd., Eastbourne. Director Anglo-Argentine Tramways Co., Ltd.; director The United Electric Tramways of Montevideo, Ltd.

Gunther, C. E., director Direct U.S. Cable Co., Ltd., 4, Lloyd's-ave., E.C.

Günther, W., & Sons, turbine makers, Central Works, Oldham. (Telegrams: "Gunthers, Oldham." Telephone No. 317.)

Gunton, H. C., A.M.I.E.E., c/o Kennedy & Jenkin, 17, Victoria-st., London, S.W.

Gunyon, S. E., chartered patent agent, 115, Cannon-st., London, E.C.

Gunz, N., manufacturers' agent, 46, Queen Victoria-st., London, E.C. (Teleph. No. 13028, Central.)
Gurdon, Sir William B., C.B., K.C.M.G., M.P., A.I.E.E., Assington, Colchester.
Gurl, G. J., electric bell fitter, 88, Mitcham-rd., Croydon.
Gurney, E. C., Homeleigh, Aylestone Hill, Hereford. Director Ross Electric Light & Power Co., Ltd.
Guthrie, J. B., & Son, wrought iron tube makers, 96–98, Leadenhall-st., London, E.C. (Telegrams: "Busiris, London." Telephone No. 1432, Avenue.)
Gutta-Percha Company, patentees, gutta-percha manufacturers, Wharf-road, City-road, London, N. (Telegrams: "Guttapercha, London." Telephone No. 791.)
Guttmann, Oscar, consulting engineer & chemical adviser, 12, Mark-lane, London, E.C. (Telegrams: "Grantable, London." Telephone No. 6309, Avenue.)
Guy, Arthur F., A.I.E.E., Engineering Department, G.P.O., Manchester.
Guy, G., electrical engineer, 29, Orchard-st., London, W.
Guy & Co., cabinet work, 38 & 40, Bridlesmith Gate, Nottingham. (Teleph. No. 1072.)
Guy, H., Augustus & Co., makers of Guy's improved magnet steel & self-hardening steel, Invincible Steel Works, Smithfield, Sheffield.
Gwinn, A. H., & Co., electrical engineers & wiring contractors, 26, Romford-rd., Stratford, London, E.
Gwyer, J. H., local manager, National Telephone Co., Ltd., Telephone-bldgs., Southampton. (Teleph. No. 309.)
Gwyn, A. E. W., Ltd., engineers & agents for Messrs. Joseph Booth & Bros., 75A, Queen Victoria-st., London, E.C. (Telegrams: "Asunder, London." Telephone No. 4999, Central.)
Gwynnes, Ltd., engineers special high speed engines, dynamos, pumps, &c., 81, Cannon-st, London, E.C. (Telegrams: "Gwynne, London." Telephone No. 544, Bank.)

H. P. Syndicate, Ltd., electric light & power contractors, 701, Salisbury House, London Wall, E.C.
Haacke, A., & Co., asbestos manufacturers, Kieselguhr-wharf, Homerton, London, N.E. (Telegrams: "Haacke, London." Telephone No. 19, Stratford.)
Hacking, W. B., electric light engineer, 95, Gloucester-rd., London, S.W.
Hackney Borough Council Electricity Works, Millfields-rd., Clapton, N.E. (Teleph. Nos.: 201, Dalston; Engineers' private, 408, Dalston.) Engineer, L. L. Robinson; assistant engineer, J. R. J. Bowden.
Hackney Technical Institute, Dalston-lane, London, N.E. *See* SCHOOLS.
Haddan, Herbert, & Co., patents agents, 31 & 32, Bedford-st., Strand, London, W.C. (Telegs.: "Erbt, London.")
Haddock, G. B., 5, Gambier-ter., Liverpool. Director Bogota Telephone Co., Ltd.
Haddow, Wm. Martin, M.I.E.E., 9, North Claremont-st., Glasgow.
Haddow & Co., electrical engineers, 107, Douglas-st., Glasgow. (Telegs.: "Haddow, Glasgow." Teleph. Nos.: 878, Argyle, Nat.; & 1499, Corp.)
Haden, G. N., & Sons, engineers, Trowbridge, Wilts.; & at London, Manchester & Birmingham. (Telegrams: "Haden, Trowbridge." Telephone No. 2, Trowbridge.)
Hadfield, J. W., A.M.I.E.E., borough electrical engineer, Electricity Works, Barnstaple, North Devon.
Hadfield, Robert A., M.I.E.E., Parkhead House, Sheffield.
Hadfield's Steel Foundry Co., Ltd., sole makers of Hadfield's patent "Resista" wire & strip for resistance coils, East Hecla Works, Sheffield (Telegrams: "Hadfield, Sheffield." Telephone Nos.: East Hecla, 750, 2628 & 2638); & Norfolk House, Laurence Pountney Hill, London, E.C. (Telegrams: "Requisition, London.")
Hadley, A. E., A.I.E.E., Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C. (Telegs.: "Armstaub, London." Teleph. No. 4312, Gerrard.) Director Rosario Electric Co., Ltd.
Haeberlin, F., manganese & iron ores, 5, Whittington-ave., London, E.C. (Telegrams: "Haeberlin, London." Telephone No. 104, Avenue.)
Haes, O., M.I.E.E., electrical engineer, 28, Bassett-road, North Kensington, London, W.
Hagen Accumulator Works, London branch of the Cologne Accumulator Works, Gottfried Hagen, Kalk, nr. Cologne, 39, Snow Hill, London, E.C.
Hager, C. W., A.I.E.E., Messrs. Siemens Bros. & Co., Ltd., Woolwich, London, S.E.
Haggie, Robert Hood, M.I.E.E., M.I.MECH.E., electrical engineer, Cathedral-bldgs., Dean-st., Newcastle-on-Tyne.
Haggie Bros., Ltd., lightning conductor manufacturers, Gateshead-on-Tyne. (Telegrams: "Haggie, Gateshead." Telephone No. 1167; & P.O. No. 332.)
Haggie, R. Hood, & Son, Ltd., wire rope manufacturers, & makers of flexible cords for arc lamp suspension, Cathedral-bldgs., Newcastle-on-Tyne; 35, Lime-st., London, E.C.; Victoria Pier, Hull; Grimsby; 29, Clive-st., North Shields; Burt-st. Docks, Cardiff; & 93, Hope-st., Glasgow. (Telegrams: "Haggie," Newcastle-on-Tyne, London, Hull, Grimsby, North Shields, Cardiff, Glasgow. Telephone Nos.: Head Office, Nat. 1027; P.O. 107, Newcastle; 987, Avenue, London; 211, Hull; 8328, North Shields; 87, Cardiff.)
Haigh, F. A., A.I.E.E., demonstrator in electrical engineering, Queen's College, Galway.

Haigh, W. C., director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.

Haigh, W. B., & Co., Ltd., electrical & general engineers, Globe Iron Works, Oldham. (Telegrams: "Haigh, Oldham." Telephone No. 146.)

Haine & Co., electricians, 13, Connaught-st., London, W. (Telephone No. 398, Paddington.)

Haines & Co., manufacturers of belting, lubricants, &c., 33, Minories, London, E.C. (Teleph. No. 1052, Avenue.)

Hainsworth, C. H., A.M.I.E.E., 44, Edgedale-rd., Sheffield.

Hakoumoff, Alfred R., A.I.E.E., 19, Chatsworth-gdns., Acton Hill, London, W.

Hale, H., A.M.I.M.E., A.M.I.E.E., manager & secretary, North of Scotland Electric Light & Power Co., Ltd., Montrose & Brechin, N.B.

Hale, P. E., engineer-in-charge, Electricity Works, Southport.

Hale Bros., manufacturers of electrical apparatus, 156, Upper Thames-st., & 21, Bush-lane, London, E.C. (Telegrams: "Electary, London." Telephone No. 8332, Bank.)

Hale & Son, electrical & general engineers, 179½, Tottenham-court-rd., London, W.

Haler, P. J., B.SC., A.I.E.E., 26, Argyle-rd., Tottenham, London, N.

Haley, A. C., 8, Exchange-st., Bolton; The National Telephone Co., Ltd., Bolton. (Telegrams: "National Telephone, Bolton." Telephone No. 2.)

Haley, S., & Son, Ltd., wire drawers, Pyenot Hall Mills, Cleckheaton, Yorkshire. (Telegrams: "Haley, Cleckheaton." Telephone No. 35.)

Halford, Julian, A.M.I.E.E., electrical engineer, Hill End Farm, Sandridge, Herts.

Halford, Thomas Ernest, patent agent, 82, Mark-lane, London, E.C.

Halifax & Bermudas Cable Co., Ltd., 33, Old Broad-st., London, E.C. (Telephone No. 2914, Central.) Registered May 22, 1889. Directors: T. Skinner, Esq. (chairman); Lt.-Col. T. G. H. Glynn; C. R. Hosmer, Esq.; Geo. G. Ward, Esq.; F. Ward, Esq. General manager, Joseph Rippon; secretary, O. Rochs. Nominal capital: £50,000 in ordinary shares of £5 & £37,900 4½ per cent. first mortgage debentures. Issued: all the ordinary shares fully paid & £120,000 debentures, less £82,100 redeemed. Dividends since 1898: 5 per cent. Interest on debentures 4½ per cent. per annum has been paid since issue.

Halifax Corporation Electricity Works & Electric Tramways, Halifax. W. M. Rogerson, A.M.I.E.E., electrical engineer. (Telephone No. 280, Halifax.)

Halifax Municipal Technical College, Halifax. *See* SCHOOLS. CLASSIFIED SECTION.

Hall, C., electrical contractor, Kettering.

Hall, C. E., clutch manufacturer, 58, Foster's-bldgs., High-st., & Standard Iron Works, Sheffield.

Hall, C. J., M.I.E.E., consulting electrical engineer, 10, East Parade, Leeds.

Hall, E. A. S., electrical engineer & wiring contractor, Old Market-pl., Great Grimsby.

Hall, F. T., A.I.E.E., Electricity Works, Canal Basin, City-rd., London, E.C.

Hall, H. C., director Cinque Ports Light Railway, Ltd.

Hall, H. C., director Lynton & Lynmouth Electric Light Co., Ltd.

Hall, H. Cuthbert, M.I.E.E., managing director Marconi's Wireless Telegraph Co., Ltd.; managing director Marconi International Marine Communication Co., Ltd., 18, Finch-lane, London, E.C.

Hall, Herbert E., A.M.I.E.E., High-st., Tonbridge.

Hall, J., A.M.I.E.E., demonstrator in mechanical engineering, Armstrong College, Newcastle-on-Tyne.

Hall, Joseph, M.I.C.E., M.I.MECH.E., civil engineer, Cheltenham.

Hall, J. P., M.I.E.E., electrical engineer, Gorsebank, Oldham. (Telegrams: "Hall, Gorsebank, Oldham." Telephone No. 300A.)

Hall, Percy B., A.I.E.E., 5, Chapel Works, Cross-st., Manchester.

Hall, Roland C., A.M.I.E.E., A.M.I.C.E., electrical engineer, 93, Parchmore-rd., Thornton Heath.

Hall, Sydney E., A.M.I.E.E., 7, Kimberley-ave., Ilford, Essex.

Hall, T., assistant electrical engineer, Corporation Electric Station, Burton-on-Trent.

Hall, Wilfred, A.M.I.C.E., electrical engineer, Messrs. Barker, Hall & Harvey, 2, Collingwood-st., Newcastle-on-Tyne. (Telegs.: "Farad, Newcastle." Teleph. No. 2918, Nat.)

Hall, W., A.M.I.C.E., Tynemouth. Managing director Hexham & District Electric Supply Co., Ltd.

Hall, W. H., A.M.I.E.E., Electricity Works, Wood Hill-lane, Morecambe.

Hall, Beddall & Co., electric light contractors, Pitfield Wharf, Commercial-rd., Lambeth, S.E., & 31, Bread-st., E.C., London. (Telephone No. 598, Hop.)

Hall & Co., electric bell & telephone fitters, Dale-rd., Matlock. (Telegs.: "Hall, Matlock Bridge." Nat. Teleph. No. 47, Matlock.)

Hall, H. E., & Co., electric light & power contractors, 90, High-st., Tonbridge.

Hall, J., & Co., manufacturers of electric light fittings, 71, Queen-st., London, E.C. (Pinchbeck Bros., agents). (Telegrams: "Pincheries, London." Telephone No. 988, Bank.)

Hall, J. P., & Co., electrical & general engineers, Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300, Nat. A.B.C., 4th & 5th Editions, A1 & Engineering Codes, 2nd Edition, used.)

Hall, J. P., & Sons, Ltd., mechanical engineers & pump makers, London-rd., Peterborough. (Telegs.: "Hall, Engineers, Peterborough.")

Hall & Matthews, elec. & mechanical engineers, 46 & 80, West-st., Sheffield. (Teleph. No. 2981, Central.)

Hall, T. Bernard, & Jones, consulting electrical engineers, King's-court, Colmore-row, Birmingham. (Telegs.: "Tamar, Birmingham." Teleph. No. 436.)

Hall-street Metal Rolling Co., Ltd., german silver & wire manufacturers, Hall-st. Works & Western-rd. Mills, Birmingham. (Telegrams: "Bisseker, Birmingham." Telephone Nos. 2208 & 2222.)

Hallam, G., & Co., cast steel wire manufacturers & drawers, Havelock Steel & Wire Mills, Walkley-bank, nr. Sheffield.

Hallett & Fry, antimony refiners, 202, Rotherhithe-st., London, S.E. (Telegs.: "Antetype, London." Teleph. No. 1851, Hop.)

Halliwell, Arthur, electric light contractor, Bolton-st., Bury.

Hallmark & Gill, Ltd., electrical & mechanical engineers, contractors, &c., Church-st. & Temple-st., Blackpool.

Halls, Arthur, lathe & tool maker, Tool Works, Great Yarmouth.

Halls, Charles Ellis, electrolier lamp & lustre manufacturer, 74, St. George-st., London, E. (Telegrams: "Alongside, London.")

Halpin's Patent Thermal Storage, Ltd., 17, Victoria-st., London, S.W. (Telegs.: "Halpin, London." Teleph. No. 880, Victoria.) Druitt Halpin, managing director.

Halse, W. H., & Co., general engineers, Beckwith-st., Liverpool.

Halsey, E., c/o L. Messel & Co., 66, Old Broad-st., E.C. Director Charing Cross, Euston & Hampstead Railway Co.

Halsey, J. T., electrical engineer, Great Eastern-rd., Stratford.

Ham, C., electric bell fitter, 212, Church-rd., Hove, Sussex. (Teleph. No. 2667.)

Ham, Baker & Co., Ltd., engineers, makers of roads & pavement covers, 13, Grosvenor-rd., London, S.W. (Telegs.: "Penstock, London." Teleph. Nos.: Nat. 140, Westminster; & P.O. 96, Victoria.)

Hamblet's Blue Brick Co., Ltd., conduit & culvert manufacturers, Piercy Works, West Bromwich, Staffs.; & 20, Victoria-st., Westminster, S.W. (Telegrams: "Hamblet, West Bromwich." Telephone No. 41.)

Hamblett, W. H., superintendent Corporation Lighting & Cleansing Department, Wilburn-st., Salford.

Hambly, John, M.I.MECH.E., A.M.I.E.E., consulting engineer, Sycamore Cottage, Perranwell Station, Cornwall. (Telegrams: "Hambly, Perranwell, Cornwall.")

Hame, John W., A.I.E.E., city electrical engineer, York.

Hamer, J., & Co., manufacturing electrical engineers, Broad-st., Halifax.

Hamilton, C. K., electrical engineer, Trafford Villa, Wilberforce-rd., Southsea, Hants.

Hamilton, Claud, consulting electrical engineer, 247, St. Vincent-st., Glasgow.

Hamilton, J. B., general manager, Corporation Tramways, Leeds.

Hamilton, Lieut.-Col. J. F. C., Spencer Lodge, Ryde. Director Isle of Wight Electric Light & Power Co., Ltd.; director St. Helen's Electric Lighting Co., Ltd.

Hamilton, Patrick, B.SC., A.M.I.C.E., M.I.E.E., electrical & mechanical engineer, 53, Victoria-st., Westminster, S.W. (Telegs.: "Pentagon, London." Teleph. No. 1855, Victoria.)

Hamilton, Right Hon. Lord Geo., P.C., M.P., 17, Montagu-st., Portman-sq., W. Director Metropolitan District Railway Co.; director Underground Electric Railways of London, Ltd.; director Great Northern, Piccadilly & Brompton Railway Co.

Hamilton, Claud (Aberdeen), Ltd., electrical engineers & contractors, 254A, Union-st., Aberdeen. (Telegrams: "Power, Aberdeen." Telephone No. 582, Central.) Registered Nov. 5, 1900. Nominal capital: £5000 in 2500 ordinary & 2500 preference £1 shares, all issued fully paid. Directors: Claud Hamilton, Esq. (chairman); A. J. Fergusson, Esq.; J. Younger Collie, Esq. (& secretary).

Hamilton, Claud, Ltd., electric light, motor car, & power engineers & contractors, 247, St. Vincent-st., Glasgow (Telegs.: "Opal, Glasgow." Teleph. Nos.: Nat. 120, Argyle; Corp. 120); & at London, Aberdeen & Inverness. Registered Oct. 13, 1898. Capital: £50,000 in £1 shares (30,000 ordinary & 20,000 preference), all issued & fully paid. Directors: Alex. J. Fergusson, Esq., C.A. (chairman); Claud Hamilton, Esq. (managing); Harry Prosser, Esq. Secretary, F. H. Bisset.

Hamilton & Co., installation contractors, 230, Berkley-st., Glasgow.

Hamilton Corporation Electricity Works (*leased to* Edmundson's Electricity Corporation, Ltd.), Hamilton, Scotland. Engineer, T. M. Colson, A.M.I.E.E.

Hamilton, J., & Son, electrical engineers, Guildford-st., Chertsey.

Hamilton, J. B., & Co., engineers & gear cutters, Unica Works, Southey-rd., South Tottenham, N. (Telegs.: "Verdampfer, London." Teleph. 1656, Tottenham.)

Hamkens, A., A.M.I.E.E., electrical engineer, The British L. M. Ericsson Manufacturing Co., Ltd., Byron House, 82/85, Fleet-st., London, E.C.

Hammarskjöld, P., C.E., A.M.I.E.E., managing director The British L. M. Ericsson Manufacturing Co., Ltd., Byron House, 82/85, Fleet-st., London, E.C.

Hammersmith Borough Council Electricity Works, 85, Fulham Palace-rd., Hammersmith, London, W. (Telephone No. 107, Hammersmith.) G. Gilbert Bell, engineer.

Hammersmith, City & North-East London Railway, Ltd., 1, Fredericks-pl., Old Jewry, London, E.C. Registered April 28, 1903. Nominal capital: £30,000 in £1 shares

Hammick, W. M., The Close, Salisbury. Chairman Salisbury Electric Light & Supply Co., Ltd.

Hammill, John, director West Cumberland Electric Tramways Co.

Hammond, C. P., M.I.E.E., "Trefusis," Ditton-rd., Surbiton, Surrey.

Hammond, John Hays, mining engineer, 43, Threadneedle-st., London, E.C.

Hammond, Robert, M.I.C.E., M.I.E.E., M.I.M.E., consulting electrical engineer, 64, Victoria-st., Westminster, S.W. (Telegrams: "Hammond, London." Telephone No. 394, Victoria.)

Hammond, R. W., A.M.I.C.E., A.M.I.E.E., consulting electrical engineer, 64, Victoria-st., London, S.W. (Telegs.: "Hammond, London." Teleph. No. 394, Victoria.) Director Malaga Electricity Co., Ltd.

Hammond & Hussey, Ltd., electric bell fitters, &c., 23 & 25, High-st., Croydon. (Telegrams: "Hammond, Croydon." Telephone No. 28, Croydon.)

Hammond, Robert, & Son, consulting electrical engineers, 64, Victoria-st., Westminster, London, S.W. (Telegrams: "Hammond, London." Telephone No. 394, Victoria.)

Hampshire, J. H., chief assistant engineer, Slough & Datchet Electrical Supply Co., Ltd., Slough.

Hampshire, P. M., A.R.C.S. (Lond.), A.I.E.E., Municipal Technical School, Blackburn, Lancs.

Hampshire Light Railways (Electric) Co., Ltd., Moorgate Station-chbrs., London, E.C. Registered May 17, 1897, to promote & own the Portsdown & Horndean Light Railway at Cosham. Capital outlay provided by the Provincial Tramways Co., Ltd. (*q.v.*). Directors: A. Beattie, Esq., J.P. (chairman); S. Hern, Esq.; A. W. White, Esq., J.P.; J. B. Glenn, Esq. (managing & secretary).

Hampson, C. G., A.M.I.E.E., 23, Francis-st., Leeds.

Hampstead Borough Council Electricity Works, Stone Yard, Lithos-rd., Hampstead, London, N.W. (Nat. Telephone No. 67, Hampstead.) G. H. Cottam, M.I.E.E., chief engineer. Chief assistant, E. Sayer, A.M.I.E.E.

Hampton, Alfred S., A.I.E.E., Caledonian Railway, Telegraph Superintendent's Office, 25, Killermont-st., Glasgow. (Teleph. No. 808, Roy.)

Hampton, Edwin, electrical, heating & ventilating engineer, Abergavenny. (Telegrams: "Hampton, Abergavenny.")

Hampton & Sons, Ltd., electric light engineers, Pall Mall East, Trafalgar-sq., London, S.W. (Telegrams: "Hamitic, London." A.B.C. Code used. Telephone Nos. 4163, 4164 & 4165, Gerrard.)

Hanbury, A., Bordighera, Italy. Director Woodhouse & Baillie Riviera Electricity Co., Ltd.

Hanbury, Lionel H., director Crompton & Co., Ltd., 25, Mark-lane, London, E.C.

Hancock, R., engineer & contractor, Charing Cross House, London, W.C. (Telegs.: "Engimotor, London." Teleph. No. 3879, Gerrard.)

Hancock, Walter, M.I.E.E., 10, Upper Chadwell-street, Myddelton-square, London, E.C.

Hancock, William, electric bell fitter, 22, Stratford-road, London, W.

Hancock & Clarke, carbon cutters, 12 & 12A, Richmond-pl., New-rd., Wandsworth-rd., London, S.W. (P. O. Teleph. No. 1940, Victoria.)

Hancock & Rixon, electricians, 52, Gt. Marlborough-street, London, W.

Handcock, H. W., A.M.I.C.E., M.I.E.E., consulting engineer, Westminster-chbrs., 1, Victoria-st., Westminster, London, S.W. (Telegrams: "Rheophore, London.")

Handcock & Dykes, consulting engineers, Westminster-chbrs., 1, Victoria-st., Westminster, London, S.W. (Telegrams: "Rheophore, London." Telephone No. 231, Victoria.)

Handford, Fredk. J., consulting electrician, 64, Cheapside, London, E.C. (Telephone No. 1921, Central.)

Handford, Sam, M.I.E.E., Cromwell-bldgs., 11, Blackfriars, Manchester.

Handley, B., A.M.I.E.E., Corporation Electricity Works, Gunwharf-rd., Portsmouth.

Handley, G. D., Palmerston-rd., Southsea. Chairman National Provincial Electricity Corporation, Ltd.; director Ashford & District Electric Supply Co., Ltd.; chairman St. Austell & District Electric Lighting & Power Co., Ltd.

Handley & Shanks, electrical engineers, 12, Dawson-st., Dublin; & 40, Great Charles-st., Birmingham. (Telegs.: "Illumine," Dublin & Birmingham. Teleph. Nos.: 3, Dublin; 3093, Birmingham.)

HANDS, ALBERT C., manufacturer & supplier of electrical & gas fittings, art metal work, switchboards dynamos & motors (alternating & continuous), arc lamps, machinery, bells & telephones, Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.) Fittings Factory: Birmingham. *See advt. facing* CLASSIFIED SECTION.

Hands, C. H., director Freshwater & Totland (Isle of Wight) Electricity Supply Co., Ltd.

Hands, John, & Sons, makers of power presses, &c., Cardigan Works, Belmont-row, Birmingham. (Telegs.: "Machinery, Birmingham." Teleph. No. 411.)

Handsworth Urban District Council Electricity Works, Handsworth, Staffs. (Telph. No. 39.) Engineer, F. A. Nixon.

Handyside, C. B., A.M.I.E.E., c/o J. H. Holmes & Co., Examiner-bldgs., Manchester.

Handyside, Andrew, & Co., Ltd., engineers & ironfounders, Britannia Iron Works, Derby (Telegrams: "Handyside, Derby"); 104, Queen Victoria-st., London, E.C. (Telegrams: "Handyside, London." Telephone No. 969, Bank.)

Hankinson, E. E., electrical engineer, 1, Arundel-st., Strand, London, W.C. (Teleph. No. 7614, Gerrard.)

Hankow Light & Power Co., Ltd., 46, Upper Thames-st., London, E.C. Registered Jan. 27, 1906. Nominal capital: £20,100 in 2000 ordinary shares of £10 each & 2000 deferred shares of 1s. each.

Hanks, F. T., A.M.I.E.E., electrician & engineer, "Inglewood," Benton, Newcastle-on-Tyne.

Hanley Corporation Electricity Supply, Park-rd., Hanley. (Telegs.: "Yeaman, Hanley." Teleph. No. 136.) Chairman of E. L. Committee, Alderman Coates. Borough electrical engineer, C. H. Yeaman; deputy engineer, W. Adams.

Hanna, J. W., electrical engineer, 14, Peel-pl., Kensington, London, W.

Hanna, Donald & Wilson, turbine manufacturers, Abbey Works. Offices: 23, New Sneddon-st., Paisley, N.B. (Telegrams: "Donald, Paisley." Telephone No. 72.)

Hanna & Son, electrical engineers, 14, Peel-pl., Kensington, London, W.

Hannams, Ltd., electric wires & cables, Peninsular House, Monument-st., London, E.C. (Telegs.: "Calcicar, London." Teleph. No. 1884, Avenue.)

Hanning, F. S., A.M.I.E.E., Urban Electric Supply Co., Ltd., Camborne & Redruth, Cornwall.

Hanning, T., A.M.I.C.E., consulting electrical engineer, Northern Assurance-bldgs., 2, Collingwood-st., Newcastle-on-Tyne. (Nat. Telephone No. 04970.)

Hanningtons, Ltd., electric light engineers, 171 & 172, North-st., Brighton. (Telegrams: "Hanningtons, Brighton." Telephone Nos.: 323, Nat.; & 1710, Corp.)

Hanover Rubber Co., hard & soft rubber manufacturers, 52, Fore-st., London, E.C.

Hansard, Arnold G., B.A., M.I.E.E., consulting electrical engineer, Parliament Mansions, Victoria-st., Westminster, S.W. (Telegs.: "Hansardize, London." Teleph. No. 60, P.O., Victoria.)

Hansard & Watson, consulting electrical engineers, Parliament Mansions, Victoria-st., S.W. (Telegs.: "Hansardize, London." Teleph. No. 60, P.O., Victoria.)

Hansell, F. L., & Co., makers of steel tramcar wheels & axles, Hansell Canal Steel Works, Sheffield. (Telegrams: "Ansel, Sheffield." Telephone No. 1801.)

Hansen, P. M., Auckland, N.Z. Managing director Auckland Electric Tramways Co., Ltd.

Hansom, Oswin G. E., A.M.I.E.E., A.M.I.M.E., consulting electrical & mechanical engineer, Old Bank-chbrs., Albert-sq., Fleetwood (Telegs.: "Dynamo, Fleetwood." Teleph. No. 3 Y.); & engineer & manager, Fleetwood Electric Light & Power Co., London-st., Fleetwood.

Hanson, A. C., A.M.I.E.E., burgh electrical engineer, Stirling, Scotland. (Teleph. No. 75.)

Hanson, C. J. Whistler, A.I.E.E., electrical engineer, managing director Precision Engineering Co., Ltd., 5, Clerkenwell Green, London, E.C. (Teleph. No. 12382, Central.)

Haran, N. G., & Sons, electrical engineers, 99 & 100, Causeyside-st., Paisley.

Harben, Alfred, telegraph engineer, 101, Charlton-rd., Blackheath, S.E.

Harbidge, Samuel, earthenware manufacturers' agents, 3, Lombard-court, London, E.C.

Harburg & Vienna Indiarubber Co., 9–14, Tower-chbrs., Finsbury-pavement, London, E.C. (Telegrams: "Sunward, London." Telephone No. 2735, Central.)

Harcourts, Ltd., manufacturers & patentees of electric pushes, &c., Atlas Works, 223, Moseley-st., Birmingham. (Telegrams: "Premier, Birmingham." Telephone No. 1360.)

Hardaker, W., electrographer, 13, Gray's Inn-rd., London, W.C. (Telegrams: "Electrograph, London.")

Hardcastle, Edward, M.I.E.E., Fulton & Sons, Ltd., Glenfield Works, Paisley, N.B.

Hardcastle, W. H., maker of battery jars & insulators, 172, Alexandra-rd., Sheffield.

Harden, G. F. St. C., A.M.I.E.E., A.M.I.M.E., electrical & mechanical engineer, c/o Crompton & Co., Salisbury House, London Wall, E.C.

Harding, Frank C., A.I.E.E., Hennock, Torquay.

Harding, Harry A., assistant engineer, U. D. C. Electricity Works, Acton, W.

Harding, Jno., Mansion House, Stone. Director North-Western Electricity & Power Gas Syndicate; director North-Western Electricity & Power Gas Co.

Harding, S. C., electrical engineer, 43, St. Margaret's-rd., East Twickenham.

Harding Bros., electrical engineers, 48, Commercial-st., Hereford.

Harding, George, & Sons, wire workers, 25–51, Long-lane, Borough, London, S.E. (Telegrams: "Tinworks, London." Telephone No. 689, Hop.)

Harding, Richardson, Rhodes & Co., Ltd., speed indicator & engine counter makers, Tower Works, Leeds. (Telegrams: "Porcupine, Leeds." Telephone No. 533.)

Harding, T. L., & Sons, wiring contractors, Market-st., Torquay.

Hardingham, G. G. M., M.I.M.E., A.M.I.C.E., F.C.I.P.A., consulting engineer & chartered patent agent, Clun House, Surrey-st., London, W.C.

Hardman, Josiah, manufacturing chemist, Milton, Staffordshire.

Hardman, Powell & Co., artistic fittings manufacturers, King Edward's-road, Birmingham. (Telegrams: "Hardman, Birmingham." A.B.C. Code used.)

Hards, Leo A., A.I.E.E., Edmundsons Electricity Corporation, Broad Sanctuary-chbrs., London, S.W.

Hardware Trade Journal, Ltd., with which is incorporated *Ironmongery* (weekly, 3*d.*; ann. sub., 5*s.*, post free), Christopher-st., Finsbury-sq., London, E.C. (Telegs.: "Hardwaria, London." Teleph. No. 1070, London Wall.)

Hardwick, Geo. H., A.M.I.E.E., electrical engineer, 85, Brighton-grove, Newcastle-on-Tyne.

Hardy, J. H., A.M.I.E.E., 18, Summergate-pl., Halifax.

Hardy, J. T., A.I.E.E., electrical engineer, Abbey Walk, Coronation-rd., Halifax, Yorkshire.

Hardy, W. Eversley, A.M.I.E.E., St. Oswalds, Alexandra-rd., Upper Norwood, S.E.

Hardy, Wm. G., chief assistant engineer, County of London Electric Supply Co.'s Works, City-rd., London, E.C.

Hardy & Padmore, Ltd., ironfounders & lamp pillar manufacturers, Blockhouse, Worcester.

Hardy Patent Pick Co., Ltd., engineering & general tool makers & dealers, 15, Walbrook, London, E.C. (Tel. No. 4193, Central); & Heeley, Sheffield. (Telegs.: "Hardypick, Sheffield." Tel. No. 157.)

Hare, T. J., Lyne Grove, Virginia Water. Chairman Baker Street & Waterloo Electric Railway.

Hare & Co., engravers & zincographers, Holborn-pl., High Holborn, W.C. (Telegs.: "Photogravure, London." Teleph. No. 13366, Central.)

HARE, H., & CO., slate & marble merchants, manufacturers of enamelled Slate & Marble Switch & Fuse Board backs, &c., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt.*, SLATE TURNERS.

Harfield & Co., Ltd., mechanical engineers, Arundel House, Victoria Embankment, London, W.C. (Telegrams: "Harfield, London.")

Harford, Geo. Jas., electrical engineer, 92, Liverpool-rd., Birkdale, Southport.

Harford & Bristol Brass Co., copper & brass merchants, Golden Heart Wharf, Dowgate, London, E.C. (Telegs.: "Redrutin, London." Teleph. No. 790, Bank.)

Harford & Co., electrical engineers & contractors, 47, Tithebarn-st., Liverpool. (Telephone No. 6730.)

Harley, Dr. Vaughan, professor of pathological chemistry, University College, London, W.C. (Teleph. No. 663, King's Cross); & 25, Harley-st., London, W. (Teleph. No. 2613, Gerrard.)

Harling, W., A.M.I.E.E., A.M.I.MECH.E., Borrowdale House, Lancaster.

Harling, W. H., mathematical instrument maker, 47, Finsbury-pavement, London, E.C. (Telegrams: "Clinograph, London." Telephone No. 8858, London Wall.)

Harmer, C., & Son, electricians, 11, Lingfield-rd., Wimbledon.

Harper, Hy., electric light fittings makers, Howard Works, Witton-rd., Aston.

Harper & Bros., publishers of electrical & scientific works, 45, Albemarle-st., London, W.

Harper Electric Piano Co., Ltd., electric piano makers, 266, Holloway-rd., London, N. (Telegs.: "Pertaining, London." Teleph. No. 1636, North.)

Harper, John, & Co., Ltd., Albion Works, Willenhall. (Telegrams: "Harpers, Willenhall." Telephone No. 12, Darlington.)

Harpers Ltd., makers of shafting, gearing, belt & rope pulleys, Craiginches, Aberdeen. (Telegrams: "Harpers, Aberdeen." Telephone No. 549.)

Harpham, E. Stanley, A.M.I.E.E., 62, Blackfriars-rd., London, S.E. (Telegs.: "Chaseley, London." Teleph. No. 1508, Hop); & Netherdene, Eversleigh-rd., Finchley, London, N.

Harpur, R. C., A.M.I.E.E., electrical engineer, Corporation Electricity Supply, Dover.

Harpur, W., M.I.C.E., city engineer, Town Hall, Cardiff.

Harpur, Fredk. A., & Son, general electrical engineers, Ballinasloe, Ireland.

Harrap, G. T., A.M.I.C.E., M.I.M.E., M.I.MAR.E., consulting engineer, c/o Harrap, Hewett & Duffield, 5, Budge-row, Cannon-st., London, E.C. (Telegrams: "Sprocket, London." Telephone No. 5467, Bank.)

Harrap, Hewett & Duffield, consulting electrical engineers & architects, 5, Budge-row, Cannon-st., London, E.C. (Telegrams: "Sprocket, London." Telephone No. 5467, Bank.)

Harrap, T., & Son, electrical & hot water engineers, Cardigan-rd., Leeds. (Telephone No. 1423.)

Harries, W. J., copper merchant, 85, Gracechurch-st., London, E.C. (Telegrams: "Telephus, London." Telephone No. 105, Avenue.)

Harrington Electric Light Co., Ltd., Long Eaton, Derbyshire. Registered May 18, 1895. Nominal capital: £5000 in £1 shares. £3900 has been taken up. £1 per share has been called & paid. Directors: Thos. Pegg, Esq. (chairman); Geo. Fletcher, Esq.; J. C. Maslin, Esq.; E. Dalby, Esq. Electrical engineer, Geo. Coe; secretary, Wm. B. Smith. Dividends: 1901 (to Mar.), 7 per cent.; 1902 (to Mar.), 8 per cent.; 1903 (to Mar.), 10 per cent.; 1904 & 1905 (to Mar.), 8 per cent.

Harris, A. F., A.M.I.E.E., director Nalder Bros. & Thompson, Ltd., 34, Queen-st., Cheapside, London, E.C.

Harris, A. J., A.M.I.E.E., Borough Mills, Bradford. (Teleph. No. 1297.)

Harris, Dr. F. Rutherfoord, Llangibby Castle, Usk, Mon. Director Cape Electric Tramways, Ltd.; director Mexico Electric Tramways, Ltd.

Harris, F. Leverton, 81, Gracechurch-st., E.C. Director Metropolitan Electric Supply Co., Ltd.; director Uxbridge & District Electric Supply Co., Ltd.

Harris, F. W., metal merchant, buyer of turnings & scrap from electrical fittings, 132 & 134, Hurst-st., Birmingham. (Telegrams: "Harris, Birmingham." Telephone No. 38.)

Harris, G. M., resident electrical engineer, Aldrington Electric Lighting, Hove. (Telegs.: "Town Hall, Hove." Teleph. No. 2513, Nat.)

Harris, H. B., A.M.I.E.E., mechanical & electrical engineer, Council Tramways, Croydon.

Harris, H. D., electrician-in-charge, Borough Electricity Works, Hornsey, Middlesex.

Harris, H. Graham, M.I.E.E., M.I.C.E., M.I.M.E., 5, Great George-st., London, S.W. (Telegs.: "Welbram, London." Teleph. No. 60, Westminster.)

Harris, J. F., Canduna, Strandtown, Belfast. Director Bessbrook & Newry Tramway Co.

Harris, Jas. Wilfred, A.M.I.E.E., Basford House, Seymour Grove, Old Trafford, Manchester.

Harris, John, mechanical & electrical engineer, Langstone-rd., Peverell, Plymouth.

Harris, L. J., A.M.I.E.E., 165, Queen Victoria-st., London, E.C. (Telegrams: "Clarinette, London." Telephone No. 10014, Central.)

Harris, P. S., electrical & mechanical engineer, 15, Hilbert-rd., Lea Bridge-rd., Leyton, London, E.

Harris, R. J., electrical engineer, Hurst House, Woodford-green, Woodford.

Harris, The Rt. Hon. Lord, G.C.S.I., G.C.I.E., Belmont, Faversham. Vice-president National Telephone Co., Ltd.

Harris, T., director Ingleton Electric Lighting & Power Co., Ltd., Ingleton.

Harris, V. D., M.D., Woodrouffe, Milford-on-Sea, Hants. Director Milford-on-Sea Electric Supply Co., Ltd.

Harris, W., electrical engineer & contractor, 132, Sidwell-st., Exeter.

Harris, W. H., Shirley, Parklands, Surbiton. Director Buenos Ayres Grand National Tramways Co., Ltd.

Harris, Wilfrid M., A.M.I.E.E., c/o Gilbert Gilkes & Co., Ltd., Canal Iron Works, Kendal.

Harris, A. E., & Co., die sinkers, press tool makers, stampings from iron, steel, brass, zinc, G.S. & aluminium, to sketch or sample, for patentees & electricians, 95, Camden-st., Birmingham.

Harris, A., & Sons, Ltd., electric light contractors, 152, Bristol-st., Birmingham.

Harris & Harris, manufacturing electricians, 79, Turner's-rd., Burdett-rd., Bow, London, E.

Harris Institute & Victoria Technical School, Preston. *See* SCHOOLS—CLASSIFIED SECTION.

HARRIS, J. F. & G., mahogany & general timber merchants & moulding manufacturers, 58Q, Wilson st., Finsbury, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmers-rd., Green-st., Bethnal Green, London, E. (Telegrams: "Fandecors, London." Telephone No. 1168, London Wall); & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

Harris, Lee & Co., Ltd., electrical engineers, 165, Queen Victoria-st., London, E.C. (Telegs.: "Clarinette, London." P.O. Teleph. No. 10014, Central. Lieber's & Private Codes.) Head office: Trust-bldgs., Fox-st., Johannesburg (Box 700).

Harris & Mills, patent agents, 23, Southampton-bldgs., London, W.C. (Telegrams: "Privilege, London.")

Harris Patent Feed Water Filter, Ltd., 82, Victoria-st., Westminster, London, S.W. (Telegrams: "Windtight, London." Nat. Telephone No. 876, Westminster.)

Harris, Philip, & Co., Ltd., scientific instruments, manufacturing chemists, &c., 144, St. Edmund-st., Birmingham (Telegrams: "Science, Birmingham." Telephone No. 10); & 179, Brunswick-st., Dublin. (Telegrams: "Science, Dublin." Telephone No. 1307.)

Harris & Son, installation contractors, Market Parade, Gloucester.

Harris, T., & Sons, installation contractors, 18, Wine-st., Bristol.

Harrison, A. F., F.C.I.S., director City of London Electric Lighting Co., Ltd., 1, Great Winchester-st., E.C.

Harrison, E. W. L., A.M.I.E.E., an assistant electrical engineer, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Harrison, Francis, A.M.I.E.E., 14, Ossian-rd., Stroud Green, London, N.

Harrison, Francis O., A.M.I.E.E., Arvon, Ollerbarrow-rd., Hale, Cheshire. (Teleph. No. 287, Altrincham.)

Harrison, Fred, A.M.I.E.E., electrical engineer, Lyric-chambers, Whitcomb-st., London, W.C. (Telegrams: "Kathode, London." Telephone No. 2953, Gerrard.)

Harrison, Geo. (D. Young & Co.), patent & trade mark registration agent, 11 & 12, Southampton-bldgs., London, W.C. (Telegrams: "Junkring, London." Telephone No. 893, Holborn.)

Harrison, H., electrical engineer, Dublin & Lucan Electric Railway Co., Dublin.

Harrison, H. H., A.I.E.E., 30, Graham-rd., Chiswick Park, London, W.

Harrison, Haydn T., M.I.E.E., electrical engineer, 11, Victoria-st., London, S.W. (Teleph. No. 690, Westminster.)

Harrison, Hugh Erat, B.SC., A.M.I.C.E., M.I.E.E., &c., &c., principal Electrical Standardizing, Testing & Training Institution, Faraday House, Southampton-row, London, W.C.

Harrison, J., casing manufacturer. Offices: 24, 25 & 26, Charlotte-st., Old-st., London, E.C. (Telephone No. 711, London Wall.)

Harrison, Sir R., General, G.C.B., C.M.G., M.I.E.E., Ashton Manor, Dunsford, nr. Exeter.

Harrison, Thos., superintending engineer, Postal Telegraphs, Metropolitan (South) District, 74, North Side, Wandsworth Common, S.W.

Harrison, W., A.I.E.E., Clifton-ter., Darlington.

Harrison, W. L., electric lighting contractor, 30 & 31, George-st., Hull. (Telegs.: "Plumber, Hull." Teleph. Nos. 201, Nat. & Corp.)

Harrison, Wm. R., M.I.MECH.E., consulting engineer, valuer & arbitrator, 477, Anlaby-rd., Hull. (Telegrams: "Arbitrate, Hull." Nat. Telephone No. 375.)

Harrison & Co., mechanical & electrical engineers, Ure Bank Engine Works, Ripon, Yorks. (Telegs.: "Traction, Ripon.")

Harrison, George, & Sons, zinc & copper merchants, 182, Drury-lane, London, W.C. (Teleph. No. 7659, Gerrard.)

Harrison, R. W., & Co., manufacturers of Garter, asbestos, soapstone, cotton, hemp, mineral, antifriction & all other kinds of packings. Warehouses & offices, Mill-lane; & Works, St. Peter-st., Blackburn. (Telegrams: "Rubber, Blackburn." Telephone No. 34.)

Harrison, W. P. L., & Co., electrical engineers, &c., Beaumond Cross, Newark.

Harriss, G. M., M.I.C.E.I., engineer & manager, Electricity Works, Carlow, Ireland.

Harrod's, Ltd., electrical engineers & contractors, 87–105, Brompton-rd., London, S.W.; & Barnes, S.W. (Telegrams: "Everything, London." Telephone Nos. 542 & 845, Kensington.)

Harrogate Electricity Supply Works, Ripon-rd., Harrogate. Geo. Wilkinson, M.I.E.E., M.I.M.E., engineer. Office: 33, Swan-rd. (Telephone Nos.: 146, Works; 130, Office.)

Harrogate Technical School, Harrogate. *See* SCHOOLS.

Harrold, Chas., & Co., platinum dealers & refiners, 2 & 3, St. Paul's-sq., Birmingham. (Telegrams "Aurum, Birmingham." Telephone No. 2149.)

Harrop, Wilfred M., A.M.I.E.E., superintendent, Engineer's House, West Riding County Asylum, Wakefield.

Harrow & Co., electric bell fitters, 13 & 14, Portland-street, Soho, London, W.

Harrow Electric Light & Power Co., Ltd., West-st., Harrow. (Telephone No. 14, Harrow.) Registered July 5, 1895. Nominal capital: £33,335 in £5 ordinary shares, £16,665 in £5 preference shares, £15,000 debentures & £1325 "other" shares. Issued: £33,335 ordinary shares, £16,665 preference shares, both fully paid, £15,000 debentures & £1325 "other" shares. Directors: J. N. Stuart, Esq. (chairman); F. S. Winkley, Esq.; G. W. Spencer Hawes, Esq.; G. Townsend Warner, Esq.; E. M. Butler, Esq. Electrical engineer, Percy Olver; secretary, W. Barnes, F.C.I.S. Dividends: 1901, *nil*; 1902, 2 per cent.; 1903, 3 per cent.; 1904, 4 per cent.; 1905, 5 per cent.

Harrow Road & Paddington Tramways Co., 61, Gracechurch-st., London, E.C. *In liquidation.* Liquidator, A. R. Abbott.

Harrower, Peter, exporter of electrical & telegraphic plant, &c., 134, Bath-st., Glasgow (Telegrams: "Harrower, Glasgow." Nat. Telephone No. 645, Douglas); & 48, Lime-st., London, E.C.

Hart, F. G., M.I.E.E., electrical engineer, Station-rd., Epping, Essex.

Hart, F. W., chemical appliance & apparatus maker, "Holly House," 96, Stoke Newington-rd., London, N.

HART ACCUMULATOR CO., LTD., secondary battery manufacturers, 35, Marshgate-lane, Stratford, London, E. (Telegrams: "Hartmossel, London." Telephone No. 823, East. A.B.C., 5th Edition, Code.) Manchester office & show-rooms: Temple-chbrs., 33, Brazennose-st. (Telegrams: "Hartmossel, Manchester." Telephone No. 5116); & Birmingham office & show-rooms: Princes-chbrs., 6, Corporation-st. (Telegrams: "Hartmossel, Birmingham.") Registered Dec. 23, 1898. Capital: £60,000 in 40,000 ordinary £1 shares, issued & fully paid, & 20,000 £1 6 per cent. cumulative preference shares, 7059 issued & fully paid. Directors: G. W. Kidd, Esq. (chairman); S. W. Hart, Esq.; L. W. Spratt, Esq.; E. J. Clark, Esq.; Geo. Hay, Esq. Engineer & manager, E. J. Clark; secretary, J. H. Poulton. Dividends: 1901, 12½ per cent.; 1902, 15 per cent.; 1903, 12½ per cent.; 1904, 12½ per cent.; 1905, 12½ per cent. *See advt.*, ACCUMULATORS—MAKERS OF.

Hart Manufacturing Co., switch manufacturers, 25, Victoria-st., London, S.W. (Telegs. & Cables: "Hartmanco., London." Teleph. No. 1931, Victoria.) Wm. Crichton, European manager.

Hart, Son, Peard & Co., Ltd., manufacturers of electric light fittings, 138/140, Charing Cross-rd., London, W.C.; & Grosvenor Works, Birmingham. (Telegs.: "Diurnation, London;" "Grosvenor, Birmingham." Teleph. Nos.: 5316, Gerrard, London; 574, Birmingham.)

Hart & Sons, electric light & power engineers & bell fitters, 13 & 14, Gun-st., Reading.

Hartford, Samuel, A.I.E.E., secretary Liverpool Electric Cable Co., Ltd., 292, Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Telephone No. 6563.)

Hartlepool Electric Tramways Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C.; & West Hartlepool. Registered Oct. 15, 1896. Nominal capital: £100,000 in £10 ordinary shares & £50,000 debentures. All the ordinary shares have been taken up. Directors: W. J. Greer, Esq. (chairman); W. G. Bond, Esq.; W. Morrison, Esq. Secretary, W. Frederick Cox; manager & engineer, W. H. Bettison.

Hartlepool Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Hartlepool. Consulting engineers, C. S. Vesey Brown & C. W. Fairweather.

Hartley, H., resident engineer, South Staffordshire Tramway (Lessee) Co., Ltd., Tramways Depôt, Darlaston.

Hartley, J. E., Gibbet-lane, Halifax. Chairman Madeira Electric Lighting Co., Ltd.

Hartley, Wm. A., M.I.MECH.E., A.I.E.E., Cyclops Works, Sheffield.

Hartley, W. N., D.SC., F.R.S., F.I.C., professor of chemistry, Royal College of Science, Stephens-green, Dublin.

Hartley, John, & Co., wire manufacturers, Sheaf Steel & Wire Mills, Heeley, Sheffield. (Telegrams "Sheaf, Sheffield." Telephone No. 251.)

Hartley, J. E., & Son, dynamo makers, dynamo machines for electro-plating, typing, &c., & plating & polishing materials, St. Paul's-sq., Birmingham. (Telegs.: "Pyroxilin, Birmingham." Tel. No. 2259.)

Hartley & Sugden, Ltd., engineers & boiler makers, Gibbet-st., Halifax. (Telegrams: "Boilers, Halifax." Nat. Telephone No. 38.)

Hartley University College, Southampton. *See* SCHOOLS, CLASSIFIED SECTION.

Hartmann, Frederick Wm., A.I.E.E., Netherland House, Weybridge.

HARTMANN & BRAUN, LTD., c/o Union Electric Co., Ltd., Park-st., Southwark, London, E.C. (Telegs.: "Abeam, London.")

Hartnell, H., A.M.I.E.E., 1st class staff engineer, General Post Office, London, E.C.

Hartnell, Wilson, M.I.E.E., Volt Works, Leeds.

Hartnell, Wilson, & Co., Ltd., electrical engineers, Volt Works, Kirkstall-rd., Leeds, Yorks. (Telegrams: "Hartnell, Leeds." Telephone No. 282.)

Hartvigson, Ludvig L., A.I.E.E., superintendent, Great Northern Telegraph Co., Ltd., Newcastle-on-Tyne.

Harvard, J. M., A.I.E.E., 18, Craigerne-rd., Blackheath.

Harvey, E. A., electrical engineer, 26, Burton-st., Nottingham. (Teleph. No. 198 X. 4.)

Harvey, E. W., consulting engineer, c/o Mr. Frederick Siemens, 10, Queen Anne's Gate, London, S.W.

Harvey, H. B., A.M.I.E.E., electrical engineer, Cambridge Electric Supply Co., Ltd., Cambridge.

Harvey, H. N., director & secretary Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Harvey, Lionel E., A.M.I.E.E., resident engineer & assistant manager, Corporation Tramways, Sunderland.

Harvey & Co., Ltd., engineers, 183, Gresham House, Old Broad-st., London, E.C. (Telegrams: "Truran, London"); & Hayle, Cornwall.

Harvey & Peak, electrical instrument makers, 56, Charing Cross-rd., London, W.C.

Harvie, W., & Co., Ltd., electric light engineers & contractors, 24, McAlpine-st., Glasgow. (Telegrams: "Bromide, Glasgow." Telephone No. 945.)

Harwich Electric Lighting & Tramways Co., Ltd. Registered July 27, 1900. Nominal capital: £50,000 in £1 shares, of which 7 shares have been taken up, but nothing paid thereon. Directors: P. N. Avery, Esq.; H. Coverdale, Esq.; C. E. Heyl-Dia, Esq. Engineer, C. L. Turner; secretary, W. Simpson.

Harwood, W., assistant engineer, Electricity Works, Hebden Bridge.

Harwood & Co., electrical engineers, London-rd., Derby.

Haseler, Chas., & Son, manufacturers of electrical fittings, 94, Bridge-st. West, Birmingham.

Haseltine, Lake & Co., patent, design & trade mark registration agents, 7 & 8, Southampton-bldgs., London, W.C. (Telegrams: "Scopo, London." Telephone No. 4762, Central.)

Haskayne, H., superintending engineer, Postal Telegraphs, Manchester.

Haskew, Fredk., consulting engineer, High-st., Stourbridge. (Telegrams: "Haskew, Engineer.")

Haslam, A. P., M.I.E.E., 83, St. Dunstan's-rd., Hammersmith, London, W.

Haslam, E., electrical engineer, St. Helen's-st., Derby. (Teleph. No. 685 X.)

Haslam, Sidney B., A.M.I.MECH.E., A.M.I.E.E., Western Mail-chbrs., Cardiff.

Haslam Foundry & Engineering Co., Ltd., 176, Salisbury House, London, E.C. (Telegs.: "Ponfex, London." Teleph. Nos.: 862, London Wall; & 5198, Central.)

Haslam & Schontheil, electrical engineers, Western Mail-chbrs., Cardiff. (Telegs.: "Thor, Cardiff." Teleph. No. 606, P.O. Cardiff.)

Hassard, Lieut.-Colonel H. S., A.I.E.E., Hoddesdon, Herts.

Haste Pump Co., Crown-ct., Old Broad-st., E.C.

Hastie, J., & Co., Ltd., engineers, Nicholson-st., Greenock. (Telegs.: "Hastie, Greenock." Teleph. No. 133.)

Hastings, H., A.M.I.C.E., M.I.E.E., "St. Cuthbert's," 2, Crescent-rd., Beckenham, Kent; & Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C.

Hastings Corporation Electricity Works. Russell F. Ferguson, M.I.E.E., A.M.I.MECH.E., borough electrical engineer. (Telegrams: "Electric, Hastings." Nat. Telephone No. 46.)

Hastings & District Electric Tramways Co., Ltd., 1, Queen Victoria-st., London, E.C. Registered Nov. 9, 1904. Nominal capital: £500,000 in £5 shares, of which 50,000 are 6 per cent. cumulative preference shares. Loan: £250,000. Issued: 25,000 ordinary shares & 25,000 preference shares, & £125,000 4½ per cent. debentures. A trust deed, dated Nov. 20, 1904, to secure £250,000 debenture stock, has been registered. Directors: E. C. Morgan, Esq.; G. Kitchin, Esq.; J. C. Williamson, Esq. Secretary, W. R. Elston.

Hastings & St. Leonards Electric Installation Co., 37c, Robertson-st., Hastings.

Hatch, F., assistant general manager Potteries Electric Traction Co., Ltd., Potteries, Staffs.

Hatch, George, Ltd., machinery tools & engineers' stores, Crown-bldgs., 20 & 21, Queenhithe, London, E.C. (Telegrams: "George Hatch, London." Telephone Nos. 5085 & 5096, Bank.)

Hatcher, E., & Co., electric light contractors, 65, Charles-st., Cardiff.

Hatfield, H. Stafford, electro-chemist, Reason Manufacturing Co., Lewes-rd., Brighton.

Hathorn, Davey & Co., Ltd., mechanical engineers, the Davey safety motor, Sun Foundry, Leeds. (Telegrams: "Hathorn, Leeds." Telephone No. 524. A.B.C. Code used.)

Hatt, J. J., M.I.E.E., 410, London-rd. South, Lowestoft.

Hattemore, M., & Co., wire agents & factors, 265, Bethnal Green-rd., London, E.

Hattersley, Arthur, A.M.I.E.E., 17, Meynell-cres., South Hackney, London.

Hattersley & Davidson, electrical contractors, Norfolk-st., Sheffield.

Hatton, E., general manager, Corporation Electric Tramways, Newcastle-on-Tyne. (Telegs.: "Traction, Newcastle-upon-Tyne." Teleph. Nos.: 206 & 2689, Nat.; & 241, P.O.)

Hatton, R. J., M.I.E.E., electrical engineer, Llanberis Lodge, Carnarvon-rd., Stratford, London, E.

Hatton, Wm., manufacturer of electric light fittings, 18, Bury-st., New Oxford-st., London, W.C.

Haughton's Patent Metallic Packing Co., high-pressure electric light engine packing, 6, Lombard-ct., London, E.C. (Telegrams: "Haughnot, London." Telephone No. 5605, Avenue.)

Haunz, C., engineer, Parliament Mansions, Victoria-st., S.W.

Havana Electricity Co., Ltd., 198-200, Finsbury Pavement House, London, E.C. *In voluntary liquidation.* Liquidator, J. T. Claxton.

Havell, Dr. C. G., Felixstowe, Suffolk. Director Suffolk Electricity Supply Co., Ltd.

Haward, Fred N., A.M.I.E.E., 3, Arminger-rd., Shepherd's Bush, London, W.

Haward, S. E., & Co., electric lighting contractors, Goods Station-rd., Tunbridge Wells.

Hawes, F. B. O., A.M.I.C.E., A.I.E.E., managing director Langdon-Davies Motor Co., Ltd., Southwark Works, Deverell-st., London, S.E. (Telegs.: "Damophon, London." Teleph. No. 277, Hop.)

Hawes, G. W. Spencer, M.I.E.E., consulting electrical engineer (Robert Hammond & Son), 64, Victoria-st., Westminster, S.W. (Telegs.: "Hammond, London." Teleph. No. 394, Victoria.) Director Harrow Electric Light & Power Co., Ltd.

Hawes, J. W. H., A.M.I.E.E., electrical engineer, 25, Sackville-st., London, W.

Hawick Electricity Works. Urban Electric Supply Co., Ltd., proprietors. Resident engineer, A. N. Rye. (Telegrams: "Urban Co., Hawick." Telephone No. 407, Hawick.)

Hawker, H., electrical engineer, 37, Gloucester-rd., Brighton. (Teleph. Nos.: 1262, Corp.; & 384, Nat.)

Hawkes, Clifford, electrical engineer, 10, Castle-sq., & 7, Preston Park-ave., Brighton. (Teleph. Nos. 217 & 712, Corp.)

HAWKES, O. C., LTD., electric stove makers, sole patentees of the X.L. Patent Induced Draught System, artists in wood, metal & glass for electrical purposes, fittings manufacturers, also patentees & manufacturers of electric signs & illuminated letters, 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham. (Telegs.: "Overmantel, London;" "Hawkes, Birmingham." Teleph. Nos.: 7889, Central, London; 509, Birmingham).

Hawkes & Sons, electric wiring contractors, 7, High-st., Reading.

Hawkes & Walton, electrical engineers, 10, Castle-sq., Brighton. (Telegs.: "Clifford Hawkes, Brighton." Teleph. No. 217, Corp.)

Hawkings, Walter, A.M.I.E.E., 120, St. Alban's-ave., Bedford Park, London, W.

Hawkins, Alex., electrical engineer & contractor, 125–128, London-rd., London, S.E. (Telegrams: "Alexander Hawkins, London." Telephone No. 1202, Hop.)

Hawkins, A. A., manager Electric Tramways, Wrexham.

Hawkins, A. S., resident engineer, Newquay Electric Light & Power Co., Newquay.

Hawkins, C. C., M.A., M.I.E.E., electrical engineer, 37, Conduit-rd., Bedford.

Hawkins, Frank J., A.I.E.E., 49, Bangalore-st., Putney, S.W.

Hawkins, T., M.I.E.E., electrical engineer & managing director Morris-Hawkins Electrical Co., Ltd., Upleadon, Upton-rd., Watford, Herts.

Hawkins, W. B., chairman Brazilian St. Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st., E.C.

Hawkins Bros. & Co., Ltd., wire drawers & coverers, London Wire Mills, Hatfield-st.; & Basterfield-st., Golden-lane, London, E.C. (Telegrams: "Feudatory, London." Telephone No. 9178, London Wall.)

Hawkins & Co., Ltd., manufacturers of screws, rivets, &c., 330, Cheapside, Birmingham. (Telegrams: "Screws, Birmingham.")

Hawkins, T. P., & Son, wire weavers & electric staple manufacturers, 25A, Dale End, Birmingham. (Telegrams: "Hawkeye, Birmingham.")

Hawkshaw, J. C., director Fort William Electric Lighting Co., Ltd., Fort William, Inverness.

Hawksley, Wild & Co., engineers, makers of boilers & feed-water heaters, &c., Savile-st., Sheffield. (Telegrams: "Hawksley, Sheffield." Telephone No. 327.)

Hawksworth, Eyre & Co., Ltd., lamp & candelabra manufacturers, Rockingham-st., Sheffield; & 49, Holborn Viaduct, London, E.C. (Telegrams: "Electrology, London;" & "Electrology, Sheffield." Telephone Nos.: 1391, Sheffield; & 479, Holborn, London.)

Hawley, E., director Commercial Cable Co., 23, Royal Exchange, E.C.

Hawley, R., electrical engineer, Pope's Grove, Twickenham, Middlesex.

Hawnt, Montague, & Co., insulating material manufacturers, 136–142, Clerkenwell-rd., London, E.C. (Telegrams: "Hawnt, London." Nat. Telephone No. 1728, Holborn.)

Haworth, Jas. W., A.M.I.E.E., 55, Victoria-cres., Eccles, Manchester.

Haws, H. Tyndale, A.M.I.E.E., 29, Gladstone-rd., Croydon.

Hawtayne, W. C. C., M.I.E.E., consulting engineer, 9, Queen-st.-pl., London, E.C.

Hawtayne & Zeden, consulting engineers, 9, Queen-st.-pl., London, E.C. (Telegrams: "Hawtayne, London." Telephone No. 5288, Bank.)

Hawthorn, James George, consulting engineer, 41, East India Dock-road, London, E.

Hawthorns & Co., engrs., Leith Engine Works, Leith. (Telegs.: "Hawthorns, Leith." Tel. No. 431.)

Hay, Lord John, G.C.B., Admiral of the Fleet, Fulmer-pl., Fulmer, Slough. Director Metropolitan Electric Supply Co., Ltd.; director Uxbridge & District Electric Supply Co., Ltd.

Hay, Alfred, D.SC., M.I.E.E., head of Physics & Electrical Engineering Department, Hackney Technical Institute, Dalston-lane, London, N.E.

Hay, H. H. Dalrymple, engineer, Great Northern, Piccadilly & Brompton Railway Co.

Hay, J. A., A.M.I.E.E., c/o Dick, Kerr & Co., Abchurch-yard, Cannon-st., London, E.C.

Haybridge Iron Company, Ltd., iron wire manufacturers, Wellington, Salop. (Telegrams: "Haybridge, Hadley." Telephone No. 18.)

Haycraft & Son, Ltd., electricians, electric light engineers, Broadway, Deptford, London, S.E. (Teleph. No. 266, Deptford); Lewisham High-rd., London, S.E. (Teleph. No. 507, Deptford); & Blackheath Village, London, S.E. (Teleph. No. 111, Lee Green.)

Haydock, J., electrical engineer & contractor, Palatine-bldgs., Blackpool.

Hayes, Edward, M.I.C.E., electric light engineer & steam engine maker, 9, Bridge-st., Westminster, S.W. (Teleph. No. 1762, Victoria); & Stony Stratford, Bucks. (Telegs.: "Hayes, Stony Stratford.")

Hayes, John, A.M.I.C.E., M.I.MECH.E., consulting & electrical engineer, valuer of plant, machinery, &c., 11, Church-st., Carnarvon. (Telegrams: "Power, Carnarvon." Telephone No. 51.)

Hayes & Finch, Ltd., electric light fittings makers, Vernon-st., Dale-st., Liverpool. (Telegs.: "Beeswax, Liverpool." Teleph. No. 6255, Central.)

Hayesmoore Co., The, merchants & manufacturers, 56, Beechdale-rd., Brixton Hill, London, S.W. Works: 20, Pancras-st., W.

Hayle Gas Co., Ltd., electric light contractors, Hayle, Cornwall.

Hayne, R. H., A.M.I.E.E., electrical engineer, c/o F. A. Glover & Co., Ltd., Vine-st., Clerkenwell-rd., E.C.

Hayne, W., 3, Connaught-ave., Frinton-on-Sea. Director Frinton-on-Sea & District Electric Light & Power Co., Ltd.

Haynes, F., electric light engineer, 20, North-st., Ashby-de-la-Zouch.

Haynes, F. T. J., M.I.E.E., Taunton.

Haynes, J. T., A.M.I.E.E., electrical engineer, 60, Martin's-lane, London, W.C.

Haynes, S., manufacturers' agent, 84, Lord's-chbrs., Parliament-st., Nottingham. (Teleph. No. 482 X. 3.)

Haynes Bros., Ltd., electrical engineers, Gabriel's Hill, Maidstone.

Hayward Bros. & Eckstein, Ltd., ventilating engineers, 187–193, Union-st., Borough, London, S.E. (Telegrams: "Hayward Bros., London.") A.B.C. Code used.

Hayward & Son, wiring contractors, 4, Walcot-st., Bath.

Hayward-Tyler & Co., Ltd., engineers, 99, Queen Victoria-st., London, E.C. (Telegrams: "Tylerox, London." Telephone Nos. 192 & 199, Bank.)

Hayward's Heath Electric Supply Co., Ltd., Channel-st., Blackfriars, London, S.E. Registered June 29, 1904. Nominal capital: £1000 in £1 shares. Directors: F. W. Reynolds, Esq.; F. E. Savory, Esq. Secretary, H. B. Renwick.

Haywood, W. G., & Co., electrical engineers, 56, High-st., W.C.

Hazzledine, H. T., A.I.E.E., electrical engineer & contractor, South Sherwood-st., Nottingham (Telephone No. 1480); & Mint-st., Lincoln.

Head, A. F. H., electrical engineer (Mountain & Gibson, Ltd.), Elton Fold Works, Bury, Lancs.

Head, C. A., D.L., J.P., C.C., Hartburn Hall, Stockton-on-Tees. (Teleph. No. 5, Hartburn.) Chairman Cleveland Trust, Ltd.

Head, Sir R., Bart., 2, Sussex-pl., W. Director North-West London Railway Co.

Head, Wm. J., A.M.I.E.E., India Rubber, G. P. & Teleg. Works Co., 59, Westgate-rd., Newcastle-on-Tyne.

Head, F. D. & H., electric lighting contractors, 166, High-st., Notting Hill Gate, W.; 4, Norfolk-rd., Westbourne Grove, W.; 198, Belsize-rd., Kilburn, N.W.; & 65, New Cavendish-st., W.

Head, Jeremiah, & Son, consulting engineers, 47, Victoria-st., Westminster, S.W. (Telegrams: "Principium, London." Telephone No. 237, Westminster. A.B.C. Code used.)

Head, Wrightson & Co., Ltd., general engineers, contractors in structural ironwork, Thornaby-on-Tees, Yorkshire; Stockton-on-Tees, Durham; & 5, Victoria-st., London, S.W. (Telegrams: "Teesdale, Stockton;" & "London." Tel. Nos.: 22 & 74, Thornaby; 270, Westminster; P.O. 15, Stockton.)

Headingley Motor & Engineering Co., Ltd., elec. engineers, 18, St. Michael's-lane, Headingley, Leeds.

Headley, F. H., electrical engineer, 65, Stirling-rd., Birmingham.

Headley, J. H., London representative, Electromotors, Ltd., 35, Queen Victoria-st., London, E.C.

Headley & Edwards, Ltd., electric bell fitters, Corn Exchange-st., Cambridge. (Telegrams: "Vanes, Cambridge." Telephone No. 22.)

Headworth, H. Hugh, electrical sundriesman, 79, Upper North-st., Poplar, London, E.

Healey, A. C., chief assistant engineer, Corporation Electricity Works, Gloucester.

Healey, T., superintendent Western Union Telegraph Co., Liverpool.

Healy, L. T., A.I.E.E., 234, Lewisham High-rd., London, S.E.

Heaney & Co., electrical engineers, 327, Borough-rd., Birkenhead.

Heap, A. C., M.I.E.E., Queen's-chbrs., 7, Market-st., Manchester.

Heap, S., electrical engineer, 13, Quernmore-rd., Lancaster.

Heap, Chas., & Co., electric bell fitters & dealers, 14 & 15, Leicester-st., London, W.C.

Heap & Johnson, electrical supplies, 28, Hatton Garden, London, E.C. (Telegs.: "Unisonally, London." Cables: "Yanel, London." P.O. Teleph. No. 6602, Central.)

Heap, William, & Co., Ltd., engineers' tool-makers, Oldham-rd., Ashton-under-Lyne. (Telegs.: "W Heap, Ashton-under-Lyne." Nat. Teleph. No. 233.)

Heaphy, Musgrave, C.E., M.I.E.E., 19, Lombard-street, London, E.C.

Heaps, Arnold & Heaps, zinc merchants, Leeds Old Lead Works, Leeds. (Telegrams: "Heaps, Leeds." Telephone No. 9.)

Hearder, W., PH.D., F.L.S., F.S.A., medical electrician & electrical engineer, 195, Union-st., Plymouth.

Hearson, T. A., chartered patent agent, 22, Southampton-bldgs., Chancery-lane, London, W.C. (Telegrams: "Rotnevni, London." Telephone No. 133, Holborn.)

Heath, Admiral Sir Leopold G., K.C.B., Anstie Grange, Holmwood, Dorking. Director Eastern & South African Telegraph Co., Ltd.

Heath, C. R., A.M.I.E.E., electrical engineer, 15, Kipling-ave., Bath.

Heath, G. E., borough electrical engineer & manager, Erith, Kent.

Heath, J. F., chief assistant elec. engineer, Metropolitan Rly. Co., Power Station, Neasden, Middlesex.

Heath, R. S., D.SC., professor of mathematics, The University, Birmingham.

Heath, Robt., Biddulph Grange, Congleton. Director North-Western Electricity & Power Gas Synd., Ltd.; director North-Western Electricity & Power Gas Co.; director Loch Leven Water & Electric Power Co.

Heath, William, electrical engineer, 21, Bride-lane, Fleet-st., London, E.C. (Teleph. No. 214, Central.)

Heath, W. H., elec. engr., c/o Electrical Power Engineering Co., Mary-st., St. Paul's, Birmingham.

Heath & Co., Ltd., makers of scientific, optical & general instruments, Crayford, Kent; & 2, Tower Royal, Cannon-st., London, E.C. (Telegrams: "Heath, Crayford;" & "Polaris, London." Telephone Nos.: 15, Dartford; & 287, Bank.)

Heath, T. W., & Son, electricians, 154 & 154A, Cromwell-rd., S.W.; & Pembroke Works, Pembroke-sq., Kensington, London, W. (Telephone No. 1639, Kensington.)

Heath, W. G., & Co., electrical engineers, Frankfort-st., Plymouth. (Telegs.: "Heath, Engineers, Plymouth." Teleph. No. 682.)

Heather, W. O., assistant engineer, Electricity Works, Cathall-rd., Leytonstone, London, E.

Heathman, J. H., & Co., patent ladders, trestles, towers, scaffolds & steps, Parsons Green, S.W. (Teleph. No. 150, Putney.) Local depôts at 2, Endell-st., W.C., & 7, Pentonville-rd., N. Also makers of fire-escapes & extinguishing appliances, hydrants, pumps, hose & fittings.

Heaton, C., electrician, 2, City-rd., Bradford, Yorks.

Heaton, J., director Anglo-Argentine Tramways Co., Ltd.; chairman City of Buenos Ayres Tramways Co. (1904), Ltd., 1, Great Winchester-st., E.C.

Heaton, Prof. W. H., M.A., M.I.E.E., professor of physics & mechanics, University College, Nottingham.

Heaton, Wm. H., A.M.I.E.E., Westinghouse-bldg., Norfolk-st., London, W.C.

Heaton & Dugard, brass & copper wire manufacturers, Shadwell-street Mills, Birmingham. (Telegrams: "Heagard, Birmingham." Telephone No. 39.)

Heaton-Ellis, Major C., director Totnes Electricity Supply Co., Ltd., Salisbury House, London Wall, E.C.; director Chelmsford Electric Lighting Co., Ltd.; director Electric Supply Corporation, Ltd.

Heaver, Northcote & Co., electrical engineers, 43, King's-rd., Camden Town, N.W.

Heaviside, A.W., I.S.O., M.I.E.E., consulting electrical engineer, 12, Tring-ave., Ealing Common, London, W.

Heaviside, B. B., A.M.I.E.E., 31, Culmington-rd., Ealing.

Heaviside, Colin Bell, A.I.E.E., 12, Tring-ave., Ealing Common, London, W.

Heaviside, T. B., A.I.E.E., 78, Melford-rd., Leytonstone, Essex.

Heaviside, Bontch & Co., electrical engineers, 14, Neville-st., Newcastle-on-Tyne.

Heavysege, Walter C., A.M.I.E.E., Russell House, Rhyl, North Wales.

Hebbert, Ernest G., electrician, Aysgarth, Calverley Park-gardens, Tunbridge Wells.

Hebburn Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Hebburn, Durham. General manager, C. W. Fairweather; resident engineer, A. Manthorpe.

Hebden Bridge U.D.C. Electricity Works, Hebden Bridge, Yorks. Engineer, J. W. Garside.

Heberden, W. B., assistant engineer, Corporation Electricity Works, Stockton-on-Tees.

Heberlein Co., Ltd., mechanical & electrical engineers, Suffolk House, Laurence Pountney Hill, London, E.C.

Heckford, Arthur E., Birmingham Metal Works, Birmingham. Hecnum, Nickel & German Silver, Resistance tape wires, &c., Rolled metals.

Heckmondwike Urban District Council Electricity Works & Electric Tramways, Heckmondwike, Yorks. Engineer, G. H. Carter, A.I.E.E.; assistant, H. C. Carter.

Heckscher, O., acting electrician, Great Northern Telegraph Co., Ltd., Aberdeen.

Hedgecock, A. J., A.M.I.E.E., W. T. Henley & Co., Blomfield-st., London Wall, E.C.

Hedges, Killingworth, M.I.E.E., M.I.C.E., consulting electrical engineer, 1, Emery-hill-st., Ashley-gardens, Victoria-st., London, S.W. (Telegrams: "Soojee, London.")

Hedley, Dr. W. S., medical electrician, 8, Mansfield-st., Portland-pl., W. (Telephone No. 1501, Paddington.)

Hedleys, Ltd., mechanical & electrical engineers, Forward Works, Bell-st., West Bromwich, Staffs. (Telegrams: "Forward, Westbromwich." Telephone No. 113, West Bromwich.)

Heenan, W. E. J., M.I.E.E., borough electrical engineer, Electricity Works, Bermondsey, S.E.

Heenan & Froude, mechanical engineers, Newton Heath Iron Works, Manchester; Trent Side, Wilford-rd., Nottingham; 4, Chapel-walks, Manchester; Aston, Birmingham. (Telegrams: "Spherical, Newton Heath;" "Spherical, Nottingham;" "Heenan, Manchester;" "Spherical, Birmingham." Telephone Nos.: 966, Works; & 2628, Office, Manchester.)

Hefford, C. N., A.M.I.E.E., 29, Headingley Mount, Headingley, Leeds.

Heginbottom, T., Stafford House & Junction Mills, Ashton-under-Lyne. Director Oldham, Ashton & Hyde Electric Tramway, Ltd.

Heilborn, A., manager of the Cable & Wire & Insulating Material Departments, Electrical Co., Ltd.

Heine Bros. & Co., makers of glass globes for electrical purposes, 74, Milton-street, London, E.C. (Telegrams: "Ansdorf, London.")

Hele-Shaw, Prof. H. S., LL.D., F.R.S., M.I.C.E., 64, Victoria-st., Westminster, S.W.

Heley, C. W., Oakland, Rathgar, co. Dublin. Director Dublin Electric Lighting Syndicate, Ltd.

Helis Cell & Accumulator Co., Ltd., 53–54, Chancery-lane, London, W.C.

"Hellewell" Rubber Co., indiarubber manufacturers, 15–19, Corporation-street, Manchester.

Hellier, Wm., electric light contractor, 32, Duke-st., London, W.

Helliwell & Co., Ltd., patent "Perfection" glazing, Brighouse, Yorks. (Telegrams: "Helliwell, Brighouse." Telephone No. 73, Brighouse.)

Hellyar & Sons, manufacturing electricians, 196, King-st., Hammersmith, London, W. (Telephone No. 1044.)

Helme, D., borough electrical engineer & tramways manager, Corporation, Nelson, Lancs.

Hemingway & Pritt, electrical engineers, 10, Eton-st., Richmond, Surrey; & 39, Victoria-st., London, S.W. (Telephone Nos.: 28, Richmond; 361, Westminster.)

Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield. Registered Oct. 7, 1903. Nominal capital: £6000 in £1 shares. Directors: Jno. Burgin, Esq.; H. Goodman, Esq.; J. Gomersall, Esq.; Wm. C. Haigh, Esq.; Geo. Hodgson, Esq.; J. L. Marshall, Esq.; R. J. Nicholson, Esq. (managing). Secretary, R. Townend.

Henderson, A., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Henderson, Chas. Alex., A.M.I.E.E., 24, India-st., Edinburgh.

Henderson, Dr. James Blacklock, D.SC., M.I.E.E., professor of applied mechanics, Royal Naval College, Greenwich.

Henderson, Dr. John, A.M.I.E.E., Kinnoull, Warwicks Bench-rd., Guildford.

Henderson, G. E., 16, Framlington-pl., Newcastle-on-Tyne. Director Tyneside Tramways & Tramroad Co.

Henderson, H., A.M.I.E.E., Killowen-st., Low Fell, Newcastle.

Henderson, H. W., A.I.E.E., Electricity Works, Pigeon House Fort, Dublin.

Henderson, J. F., A.I.E.E., South-st., Scotstoun, Glasgow.

Henderson, John, D.SC., F.R.S.E., A.M.I.E.E., head of Physics & Electrotechnical Departments, Borough Polytechnic Institute, S.E.

Henderson, J. H., electrician, 46B, Lancaster-ave., Fennel-st., Manchester.

Henderson, J. M., M.P., 2, Moorgate-st.-bldgs., E.C. Director Ferranti Ltd.; director South Lancashire Tramways Co.; director Lancashire Light Railways Co., Ltd.; director South Lancashire Electric Supply Co., Ltd.; director New St. Helen's & District Tramways Co., Ltd.; director Lancashire United Tramways, Ltd.

Henderson, M., chief assistant engineer, Corporation Electricity Works, Ayr, N.B.

Henderson, T. P., installation contractor, 121, Grove-st., Edinburgh. (Telephone No. 40, West.)

Henderson, Thomas, mechanical engineer & patentee of mechanical stokers & furnaces, 6, Trueman-st., Liverpool. (Telegs.: "Mechanical, Liverpool.")

Henderson, W., A.I.E.E., 63, Broxash-rd., Clapham Common, London, S.W.

Henderson, W. N., electrical contractor, 201, Great Brunswick-st., Dublin.

Henderson & Bonham, wiring contractors, Cuthbert-st., South Shields.

Henderson, J. A., & Co., electrical engineers, 19, Old Queen-st., Westminster, S.W.

Henderson, J. M., & Co., electric cranes, hoisting & transporting machinery makers, King-st.-pl., Aberdeen (Telegs.: "Cranes, Aberdeen." Teleph. No. 162); & 26, Victoria-st., London, S.W.

Henderson, W. N., & Co., electrical engineers & contractors, 201, Gt. Brunswick-st., Dublin. (Teleph. No. 79 Y.)

Hendon Urban District Council Electricity Works. Consulting engineers, R. Hammond & Son. *Under construction.*

Hendry, James, laminated leather belting manufacturer, Laminated Leather Works, Main-st., Bridgeton, Glasgow (Telegs.: "Laminated, Glasgow." Teleph. Nos.: 2659, Nat.; & 614 Y., Corp.); & 7, Bishopsgate-st. Without, E.C. (Telegs.: "Cheveral, London." Teleph. No. 4635, P.O. Central.)

Hendry, W. W., manager, Hendry & Co., 164, Windmillhill, Motherwell, N.B.

Hendry Bros., speed indicator & gauge makers, 28–32, Robertson-st., Glasgow. (Telegrams: "Billet, Glasgow." Telephone No. 940.)

HENDRY & CO., ELECTRICAL & CONTRACTING ENGINEERS, WINDMILLHILL, MOTHERWELL, N.B. (TELEGRAMS: "HENDRY, ELECTRICIANS, MOTHERWELL." TELEPHONE NO. 69.)

Hendry & Pattisson, Ltd. (successors to D. O. Boyd), heating & ventilating engineers, 3, Taybridge-rd., Lavender Hill, London, S.W. (Telegs.: "Hygiastic, London." Teleph. No. 791, Battersea.)

Henley's (South Africa) Telegraph Works Co., Ltd., telegraph & telephone engineers & contractors, 14, Blomfield-st., London, E.C.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LIMITED, electrical engineers, wire coverers & cable manufacturers, electric light, traction & telephone contractors & indiarubber manufacturers. Offices: Blomfield-st., London, E.C. (Telegrams: "Henley's Works, London." Telephone Nos.: Nat. 1445 & 1464, London Wall; G.P.O. 3596, Central.) Works: North Woolwich & Gravesend. The issued capital is ordinary shares of £5, £200,000; 4½ per cent. cumulative preference shares of £5 each, £200,000; the full amount has been called, & the whole received; 4½ per cent. debenture stock, £150,000 (part of a total authorised issue of £300,000, secured by trust deed, dated Nov. 24, 1905). Directors: Sydney Gedge, Esq. (chairman); F. Newton, Esq.; the Earl of Galloway; Sir Alfred C. Lyall, K.C.B.; B. T. Ffinch, Esq., C.I.E.; G. Sutton, Esq. (managing). A. E. Salmon, secretary. Dividends: 1900, 1901 & 1902, 20 per cent. per annum; 1903, 1904 & 1905, 15 per cent. *See advt., page* 22.

Henney, Geo. F., manufacturer & designer of electric light fittings, 142B, Fulham-rd., London, S.W.

Henrici, Captain E. O., R.E., A.M.I.E.E., 34, Clarendon-rd., London, W.

Henriques, David, A.I.E.E., 34, Harcourt-st., Cliftonville, Belfast.

Henry, J., belt rope pulley maker, Manor-road Foundry, Leeds. (Telephone No. 556.)

Henry, John, M.A., B.E., F.R.U.I., assistant lecturer & senior demonstrator in electrical engineering, Royal Technical Institute, Salford.

Henry, John, electrical engineer, Dunleer, County Louth, Ireland.

Henry, J. S., Ltd., wooden electric fitting manufacturers, 287–291, Old-st., London, E.C.; & 22, St. James-st., S.W. (Telegs.: "Meuble, London." Teleph. Nos.: 3314, Central; 35, Bank; & 7067, Gerrard.)

Hepton, W., & Son, brass founders & coppersmiths, Hunslet-lane, Leeds. (Telegrams: "Hepton Brassfounders, Leeds." Telephone No. 529.)

Hepworth, Cecil M., electrician, 17, Cecil-ct., Charing Cross-rd., London, W.C. (Telegrams: "Heptoic, London." Telephone No. 2451, Gerrard.)

Hepworth-Collins, W., A.M.I.E.E., c/o E. Wihl & Co., 17, Nicholas-st., Manchester.

Herbert, A. S., A.M.I.E.E., "Elmfield," Willoughby-rd., Hornsey, London, N.

Herbert, T. E., A.M.I.E.E., engineer, G.P.O., Sheffield.

Herbert, Alfred, Ltd., manufacturers of special machine tools for electrical engineers, Butts, Coventry. (Telegrams: "Lathe, Coventry." Telephone No. 52.)

Herbert & Co., electrical & automobile engineers, 22, St. Mary's Butts, Reading.

Herbert, Edward G., Ltd., engineers' tool makers, Rosamond-st. East, Manchester. (Telephone No. 09202.)

Herbert & Moult, electricians, Parker-st. & Derbyshire-lane, Hucknall Torkard, Notts.

Hercules Electrical Manufacturing Co., accumulator manufacturers, Hercules Works, Church-lane, Battersea, London, S.W.

Herd, W. M., & Co., electrical engineers, 3, Redcross-st., Liverpool, W.

Hereford Corporation Electricity Works. (Teleph. No. 62.) W. T. Kerr, city electrical engineer.

Heriot-Watt College, Edinburgh. *See* SCHOOLS, CLASSIFIED SECTION.

Heritage, F. C., A.I.E.E., Pinehurst, Pirbright-rd., Southfields, London, S.W.

Hermes, L., & Co., electrical engineers, 205, High-st., Acton, W. (Teleph. No. 1110, Ealing.).

Hern, S., St. Mary-st., Cardiff. (Telegs.: "Property, Cardiff.") Director Great Grimsby Street Tramways Co.; director Hampshire Light Railway (Electric) Co., Ltd.; director Provincial Tramways Co., Ltd.: director Gosport & Alverstoke Electric Lighting Co., Ltd.

Herne Bay Pier Electric Railway. Engineer, H. C. Dufton. (Telephone No. 22, Herne Bay.)

Herod, W. H., A.I.E.E., 47, Daleview-rd., Stamford Hill, London, N.

Heron, C. R., A.I.E.E., electrical engineer, Fernside, Edgerton, Huddersfield.

Heron, T., engineer, Northern Counties Electricity Supply Co., Ltd., Shildon, Durham.

Hertford Electricity Works (North Metropolitan Electrical Power Distribution Co., Ltd.), Hertford. (Telegs.: "Electricity Works, Hertford.") Managing engineer, J. M. Bowman.

Hervé, L., terminal & screw maker, 90, Clerkenwell-rd., London, E.C. (Telegs.: "Interchangeable, London." P.O. Teleph. No. 6583, Central.)

Herzfeld, Dr., chief engineer, Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C.

Hesketh, E., A.M.I.E.E., resident engineer, Urban District Council Electricity Works, Cromer.

Hesketh, T., M.I.E.E., managing engineer, Folkestone Electricity Supply Co., Electricity Works, Folkestone. (Telephone No. 4, Cheriton.)

Hessberg Bros., agents for Colonial Rubber (Société Anonyme), 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

Hesse, Frederick E., A.I.E.E., manager & secretary Eastern Extension Telegraph Co., Electra House, Moorgate, E.C.

Heston & Isleworth Urban District Council Electricity Works, Bridge-rd., Hounslow, Middlesex. (P.O. Teleph. No. 83, Richmond.) Engineer & manager, P. E. Rycroft, A.M.I.E.E.

Heswall Electric Light Co., Ltd., Heswall, Cheshire. Registered Jan. 1, 1898. Capital: £1500 in £1 shares, 1225 of which have been taken up & paid for in full. Directors: T. Brocklebank, Esq.; L. Dobie, Esq.; C. MacIver, Esq.; R. Brancker, Esq.

Hetherington, J., A.M.I.C.E., manager British Electric Transformer Co., Ltd., Hayes, Middlesex.

Hetherington Bros., electricians, &c., Penrith, Cumberland.

Hetherington, J., & Sons, engineers, Ancoats, Manchester. (Telegrams: "Heth, Manchester." Telephone Nos. 230 & 1365.)

Hewer, F., A.M.I.E.E., Sunnydene, Latchmere-rd., Kingston-on-Thames.

Hewetson, Milner & Thexton, Ltd., electric light engineers & contractors, 209–212, Tottenham Court-rd., London, W. (Telegrams: "Thexton, London." Telephone No. 5009, Gerrard.)

Hewett, A. E., electrical engineer, Mautby Hill, Osborne-rd., Preston, Brighton.

Hewett, John, B.A., M.I.E.E., electrical engineer, c/o Harrap, Hewett & Duffield, 5, Budge-row, Cannon-st., London, E.C. (Telegrams: "Sprocket, London." Telephone No. 5467, Bank.)

Hewitson, J. R., A.M.I.E.E., c/o Siemens Bros. & Co., Ltd., Queen Anne's-chbrs., London, S.W.

Hewitt, Francis Wm., B.SC., A.M.I.E.E., assistant editor of the *Electrician*, Salisbury-ct., E.C.

Hewitt, J. M., consulting electrical & mechanical engineer, Tower-chbrs., Brown-st., Manchester. (Telegrams: "Helix, Manchester." Telephone No. 4160.) Director North Wales & District Light Railway & Electric Power Syndicate, Ltd.

Hewitt, P., assistant engineer, Corporation Electricity Works, Sheffield.

Hewitt, T., 6, Booth-st., Manchester. Director North Wales & District Light Railway.

Hewitt & Rhodes, consulting electrical & mechanical engineers, Tower-chbrs., Brown-st., Manchester. (Telegrams: "Helix, Manchester." Telephone No. 4160.)

Hewlett, E. F. J. Holcombe, M.I.E.E., M.AM.I.E.E., borough electrical engineer, Corporation Electricity Works, Mansfield. (Teleph. No. 91, Nat.)

Hewlett, H., A.I.E.E., 16, Stansfield-rd., Brixton, London, S.W.

Hewlett & Co., installation contractors, Wine-st., Bristol.

Hews, J., electrical engineer, High-st., Maidenhead.

Hews & Crouch, wiring contractors, High-st., Uxbridge.

Hewson & Co., carbide manufacturers, Askeaton, Co. Limerick. (Telegs.: "Carbide, Askeaton.")

Hexham & District Electric Supply Co., Ltd., Bank-chbrs., Hexham. Registered March 10, 1905. Nominal capital: £30,000 in £5 shares. Issued: 1457 shares. Directors: J. E. Tully, Esq. (chairman); J. Gibson, Esq., LL.B.; J. O. Scott, Esq.; W. Hall, Esq. (managing). Resident engineer, W. E. Poole; secretary, Dixon Scott.

Hexter & Humpherson, cable conduits makers (Archer's patent), Newton Abbot. (Telegs.: "Potteries.")

Hey, J., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Hey, M., galvanic battery maker (M. Seeck, agent), 6, Henrietta-st., Covent Garden, London, W.C.

Heydemann, Chas., agent for Rhenische Rubber Factory, Franz Clouth, 67, Aldersgate-st., London, E.C. (Telegs.: "Teraconic, London.")

Heyes, L. O., A.M.I.E.E., Lynwood, Park-cres., Wigan.

Heyes, W. A., A.M.I.E.E., 5, Sefton-st., Southport.

Heyes & Co., electrical engineers, Millgate, Wigan. (Telephone No. 146.)

Heyl Dia, G. E., A.M.I.E.E., consulting engineer, 39, Victoria-st., Westminster, London, S.W. (Teleph. No. 1579, Victoria.)

Heyland, H. K., Loughrigg, Cavendish-rd., Sutton. Chairman Delagoa Bay Development Corp., Ltd.

Heys, W. E., M.I.E.E., 51, Deansgate Arcade, Manchester.

Heys-Jones, G., A.I.E.E., 21, Beverley-rd., Barnes, S.W.

Heywood, H. W., A.M.I.E.E., electrical engineer, 37A, Fountain-st., Manchester.

Heywood, Joseph H., F.C.S., A.I.E.E., 231, Drake-st., Rochdale, Lancs.

Heywood, S. H., manufacturer of motor starting switches, &c., 37A, Fountain-st., Manchester. (Telegs.: "Heywood, electrician, Manchester." Teleph. No. 2518.) Works: Reddish, nr. Manchester.

Heywood, T. M., electrician, Mount Stuart-sq., Cardiff.

Heywood Corporation Electricity Works. (Nat. Telephone No. 47.) Engineer, J. Stott.

Heywood Municipal Technical School, Heywood, Lancs. *See* SCHOOLS.

Hibberd, C. F. M., A.I.E.E., Carnaby-chbrs., Carnaby-st., London, W.

Hibberdine, W., A.I.E.E., traffic accountant Eastern & Associated Telegraph Cos., Ltd., Electra House, Finsbury Pavement, London, E.C.

Hibbert, G., ivory, &c., nameplates, 69, Arundel-st., Sheffield.

Hibbert, Walter, A.M.I.E.E., F.I.C., 144, Walm-lane, Cricklewood, N.W.; & teacher in electricity, Polytechnic Institution, 309 & 311, Regent-st., London, W.

Hibbins, W. G., A.M.I.E.E., 171, Spring Vale-rd., Sheffield.

Hick, Hargreaves & Co., Ltd., steam engine & boiler makers, Soho Iron Works, Bolton, Lancashire. (Telegrams: "Hick, Bolton." Telephone No. 16.)

Hickie, Borman & Woods, Ltd., copper wire agents, 4, Lloyd's-ave., London, E.C. (Telegrams: "Hickie, London." Telephone No. 3783, Central.)

Hickley, H. N., manager, Newtons, Ltd., Taunton.
Hickling, A., Botolph House, Eastcheap, E.C. Director Canada Electric Traction Co., Ltd.
Hickman, Mitchell, A.M.I.E.E., 17, Red Post Hill, North Dulwich, S.E.
Hickman, Alfred, Ltd., rolled dynamo magnet manufacturers (R. Jenkins, agent), 88, Bishopsgate-st. Within, London, E.C. (Telegrams: "Permeable, London." Telephone No. 8205, Central.)
Hicks, D., Fancy Stores, Gwaun-Cae Gurwen, Carmarthenshire. Director Brynamman & District Electric Supply Co., Ltd.
Hicks, Geo., A.I.E.E., electrical engineer, St. Faith's Cottage, Enfield, Middlesex.
Hicks, J. J., maker of scientific & electrical instruments, 8, 9 & 10, Hatton Garden, London, E.C. (Telegs.: "Lenticular, London." Teleph. No. 6042, Central.)
Hicks, William Mitchinson, SC.D., F.R.S., professor of physics, University, Sheffield.
Hicks & Co., engineers, South Quay, St. Sampson's, Guernsey. (Telephone No. 1041.)
Hide, W. J., A.M.I.E.E., consulting electrical engineer, 42, Produce Exchange-bldgs., 8, Victoria-st., Liverpool. (Teleph. No. 7975.)
Higginbotham, Geo. Emerton, A.M.I.E.E., c/o J. H. Holmes & Co., Portland-rd., Newcastle-on-Tyne.
Higginbotham, Gerald, A.I.E.E., "Ivyholme," Macclesfield.
Higginbottom, Wm., A.M.I.E.E., Palmerstown, Chapelizod, Co. Dublin.
Higginbottom & Mannock, Ltd., makers of electric cranes & hoists, Crown Ironworks, West Gorton, Manchester. (Telegrams: "Crown, Gortonbrook." Telephone No. 1577.)
Higgins, A., A.M.I.E.E., 111, King Henry's-rd., Primrose Hill, London, N.W.
Higgins, Capt. C. C., J.P., Upton Park, Slough, Bucks. Director Slough & Datchet Elec. Supply Co., Ltd.
Higgins, C. F., A.I.E.E., manager of the Electric Power Dept., Richardsons, Westgarth & Co., Ltd., Hartlepool Engine Works, Hartlepool.
Higgins, Chas. H., A.M.I.E.E., 74, Hanley-rd., Hornsey Rise, London, N.
Higgins, Frederick H. W., M.I.E.E., Exchange Telegraph Co., 17, Cornhill, London, E.C. (Teleph. Nos.: 1918, Avenue; & 10002, Bartholomew.)
Higgins, G. W., & Co., electric light contractors, 34, Connaught-st., London, W.
Higgins & Griffiths, electrical & general engineers, 4, Albany-st., Regent's Park, London, N.W.
Higgs, A. W., A.M.I.E.E., 61, Wellmeadow-rd., Lewisham, S.E.
Higgs, W. H., electrical engineer, 50, Park-rd., Exeter.
Higgs & Outhwaite, electric bell fitters, Surrey Works, Cobham, Surrey. (Telegs.: "Outhwaite, Cobham, Surrey." P.O. Teleph. No. 11, Cobham.)
High Barnet Electricity Works (North Metropolitan Electrical Power Distribution Co., Ltd.), High Barnet, Herts. (Teleph. No. 65, Barnet.) Resident engineer, H. B. Sale.
High Speed Braiding Machine Co., Ltd., 7, Norfolk-st., Manchester (Telegrams: "Crusoe, Manchester." Telephone No. 579, Central); & Standard Machine Works, Dame Agnes-st., Nottingham. (Telegs.: "Crusoe, Nottingham." Teleph. No. 2012.)
Higham, J. S., M.P., Moorhead, Accrington. Chairman Electric Light, Power & Hiring Co., Ltd.
Highfield, J. S., M.I.C.E., M.I.E.E., chief engineer, Metropolitan Electric Supply Co., Ltd., 16, Stratford-pl., Oxford-st., London, W. (Telegs.: "Kilowatt, London." Teleph. Nos.: 3711 & 5369, Gerrard; & 403, Paddington.)
Highton, E. G., A.I.E.E., Eagle Foundry, Graham-st., City-rd., London, E.C. (Telegrams: "Smeltery, London." Telephone No. 87, King's Cross.)
Higlett, F. E., electrical engineer, Onslow-st., Guildford; & 3, Dorset-bldgs., Salisbury-sq., London, E.C.
Hignett, G., & Co., electrical engineers, 2, North-st., Quadrant, Brighton.
Hikeley, J., assistant engineer, Electric Supply Co., Ltd., Newcastle-on-Tyne.
Hilder, W., Rottingdean, Sussex. Director New Rottingdean Electricity Co., Ltd.
Hildersley, J., & Son, wood turners, 33, Berwick-st., Soho, W. Works: 15, Wardour Mews, W.; & 16, Charles-st., Hatton Garden, London, E.C.
Hildick & Hildick, iron tube makers, Walsall Tube Works, Pleck-road, Walsall. (Telegrams: "Hildick, Walsall." Telephone No. 14.)
Hilger, Adam, Ltd., electrical & scientific instrument makers, 75A, Camden-rd., London, N.W. (Telegs.: "Sphericity, London." Teleph. No. 1687, North.)
Hill, Alfred W., A.M.I.E.E., engineer & works manager, Maxim Electrical Co., Ltd., 38–44, Gillingham-st., S.W.
Hill, Claude W., M.I.E.E., Broad-st. House, London, E.C. (Telegrams: "Hillocking, London." P.O. Telephone No. 3503, Central.)
Hill, C. W., A.M.I.E.E., chief assistant, Corporation Tramways Dept., 147, Corporation-st., Birmingham.
Hill, Dr. W. R., Grove House, Lymington. Director Lymington Electric Light & Power Co., Ltd.
Hill, E., elec. bell & telephone contractor, Reliance Works, Steelhouse-lane, Birmingham. (Tel. No. 1098.)
Hill, Edmund L. B., A.M.I.E.E., Siemens Bros. Dynamo Works, 196, Deansgate, Manchester.
Hill, E. L., M.I.MECH.E., A.M.I.E.E., director Witney Electric Supply Co., Ltd.
Hill, E. R., A.M.I.E.E., engineer & manager, Reading Electric Supply Co., Ltd., Reading. (Teleph. Nos.: 140, Office; & 142, Works.)
Hill, Frank A., A.I.E.E., "Ivydene," Elsenham-gdns., Southfields, London, S.W.

Hill, H., electrical engineer, Greenwood & Batley, Ltd., Albion Works, Armley-rd., Leeds. (Telegs.: "Greenwood, Leeds." Teleph. No. 270.)

Hill, J. G., electrician & mechanical engineer, Trevarrick, St. Austell.

Hill, Joseph Tripp, A.I.E.E., 2, Belle Vue, Staines-rd., Hounslow.

Hill, J. W., J.P., Clanaboy, Lucan. Director Dublin & Lucan Electric Railway Co.

Hill, Lieut. G. A. H., A.I.E.E., 22, Cadogan-pl., London, S.W.

Hill, M. J. M., M.A., D.SC., F.R.S., Astor professor of pure mathematics, University College, Gower-st., W.C.

Hill, T., electrician, St. Austell Electric Light & Power Co., Ltd., St. Austell.

Hill, Walter J., A.M.I.E.E., electrician, c/o Eastern Telegraph Co., Electra House, Moorgate, E.C.

Hill Trevor, Hon. G. C., 15, Sloane-gdns., S.W. Director Church Stretton Electric Supply Co., Ltd.

Hill & Co., electric light contractors, 42, Broadway, Crouch End, London, N. (Telegrams: "Hill Company, Crouch End.")

Hill, F. A., & Co., asbestos & steam packings, ebonite & celluloid cells & boxes, sheet rod & tube, 108, Bishopsgate-st. Within, London, E.C. (Telegs.: "Blasting, London." Teleph. No. 9905, London Wall.)

Hill, Geo., & Co., electrical engineers, Trafford Electric Works, Cornbrook, Manchester. (Nat. Teleph. No. 2920.)

Hill of Howth Tramroad. *See* Great Northern Railway Co. (Ireland).

Hill, James, & Sons, electric light contractors & electrical engineers, Bolton-st., Bury, Lancs.

Hill, Richard & Co., Ltd., telegraph wire manufacturers, Newport Wire Mills, Middlesborough. (Telephone No. 5081.)

Hill, R. M., & Sons, wiring contractors, Castle-st., Carlisle.

Hill, Upton & Co., electrical & mechanical engineers, 22, George-st., Oxford (Teleph. No. 108 X.); & Bridge-st., Banbury.

Hill & Wood, electrical & general engineers, Chapel-st., Luton. (Teleph. No. 0611.)

Hill-Trevor, Hon. G. E., 15, Sloane-gdns., S.W. Director Church Stretton Electrical Supply Co., Ltd.

Hill-Williams, John, A.I.E.E., 4, Holland-rd., Kensington, London, W.

Hiller, E. G., chief engineer, National Boiler & General Insurance Co., 22, St. Anne's-sq., Manchester.

Hills, Donald A., A.I.E.E., 2, Eastbrook-rd., Blackheath.

Hills, F. B., A.I.E.E., assistant engineer, Urban Electric Supply Co.'s Electricity Works, Grantham.

Hills, F. C., & Co., carbonate & liquor ammonia manufacturers, Chemical Works, Deptford, S.E. (Telegrams: "Azote, London.")

Hills, J., & Son, electric lighting, bells, telephones, &c., 28, Crescent-rd., Tunbridge Wells.

Hillyard, F. A., installation contractor, 79, Princes-st., Ipswich.

Hilton, C. S. B., 41, Roland-gdns., S.W. Director Middleton Electric Traction Co., Ltd.; managing director British Electric Traction Co., Ltd.; director Brush Electrical Engineering Co., Ltd.; director Devonport & District Tramways Co.; director City of Birmingham Tramways Co., Ltd.; director Auckland Electric Tramways Co., Ltd.; director Greenock & Port Glasgow Tramways Co.; chairman Birmingham & Midland Tramways, Ltd.; director Bombay Electric Supply & Tramways Co., Ltd.; director South Staffordshire Tramways Co.

Hinchcliffe, Green & Co., electrical contractors, Aire-st., Leeds.

Hincks, Harold T., A.M.I.C.E., A.M.I.E.E., North Wales Power & Traction Co., Ltd., Cwm Dyli, Beddgelert, North Wales. (Telegs.: "Hincks, Glanaber.")

Hind Bros., electrical agents, 20, York-st., Belfast.

Hind & Son, electric light & power engrs., Little Brown-st., Stockton-on-Tees. (Nat. Teleph. No. 0286.)

Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey. Registered Nov. 7, 1902. Nominal capital: £15,000 in £1 shares. Issued: 13,006 shares as paid. Directors: J. Grover, Esq. (chairman); A. Grover, Esq.; F. Meen, Esq. (secretary). Engineer, T. Reader. Dividend: 1905, 2½ per cent.

Hindle, T., maker of electric casings, Accrington Saw Mills, Accrington. (Telephone No. 146.)

Hindle, Robert, & Co., Ltd., manufacturers & dealers in electric supplies, Sabden, Lancs.

Hindley, E. S., & Sons, makers of steam engines, steam boilers, dynamos, motors, sawing machinery, pumps, &c., 11, Queen Victoria-st., E.C. (Telegrams: "Steamport, London." Telephone No. 856, Bank.) Works: Bourton, Dorset. (Telegrams: "Hindley, Bourton, Dorset.")

Hine, A. W., A.M.I.E.E., Commercial-rd., Parkstone, Dorset. (Telegs.: "Hine, Parkstone." Tel. No. 1 Y.)

Hingley, L. & S., & Sons, glass shade manufacturers, 19, Charterhouse-st., London, E.C.; & Glass Works, Wordsley, Staffs. (Telegrams: "Hingleys, Wordsley.")

Hinks, Jas., & Son, Ltd., electrolier manufacturers, Great Hampton-st., Birmingham.

Hinshelwood, T., & Co., oil refiners & paint & varnish manufacturers, Glenpark-st., Glasgow. (Telegrams: "Taxin, Glasgow." Nat. Telephone Nos. 4181 & 886; Corp. No. Y 363.)

Hinson & Co., Ltd., fitters of electric & pneumatic bells, telephones & electric light, 69, 71, & 73, Argyll-st.; & Hinson-st., Birkenhead. (Telegrams: "Hinson, Birkenhead." Telephone Nos. 38 & 502.)

Hinton & Co., manufacturers of colouring for incandescent lamps, 38, Bedford-st., Strand, London, W.C. (Telegrams: "Sensitize, London.")

Hippisley, Col. R. L., C.B., R.E., M.I.E.E., 33, Grosvenor-rd., Westminster, S.W.

Hird, Francis, B.A., M.I.E.E., Brocton, nr. Stafford.

Hird, M., electric traction engineer, G. B. Surface Contract Co., 107, Hamilton House, Bishopsgate-st. Without, London, E.C.

Hird, W. B., B.A., M.I.E.E., Sandon, Prospect-ave., Cambuslang, N.B.

Hirsch, Dr. P., electrical engineer Veritys, Ltd., Aston, Birmingham.

Hirst, H., electrical engineer, A. Hirst & Son, Ltd., Crescent Works, Victoria-rd., Dewsbury. (Telephone No. 269A.)

Hirst, Hugo, M.I.E.E., managing director General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C.

Hirst, A., & Son, Ltd., electrical engineers, Crescent Works, Victoria-rd., Dewsbury. (Telegrams: "Hirst, electrician, Dewsbury." Telephone Nos. 269 & 269A.)

Hirst, C., & Sons, Ltd., steel wire manufacturers, Exchange Mill, Cleckheaton, Yorkshire. (Tel. No. 33.)

Hiscock, Thos., electrical contractor, 181, High-st., Hounslow.

Hislop, Lawrence M., electrician, 117, High-st., Portobello, Edinburgh. (Telephone No. 0195.)

Hislop, R. G., electric bell fitter, 7 & 9, Pitt-st., Edinburgh.

Hoadley, E. E., M.I.E.E., boro' electrical engineer, Maidstone. (Local Telephone No. 41.)

Hoare, H. A., "Lloyds," London. Director Hove Electric Lighting Co., Ltd.

Hoare, H. E., Hurley House, Hurley, Marlow. Director Canada Electric Traction Co., Ltd.

Hobart, Henry M., M.I.E.E., consulting engineer, Oswaldestre House, Norfolk-st., Strand, London, W.C. (Telegrams: "Quadrature, London." A.B.C., 5th edit., Code. Telephone No. 6497, Central.)

Hobart Electric Tramway Co., Ltd., 358, Mansion House-chambers, 11, Queen Victoria-st., London, E.C. (Telegs.: "Segama, London." Teleph. No. 977, Bank.) Registered March 4, 1892. Nominal capital: £105,000 in £1 ordinary shares, & £50,000 debentures, secured by trust deed, dated Feb. 1, 1906. Issued capital: 45,000 shares of £1 each; £41,425 first & £20,000 second debentures in multiples of £5 each, fully paid. Directors: J. G. Bellamy, Esq.; David Barclay, Esq.; A. Mattei, Esq., LL.D. Electrical engineer (Hobart), A. C. Parker; secretary, F. J. Warner. Dividends: 5 per cent. per annum on debentures.

Hobbs, Wm. Richard Protheroe, A.I.E.E., H.M.S. *Vernon*, Portsmouth.

Hobdell, Way & Co., Ltd., asbestos manufacturers, oil refiners, hard flexible fibre, &c., 63, Crutched Friars, London, E.C. (Telegs.: "Hobnails, London." Teleph. Nos.: 5931, Avenue; & 11609, Central.)

Hobson, R., J.P., D.L., The Marfords, Bromborough, Cheshire. Deputy chairman Liverpool Overhead Railway Co., Ltd.

Hobson, S. C., Frankland House, Melton Mowbray. Director Melton Mowbray Electric Light Co., Ltd.

Hocking, E. L., A.I.E.E., electrical engineer, 10, Avenue-rd., Highgate, London, N.

Hockley, N. J., A.I.E.E., A.M.I.M.E., assistant electrical engineer, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Hodd, H. H., A.I.E.E., Holyrood, Sydenham, S.E.

Hodd, R., & Son, electro-plate manufacturers & manufacturing silversmiths, Minerva Works, 31, Hatton Garden, London, E.C. (Telegrams: "Candelabra, London." Telephone No. 8241, Central.)

Hodge, G., wiring contractor, Hill-st., Blackpool.

Hodge, W. G., electrical engineer, P. R. Jackson & Co., Ltd., Salford.

Hodges, Cecil, electrical engineer, Gresham Lodge, Watford, Herts.

Hodges, Herbert Douglas, A.I.E.E., 5, Childebert-rd., Balham, S.W.

HODGES, CECIL, & CO., instrument & switchboard makers, Balfour House, Finsbury Pavement, London, E.C. (Telegs.: "Ammeter, London." Teleph. No. 9960, London Wall.) Works: Millwall.

Hodgetts, W. B., A.M.I.E.E., electrical engineer, Industrial Engineering Co., Hyde.

Hodgkin, C. E., A.I.E.E., c/o Pulsometer Engineering Co., Ltd., Nine Elms Ironworks, Reading, Berks.

Hodgkin, J. E., M.I.E.E., Shelleys, Darlington.

Hodgkinson, P., electrical engineer, Devonshire-rd., Bexhill-on-Sea.

Hodgkinson, James (Salford), Ltd., makers of mechanical stokers, Ford Lane Works, Pendleton. (Telegs.: "Incendo, Manchester." Nat. Teleph. No. 71, Pendleton.)

Hodgson, A. J., M.I.E.E., works manager Crompton & Co., Ltd., Arc Works, Chelmsford.

Hodgson, Edwin, electrical engineer, Tofts Works, Cleckheaton.

Hodgson, Geo., director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.

Hodgson, W. G., A.I.E.E., 7 & 8, Bread-st., London, E.C.

Hodgson, W. T., A.M.I.E.E., 201, Brixton Hill, London, S.W. (Telephone No. 614, Brixton.)

Hodgson, Frederick, & Co., electrical engineers, 24, Queen Victoria-st., London, E.C. (Telegrams: "Magnetical, London." Telephone No. 5800, Bank); & 4A, Downshire Hill, Hampstead, N.W.

Hodgson, Hartley, Ltd., electrical & mechanical engineers, 55, Victoria-bldgs., Manchester. (Telegrams: "Globulus, Manchester." Telephone No. 2039.)

Hodkinson, Robt., dealer in electrical supplies, 19, South John-st., Liverpool. (Teleph. No. 6398, Central.)

Hoeltzer, C., telegraph engineer, Craignethan Lodge, St. John's-rd., Blackheath, S.E.

Hof, Charles & Co., manganese merchants, 52, Leadenhall-st., London, E.C. (Telegrams: "Flyboats, London." A.B.C. Code used. Telephone No. 2883, Avenue.)

Höfler, Ltd., makers of electric light fittings, 26A, Soho-sq., London, W. (Telegrams: "Erdkreis, London." Telephone No. 2294, Gerrard.)

Hogan, E. J., London manager Sunbeam Lamp Co., Ltd., 102, Charing Cross-rd., London, W.C. (Telegs.: "Outshine, London." Teleph. Nos.: 2855, Gerrard; & 9339, Central.)

Hogarth, Lionel B., A.M.I.E.E., 20, Alexandra-st., Ebbw Vale, R.S.O., Mon.

Hogarth, R. W., consulting electrical engineer, Buchan & Hogarth, Parliament-chbrs., Great Smith-st., Westminster, London, S.W.

Hogg, H. R., director Sunderland District Electric Tramways, Ltd.; director Canadian Electric Traction Co., Ltd.; director North Wales Power & Traction Co., Ltd.; director Durham Collieries Electric Power Co., Ltd.; director Houghton-le-Spring & District Electric Lighting Co., Ltd.

Holbrook & Son, lathe & tool makers, 44, Martin-st., Stratford, London, E. (Teleph. No. 351, Stratford.)

Holbrow, C. A., chief engineer, South Wales Electrical Power Distribution Co., Cardiff.

Holcroft, Thomas, arc light pillar & tram pole maker, Bilston Foundry, Bilston, Staffs.

Holcroft, Thomas, & Sons, Ltd., manufacturers of castings for electrical & general engineers, Ettingshall Foundry, Wolverhampton. (Telegrams: "Holcroft, Wolverhampton." Telephone No. 157.)

Holden, E. J., electric bell fitter, 61, Sandgate-road, Folkestone. (Telephone No. 15.)

Holden, Frank, M.I.E.E., electrical engineer, 83, Cannon-st., London, E.C.

Holden, F. G., B.A., A.M.I.C.E., resident engineer, Scarborough Electric Supply Co., Ltd., Scarborough. (Telephone No. 264, Nat.)

Holden, H. C. L., Col., R.A., F.R.S., M.I.E.E., Royal Arsenal, Woolwich (Teleph. No. 19, Woolwich); & Gifford House, Blackheath, Kent. (Teleph. No. 305, Lee Green.)

Holden, Sydney Holmwood, M.I.E.E., Chamberlain & Hookham, Ltd., Birmingham.

Holden & Brooke, Ltd., engineers, manufacturers of injectors, water lifters, steam separators, oil separators, feed water heaters, steam traps, valves & steam fittings, Sirius Works, 47, Heywood-st., West Gorton, Manchester, S.E. (Telegs.: "Influx, Manchester." Teleph. No. 3663. A.B.C., 4th & 5th Editions, Engineering & Lieber's Codes); & 110, Cannon-st., London, E.C.

Holder, Hugh J., A.M.I.E.E., electrical engineer, Western Electric Co., North Woolwich, London, E.

Holding, G., electrician, Corporation Electricity Works, Newcastle-under-Lyme, Staffs.

Holdom, R. E., A.I.E.E., 19, Cranworth-gdns., North Brixton, London, S.W.

Holdsworth, J. G., A.M.I.E.E., assistant superintending engineer, Post Office Telegraphs, Manchester.

Holford, G. W., general manager, Corporation Tramways, Salford.

Holford, A., & Co., electricians, &c., 86, Church-rd., Hove. (Teleph. No. 2077 X.)

Holgate & Redwin, electric lighting contractors, 1, Malden-ter., High-st., Hampton Wick.

Holiday, R., A.I.E.E., electrician, Ackton Hall Colliery, Featherstone, nr. Pontefract, Yorks.

Holland, Alfred, Leesons, Chislehurst, Kent. Director Nottinghamshire & Derbyshire Tramways Development Co., Ltd.; director Derbyshire & Nottinghamshire Electric Power Co.

Holland, A. R., director Llanelly & District Electric Lighting & Traction Co., Ltd., 5, Great George-st., Westminster, S.W. Director, Mansfield & District Tramways, Ltd.

Holland, C., The Grange, Wimbledon. Director Indo-European Telegraph Co., Ltd.

Holland, C. E., electrician, 4, Redington-road, Hampstead, London, N.W.

Holland, Frank, A.I.E.E., 19, Hawthorn-rd., Chorlton-cum-Hardy, nr. Manchester.

Holland, H. N., A.M.I.E.E., resident engineer, S. Wales E. P. D. Co., Treforest, nr. Pontypridd.

Holland, Hon. S. G., 45, Parliament-st., S.W. Director Underground Electric Railways Co. of London, Ltd.

Holland & Holland, electric carriage builders, 479 & 483, Oxford-st., London, W. (Telegrams: "Dragoman, London." Telephone No. 4474, Gerrard.)

HOLLAND HOUSE ELECTRICAL CO., LTD., MAKERS OF ARTISTIC FITTINGS, SWITCHES, SWITCH BOARDS, 9, HOLLAND-PL., & 121A, St. Vincent-st., GLASGOW. (Telegs.: "Electrical, Glasgow." Teleph. Nos.: 167, Nat.; 2190, Corp.) *Formed to take over the business of the Holland House Electrical Manufacturing Co., Ltd.*

Hollick, W. J., electrical engineer, British Westinghouse Co., Trafford Park, Manchester.

Holliday, T. B., electrical engineer & general manager, Hastings & District Tramways Co., Ltd., Hastings. (Telegs.: "Tramways, Hastings." Teleph. No. 98.)

Hollingsworth, E. M., A.M.I.M.E., A.M.I.E.E., chief electrical engineer, Corporation Electricity Works, St. Helen's, Lancs. (Nat. Teleph. No. 212.)

Hollingsworth, H. C., A.M.I.C.E., resident electrical engr., G. W. Rly., Fishguard Harbour, Pembrokeshire.

Hollington, A. J., A.M.I.E.E., Morgan Crucible Co., Battersea Works, London, S.W.

Hollins, Frederick Thos., M.I.E.E., telegraph superintendent, Great Eastern Railway Co., Liverpool-st. Station, London, E.C.

Hollis Bros. & Co., timber importers & slate merchants, Leicester; & Hedon-rd., Hull. (Telegrams: "Baltic, Leicester." Nat. Telephone No. 148. Zebra & A.B.C. Codes used.)

Holloway, F. E., insulated wire manufacturer (cotton covered), 35, Summerfield-crescent, Birmingham.

Holloway, H., director Leicestershire & Warwickshire Electric Power Syndicate, Ltd., 5, Great George-st., S.W.

Holloway Bros., electrical engineers & contractors, Victoria Wharf, Belvedere-rd., Westminster Bridge, London, S.E. (Telegrams: "Antefixa, London." Nat. Telephone No. 1153, Hop); & 38, South Audley-st., Grosvenor-sq., W. (Telephone No. 2832, Gerrard.)

Holloway Electric Supply Co., Ltd. Works: 5 & 6, Bovay-st., Holloway-rd., N.

Holman, C. W., elec. inspector, British Engine, Boiler & Elec. Ince. Co., Ltd., 12, King-st., Manchester.
Holman, R. H., Benfleet Hall, Sutton, Surrey. Director Minehead Electric Supply Co., Ltd.
Holman, T. J., Exedene, Topsham. Director Topsham Electricity Supply Co., Ltd.
Holman, James & Co., Ltd., electrical engineers, 100, Queen-st., Maidenhead.
Holman, Michell & Co., lead merchants, Cornwall Lead Works, St. Helen's. (Telegrams: "Cornwall, St. Helen's." Telephone No. 15.)
Holme, A. H., 1, Crosshall-st., Liverpool. Chairman Liverpool District Lighting Co., Ltd.; director Snowdon Mountain Tramroads & Hotels Co., Ltd.
Holme, T., A.M.I.E.E., manager, Corporation Telephones, Hull.
Holmes, A. Bromley, M.I.C.E., M.I.E.E., consulting electrical engineer, 36, Prince's-ave., Liverpool. (Telegrams: "Holmes, c/o Dynamo, Liverpool." Telephone No. 6699.)
Holmes, C. R., resident engineer, London United Tramways, 74, High-rd., Chiswick, London, W. (Teleph. No. 19, Hammersmith.)
Holmes, E. Akehurst, A.I.E.E., c/o Siemens Bros. & Co., Ltd., Woolwich.
Holmes, F. J., electrical engineer, 2, St. Thomas'-rd., South Hackney, London, N.E.
Holmes, G. H. B., assistant engineer, Electricity Works, York.
Holmes, H., 5, Cromarty-rd., Hornsey-rd., N. Director West India & Panama Telegraph Co., Ltd.
Holmes, J. H., M.I.C.E., M.I.E.E., electrical engineer, Wellburn, Jesmond-rd., Newcastle-on-Tyne.
Holmes, Leonard W., M.I.E.E., 17, Soho-sq., London, W.
Holmes, Philip, A.I.E.E., 57, Oxford-gdns., Kensington, London, S.W.
Holmes, R. J. M., A.M.I.E.E., A.M.I.MECH.E., 54, Rye Hill, Newcastle-on-Tyne. (Tel. No. 699, Central.)
Holmes, W., chief assistant engineer, Electricity Works, Barking, Essex.
Holmes, A. R., & Co., accumulator makers, 231, Liverpool-rd., London, N. (Teleph. No. 2243, North.)
Holmes & Cooper, electrical engineers, 9, Balfern-st., Battersea, S.W.; & 8, Norfolk-ter., Horsham.
HOLMES, J. H., & CO., electric light engineers, Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; & 19, Waterloo-st., Glasgow. (Telegs.: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" "Efficiency, Glasgow." Teleph. Nos.: 2691, Gerrard; 278, P.O.; 4984, Glasgow; 25, Manchester; & 1226, Nat. Newcastle.) *See* MOTOR MFRS.
Holmes, J. R., & Co., telegraph, telephone, torpedo, & electric light engineers, 55, West Campbell-st., Glasgow; & 13, York-bldgs., Adelphi, London, W.C. (Telegrams: "Holmes Lights, London.")
Holmes, W. C., & Co., electric light engineers, Turnbridge, Huddersfield. (Telegrams: "Holmes, Huddersfield." Telephone No. 113.)
Holmes, W. Cartwright, & Co., engineers & contractors, 80, Cannon-street, London, E.C. (Telegrams: "Ignitor, London.")
Holmquist, C. M., maker of electric light baths & mercury vapour lamps, 52, Regent-st., London, W. (Teleph. No. 397, Mayfair.)
Holness, R. C., A.M.I.E.E., 3, St. Martin's-rd., Stockwell, S.W.
Holophane Glass Co., globe & shade makers, 146A, Queen Victoria-st., London, E.C. (Telegs.: "Holophane, London."
Holroyd, James, electrical engineer, National Telephone Co., Ltd., Devonshire-st., Carlisle.
Holroyd, J., & Co., Ltd., engineers' machine tool makers, Perseverance Works, Milnrow, nr. Rochdale. (Telegrams: "Knit, Milnrow." Telephone No. 206, Rochdale.)
Holroyde, J. N. C., A.M.I.E.E., c/o British Westinghouse Electric & Manufacturing Co., Ltd., Manchester
Holt, Frank B., M.I.E.E., "East View," Dairy House-rd., Derby.
Holt, H., agent, Rhodes Electrical Manufacturing Co., Ltd., 102, Charing Cross-rd., London, W.C.
Holt, H. H., engineer of way & works, Central London Railway Co., Shepherd's Bush, London, W.
Holt, W., electrician, 83, Snargate-street, Dover.
Holt, H., & Co., electrical engineers, 104, Warwick-st., Leamington Spa.
Holt School of Science, Birkenhead. *See* SCHOOLS, CLASSIFIED SECTION.
Holt & Willetts, electric lifts & accessories, Lion Works, Cradley Heath. (Telegs.: "Holt-Willetts, Cradley Heath." Teleph. No. 12.)
Holtzapffel & Co., mathematical instrument makers, 13 & 14, New Bond-st., London, W.; & 53, Haymarket, S.W.
Holyhead Urban District Council Electricity Works, Holyhead, Anglesey. Resident engr., P. Williams.
Home, J. Hayward, A.M.I.E.E., resident engineer, Urban Electric Supply Co., Ltd., Electricity Works, Berwick-on-Tweed. (Telephone No. 44.)
Home Counties Electricity Supply Co., Ltd., 137, Cannon-st., London, E.C. Registered June 27, 1906. Nominal capital: £1000 in £1 shares.
HOME OFFICE. For officials, *see* GOVERNMENT OFFICIALS—CLASSIFIED SECTION.
Home & Rowland, electrical engineers, Troughton-rd., Charlton, London, S.E. (Teleph. No. 350, Woolwich.)
Homewood, G. E., electrical engineer, 34, Upper Gardner-st., Brighton. (Teleph. No. 186 X. 2.)
Hong-Kong Electric Co., Ltd. (Livingston, Halton & Co., Ltd., agents), 5, Whittington-ave., Leadenhall-st., London, E.C.
Honley Urban District Council Electricity Works, Honley, Yorks. (Nat. Telephone No. 0182, Honley.) Resident manager, Harry Marsden.

Hood, G. J., electrical engineer & contractor, Arcade, Dewsbury. (Telephone No. 189, Central.)

Hood, Jas. A., Rosewell, Midlothian. Director Scottish Central Electric Power Co., Ltd.; director Lothians Electric Power Co.

Hood, W. W., Glyncornel, Llwynpia, Glam. Director South Wales Electrical Power Distribution Co.

Hood, T., & Co., Ltd., electrical & mechanical engineers, 26, Bath-st., Bristol. (Telegs.: "Rhodique, Bristol." Teleph. No. 1867.)

Hooghwinkel, John G., M.I.E.E., M.I.M.E., consulting electrical engineer, mining & traction, Dacre House, Victoria-st., S.W. (Telegs.: "Meridian, London." Teleph. No. 1227, Victoria.)

Hook, G. W., superintending engineer, South Midland District, Postal Telegraphs, Birmingham.

Hook, R. Myles, engineer, Postal Telegraphs, Leicester.

Hooker, F. Stacey, electrical engineer, 5, St. Ann's-rd., Barnes, Surrey.

Hooker, G., electrician, High-st., Sittingbourne.

Hookham, Geo., J.P., 4, New Bartholomew-st., Birmingham. Director Chamberlain & Hookham, Ltd.; & director Midland Electric Light & Power Co., Ltd.

Hookham, H. J., & Sons, tinplate, iron, brass & copper workers, Charles Henry-street, Birmingham. (Telegrams: "Tinplate, Birmingham." Telephone No. 1175.)

Hooley, J., chief assistant engineer, Corporation Electricity Works, Crewe.

Hooley, S. C., I.S.O., Controller, Stores Department, G.P.O., 17-19, Bedford-st., London, W.C. (Telegrams: "Sundry, London." Telephone No. 58, Official, viâ 1007, Central.)

Hooper, J. B., 31, Cambridge-rd., Hove. Director Hove & Worthing Electric Tramways, Ltd.

Hooper, J. F., director South of England Development Co., Ltd.

Hooper, J. F. W., A.I.E.E., Deneleigh, Babington-rd., Streatham, London, S.W.

Hooper, J. P., M.I.E.E., telegraph engineer & managing director Hooper's Telegraph & Indiarubber Works, Ltd., 31, Lombard-st., London, E.C.

Hooper, P. N., A.M.I.C.E., M.I.E.E., 69, Poppleton-rd, Leytonstone, N.E.

Hooper's Telegraph & Indiarubber Works, Ltd., telegraph wire, cables, &c., 31, Lombard-st., London, E.C. (Telegrams: "Linear, London." Telephone No. 1169, Avenue); & Millwall Docks, E. (Telephone No. 84, Eastern.) Registered April 16, 1894. Directors: J. P. Hooper, Esq., M.I.E.E. (managing); J. F. W. Hooper, Esq., A.I.E.E. Secretary, A. Maclachlan; electrician, H. Ohlson. Nominal capital: £50,000, £40,000 in ordinary shares of £10 each, £10,000 in £10 preference shares. Issued: 1500 ordinary & 1000 preference shares, all fully paid, making £25,000. Dividends: to March 31, 1899, 1900, 1901, 1902 & 1903, 5 per cent. on preference & 10 per cent. on ordinary; 1904, 5 per cent. on preference & 30 per cent. on ordinary; 1905, 5 per cent. on preference & 15 per cent. on ordinary.

Hooton, W. M., electric lighting contractor, Southgate, Sleaford.

Hope, Vernon, A.I.E.E., electrical engineer, c/o Parmiter, Hope & Sugden, Hulme Electrical Works, Manchester. (Telegs.: "Terminal, Manchester." Teleph. No. 1902.)

Hope, A., Jun., & Co., manufacturing chemists, Anchor Chemical Works, Provanmill, Glasgow. (Telegrams: "Alexope, Glasgow." Telephone No. 1382.)

HOPE-JONES, F., M.I.E.E., Proprietor Synchronome Co., 32 & 34, Clerkenwell-rd., London, E.C. (Teleph. No. 4643, Holborn.)

Hopewell, T. E., director Topsham Electricity Supply Co., Ltd., Topsham.

Hopkins, E. A., 20, Bishopsgate-st. Within, London, E.C. Managing director New General Traction Co., Ltd.; director Douglas Southern Electric Tramways; director Coventry Electric Tramways Co.; director Norwich Electric Tramways Co.

Hopkins, E. C., A.M.I.E.E., 32, Kestral-ave., Herne Hill, London, S.E.

Hopkins, H. Hanbury, electrical engineer, Rhodes Electrical Manufacturing Co., Ltd., Doncaster.

Hopkins, Walter B., M.I.C.E., M.I.E.E., Clun House, Surrey-st., W.C. Director Edmundson's Electricity Corporation, Ltd.; director Folkestone Electricity Supply Co., Ltd.; director Scarborough Tramways Co.; director Lancashire Electric Power Co.; director Lancashire Power Construction Co., Ltd.; director Ramsgate & District Electricity Supply Co.

Hopkins, W. Hustler, Blackwell Hall, Darlington. Director Cleveland Trust, Ltd.

Hopkins, G., & Sons, electrical engineers, 150, 152 & 154, St. John-st., London, E.C. (Telegs.: "Seamanlike, London." Teleph. No. 1093, Holborn.)

Hopkinson, Austin, M.I.M.E., A.M.I.MECH.E., A.M.I.E.E., 86, Cross-st., Manchester. (Telegs.: "Practor, Manchester." Teleph. No. 6049.)

Hopkinson, Charles, M.I.C.E., M.I.M.E., consulting electrical engineer, 29, Princess-st., Manchester. (Telegrams: "Arcograph, Manchester." Telephone No. 4199.)

Hopkinson, Dr. Edw., M.A., M.I.C.E., M.I.E.E., M.I.M.E., vice-chairman Mather & Platt, Ltd., Salford Iron Works, Manchester.

Hopkinson, G. H., director Kensington & Knightsbridge Electric Lighting Co., Ltd., 148, Brompton-rd., London, S.W.

Hopkinson, Prof. B., M.I.C.E., M.I.E.E., Engineering Laboratory, Cambridge. (Teleph. No. 0268.)

Hopkinson, J., & Co., Ltd., pressure, vacuum, compound, test, & hydraulic gauge makers, Britannia Works, Huddersfield (Telegrams: "Hopkinson, Huddersfield." Telephone No. 169); & 165, Queen Victoria-st., London, E.C. (Telephone No. 5672, Bank.)

Hopper, T., assistant engineer, Sheerness & District Electric Power & Traction Co., Ltd., Sheerness.

Hopper & Co., Ltd., dry battery manufacturers, Elmsdale Works, Walthamstow.

Hopps, B., A.I.E.E., electrical engineer, 44, Clifton-rd., Rugby.

Hopps, James, mechanical & electrical engineer, Englefield-green, Surrey.

Hopps, Alfred, & Sons, Ltd., oil merchants & manufacturers, African-chbrs., 19, Old Hall-st., Liverpool. (Telegs.: "Hopps, Liverpool." Teleph. No. 1730. A.B.C., 4th edit., Code.)

Hopton, J. H., A.I.E.E., Corporation Electricity Works, Blackpool.

Hopwood, Arthur, A.M.I.E.E., School of Science & Technology, Tunstall, Staffs.

Hopwood, E., Donington House, Norfolk-st., Strand, W.C. Director Wrexham & District Electric Tramways, Ltd.; director Tramways & Light Railways Estates Co., Ltd.

Hordern, L. H., manager Westminster Electric Supply Corporation, Eccleston-pl., London, S.W.; & joint manager Central Electric Supply Corporation, Ltd.

Horley, G., A.M.I.E.E., 11, Millbank-st., Westminster, London, S.W. (Teleph. No. 3026, Gerrard.)

Horn, Thomas Leopold, M.I.E.E., resident electrical superintendent London County Council Northern Tramways, & 144, Homeleigh-rd., Stamford Hill, London, N.

Hornby, B. S., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Spa-rd., Bolton. (Teleph. No. 269.)

Hornsby, R., & Sons, Ltd., steam & oil engine & boiler makers, Spittlegate Iron Works, Grantham; & 75A, Queen Victoria-st., London, E.C. (Telegs.: "Hornsbys, Grantham;" "Hornsbys, London." Tel. Nos.: 960, Bank; 1, Grantham. A.B.C., A1, Engineering Telegraph & Universal Mining Codes.)

Hornsey Borough Council Electricity Works, Hornsey, London, N. Chief engineer, N. Staniland.

Horsfall, J. J., electrical engineer, Victoria-rd., Elland. (Teleph. No. 6 X., Nat.)

Horsfall, W., resident engineer, Electric Light Works, Ebbw Vale.

Horsfall, Wm., engineer & inventor of the Horsfall furnace, Camp-rd., Leeds.

Horsfall, W. M., M.I.E.E., engineer, Liverpool District Lighting Co., Ltd., 16, Tithebarn-st., Liverpool.

Horsfall Destructor Co., Ltd., engineers, Lord-st. Works, Whitehall-rd., Leeds; & 110, Cannon-st., London, E.C. (Telegs.: "Destructor," Leeds or London. Teleph. Nos.: 2006, Central, Leeds; P.O. 8517, Bank, London. A.B.C., 5th Edition, & Lieber's Codes used.) Registered May 11, 1899. Nominal capital: £100,000 in £1 shares. Issued: 75,163 shares, fully paid. Directors: Arthur Greenwood, Esq., J.P., M.I.C.E. (chairman); G. H. Denison, Esq.; G. Watson, Esq., A.M.I.C.E., M.I.M.E. (managing); Sir John Isaac Thornycroft, F.R.S., M.I.C.E., M.I.M.E.; A. P. James, Esq.; Lieut.-Col. Morgan Lindsay, R.E. General manager & secretary, F. L. Watson, Esq., A.M.I.C.E., M.I.M.E. Dividends: 1903, 2½ per cent.; 1904, 2½ per cent.; 1905, *nil.*

Horsfield, Robert L., general manager, Corporation Tramways, Walsall. (Telephone No. 264.)

Horsham Urban District Council Electricity Works, Horsham, Sussex. Engineer, J. B. Morgan.

Horsley, J. A. B., A.M.I.E.E., Urban District Council Electricity Works, Tonbridge. (Teleph. No. 60 B.)

Horsnaill, Wm. Owen, A.M.I.E.E., A.M.I.MECH.E., 4, Tavern-st., Ipswich.

Horton & Son, Ltd., mechanical & electrical engineers, New Alma Works, Station-street, Darlaston. (Telegrams: "Horton, Darlaston.")

Hosgood, Newell, A.I.E.E., chief assistant engineer, Pembroke (Dublin) Electricity Works, Dublin.

Hosgood, O. S., superintendent Corporation Electricity Works, Roath Brook, Cardiff.

Hosker, Dr. J. A., Kirkleatham, Christchurch-rd., Bournemouth. Vice-chairman Bournemouth & Poole Electricity Supply Co., Ltd.

Hosking & Callan, consulting engineers & factors, 1, Thomas-st., Liverpool. (Telegrams: "Maquina, Liverpool." Telephone No. 6804.)

Hosmer, C. R., Montreal, Canada. Director the Halifax & Bermudas Cable Co., Ltd.; director Direct West India Cable Co., Ltd., 33, Old Broad-st., London, E.C.

Hotchkiss, H. L., New York. Director Exchange Telegraph Co., Ltd.

Hotopf, E. H. F., A.M.I.E.E., "Glenthorne," Mayow-rd., Sydenham, S.E.

Houblon, J. N. A., A.I.E.E., Hallingbury-pl., Bishops Stortford, Herts.

Houchin, R., lathe & tool maker, 13, Bridport-pl., New North-rd., London, N.

Houghton, E. J., M.I.E.E., L. B. & S. C. Rly. Co., London Bridge Station, S.E. (Teleph. No. 1351, Hop.)

Houghton, R. H., B.SC., A.I.E.E., 23, Woodstock-rd., Croydon.

Houghton, W. H., installation superintendent, Municipal Electricity Works, Huddersfield.

Houghton-le-Spring & District Electric Lighting Co., Ltd., 13, St. Helen's-pl., London, E.C. Registered March 2, 1905. Nominal capital: £15,000 in £1 shares. Issued: 15,000 with 1*s.* per share called. Directors: Sir Douglas Fox (chairman); H. R. Hogg, Esq.; Capt. C. A. Osborne. Secretary, F. Abraham.

HOULDER, W., SON & CO., manufacturers of pure acids, Southall, Middlesex. (Telegrams: "Houlder, Southall." Nat. Telephone No. 1017, Southall.)

Hoult, W., B.SC., A.M.I.E.E., A.M.I.MECH.E., Siemens Bros. & Co., Ltd., Stafford.

Hounam, E. S., chief assistant engineer, Corporation Electricity Works, Dudley.

Hounsell, J., & Son, elec. bell fitters, 3, Southover-st., Brighton. (Tel. Nos.: 1148, Corp.; & 6998, Nat.)

Hounsell & Sons, wiring contractors, High-st, Sheerness.

Hounsfield, Francis C., A.M.I.E.E., 40, Burleigh Mansions, St. Martin's-lane, London, W.C.

Hounslow, A. E., electrical engineer, 12, Albany-st., Regent's Park, London, N.W. (Teleph. No. 2311, North.)

House, A. H., electrical contractor, Hepworth-chbrs., High Ousegate, York.

Household Supply & Atmospheric Churn Co., Ltd., electric light fittings manufacturers, 119, New Bond-st., London, W. (Telegrams: "Quadrivial, London.")

Houstoun, Wallace C., 37, Cross-st., Manchester. Director North-Western Electricity & Power Gas Syndicate, Ltd.

Hove Electric Lighting Co., Ltd., Electric Supply Co., Salisbury House, London Wall, London, E.C.; & 7, Cromwell-rd., Hove, Brighton. (Telegrams: "Electricity Works, Hove." Telephone Nos.: 2599, Nat.; 1599, Corp.) Registered Aug. 4, 1892. Nominal capital: £100,000 in 20,000 ordinary shares of £5 each. Issued: 15,000 shares, of which the full amount has been called on 13,000 shares & £3 per share on 2000 shares. Debentures: £7300 of 4½ per cent. debentures, issued at £103, fully paid, & £37,300 of 4 per cent. debenture stock, fully paid. F. R. Reeves, M.I.E.E., secretary; C. B. Smith, resident engineer; Crompton & Co., electrical engineers. Directors: Colonel A. J. Filgate (chairman); Colonel H. Wood, C.B. (vice-chairman); H. A. Hoare, Esq.; C. F. Tufnell, Esq. Dividends: 1901, 8 per cent.; 1902, 1903 & 1904, 8½ per cent.; 1905, 9 per cent. per annum.

Hove & Worthing Electric Tramways, Ltd., Donington House, Norfolk-st., Strand, London, W.C. Registered March 4, 1904. Nominal capital: £100,000 in £5 shares. Directors: A. C. Miles, Esq. (chairman); W. G. Bond, Esq.; J. B. Hooper, Esq.; R. P. Simpson, Esq. Secretary, H. Atkinson Clark.

How, G. A., Electrical Engineer's Department, Great Western Railway, 2A, Bishops-rd., W.

How, Horace D. B., A.M.I.E.E., electrical engineer, Royal-chbrs., Park-pl., Cardiff.

Howard, A. H., M.I.E.E., electrical engineer, Parliament Mansions, Victoria-st., London, S.W. (Telegrams: "Conoidal, London." Telephone No. 5366, Westminster.)

Howard, A. J., A.M.I.E.E., Electricity Department, Aylestone-rd., Leicester.

Howard, F. Geere, A.M.I.C.E., electrical engineer, 63, Berners-st., London, W. (Telegrams: "Diagometer, London." Telephone No. 6791, Central.)

Howard, G. A., wiring contractor, 24, Silver-st., Lincoln.

Howard, H. L., A.M.I.E.E., A.M.I.MECH.E., chief engineer & general manager Electricity & Tramways Department, Barking. (Telegs.: "Electricity Works, Barking." Teleph. No. 16.)

Howard, M., electrical engineer & contractor, 52 & 54, Peveril-st., Nottingham. (Teleph. No. 525 Y. 5.)

Howard, Selby B., assistant engineer, Urban Electric Supply Co., Ltd., Weybridge, Surrey.

Howard, W., electrical engineer & wiring contractor, 101, Chesterton-rd., Ladbroke-grove, London, W.

HOWARD ASPHALT TROUGHING CO., LTD., manufacturers of underground electric mains, Trafford Park, Manchester. (Telegs.: "Ductile, Manchester." Teleph. No. 411.) London office: Parliament Mansions, Victoria-st., S.W. Registered Jan. 26, 1901. Nominal capital: £19,000 in £1 ordinary shares & £1000 deferred shares. Directors: A. L. Ormrod, Esq. (chairman); G. B. Samuelson, Esq.; E. A. Claremont, Esq. (managing director); C. Cooper, Esq.; Llewellyn B. Atkinson, Esq. Secretary, F. J. Warren.

Howard Bros., makers of "Dey" time registers, 40, Paradise-st., Liverpool (Telegs.: "Sonnez, Liverpool." Teleph. No. 7150, Central); & 100B, Queen Victoria-st., London, E.C. (Telegs.: "Countable, London." Teleph. No. 5690, Bank.)

Howard & Co., structural & general engineers, art metal workers, &c., 106, Leadenhall-st., London, E.C. Works: Mile End, E. (Telephone No. 5791, Avenue.)

Howard, J. & F., oil engine makers, Britannia Iron Works, Bedford. (Telegrams: "Howard, Bedford." Telephone No. 4.)

Howard & Shankland, Ltd., electric lighting contractors, 432, Kingsland-rd., London, N. (Telegs.: "Erectable, London." Teleph. No. 2193, North.)

Howard-Smith, W. J., A.M.I.C.E., F.G.S., engineer for light railways & tramways, Middlesex County Council, Guildhall, Broad Sanctuary, Westminster, S.W.

Howards & Sons, Ltd., manufacturing chemists, 74, Stratford High-st., London, E. (Telegrams: "Quinology, London." Telephone No. 815, East); & Uphall Works, Ilford, Essex.

Howden, Jas., & Co., high-speed engines, steam turbines, &c., Scotland-st., Glasgow. (Telegrams: "Howden, Glasgow." Telephone Nos.: 1795 & 2045, Nat.; & X. 195, Corp.)

Howe, G. W. O., M.S.C., WHIT. SCH., A.M.I.E.E., 59, South Park-rd., Wimbledon, S.W.

Howe, J. C., Denton, nr. Manchester. Director Welsh Electric Traction Co., Ltd.

Howe, R., A.M.I.E.E., 16, East-ave., Benton, Newcastle-on-Tyne.

Howe, W., district manager National Telephone Co., Ltd., Telephone-bldgs., Southampton.

Howe Electrical Engineering Co., electrical engineers, 16, Redcross-st., Liverpool. Works: 14A, Moor-st., Liverpool (Telegrams: "Switch, Liverpool." Telephone No. 5786, Central); & 14, Richmond-ter., Blackburn.

Howell, A., chief assistant electrical engineer, Borough of Hornsey Electricity Works, Hornsey.

Howell, E. J., A.I.E.E., 57, Station-rd., King's Heath, Birmingham.

Howell, J. H., J.P., Pembroke-rd., Clifton. Director Bristol Tramways & Carriage Co., Ltd.

Howell, L., wiring contractor, 10, Victoria-rd., Swindon.
Howell, T. B., A.M.I.E.E., A.M.I.M.E., British Westinghouse Co., Trafford Park, Manchester.
Howell, W. W., representative in England of the Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange; 2, Mincing-lane; 5, New Bridge-st.; Baltic Mercantile & Shipping Exchange, London, E.C.; & 24, Hop Exchange, S.E.
Howell & Co., Ltd., iron & steel tube manufacturers, Sheffield (Telegrams: "Howell, Sheffield." Telephone No. 48); & 18, Queen Victoria-st., E.C. (Zeitz & Co., London agents.)
HOWES, S., CO., turbine & water motor makers, 64, Mark-lane, London, E.C. (Telegrams: "Barbeau, London." Telephone No. 1924, Avenue.) *See* TURBINES.
Howett, E., manufacturing medical electrician, Welby-st., Grantham.
Howgrave-Graham, R. P., A.I.E.E., 12, Willow-rd., Hampstead, London, N.W.
Howie, Harold A., A.M.I.E.E., chief assistant electrical engineer, Corporation Electricity Works, Wolverhampton.
Howitt, John, & Sons, electricians & engineers, St. Mark's Works, & 36, Stodman-st., Newark.
Howl, Edmund, A.I.E.E., electrical engineer, The Quarries, nr. Dudley.
Howlett, H. N., A.I.E.E., agent, 211, Upper Thames-st., E.C. (Teleph. No. 5645, Bank.)
Howorth, James, & Co., humidifying, heating & ventilating engineers, Victoria Works, Farnworth, nr. Bolton or Manchester. (Telegs.: "Ventilator, Farnworth, Bolton." Teleph. No. 59.)
Howson, G., & Son, earthenware manufacturers, Clifford-st., Lichfield-st., Hanley.
Hoylake & West Kirby Urban District Council Electricity Works, Hoylake, Cheshire. (Telephone No. 203, Hoylake.) Engineer, C. J. Turner, A.I.E.E.
Hubbard, E., electrical engineer, Junction-rd., Eastbourne. (Teleph. No. 35 X.)
Hubber & Son, electrical engineers & contractors, 85 & 86, South-street, Exeter. (Telephone No. 149.)
Hubbuck, T., & Son, Ltd., composition makers for preventing incrustation in steam boilers, 24, Lime-st., E.C. (Telephone No. 4152, Avenue); & Hubbuck's-wharf, 44 to 48, Broad-st., Ratcliff, E. (Telegrams: "Hubbuck, London.")
Hucklebridge & Son, hydraulic engineers & electric bell fitters, 1, Bridge-st., Exeter.
Huddersfield Corporation Electric Tramways. General manager & engineer, R. H. Wilkinson. (Teleph. No. 398, Huddersfield.)
Huddersfield Corporation Electricity Supply. Works: St. Andrew's-rd. Chairman, Councillor A. Chatterton; borough electrical engineer, A. B. Mountain, M.I.E.E. (Telephone No. 261.)
Huddersfield Technical College, Huddersfield. *See* SCHOOLS, CLASSIFIED SECTION.
Huddleston, J. Snow, electrical engineer, c/o Siemens Bros. & Co., Ltd., Queen Anne's-chbrs., Broadway, Westminster, London, S.W.
Huddleston, Percy, A.I.E.E., 72, Finsbury Pavement, London, E.C.
HUDDLESTON, PERCY, & CO., Electrical & Mechanical Auctioneers & Valuers, 72, Finsbury Pavement, London, E.C. (Telegs.: "Sultanship, London." Teleph. Nos.: 585, London Wall; & 620, Chiswick.)
Hudson, A. G., electrical engineer, 132, Replingham-rd., Wandsworth, London, S.W.
Hudson, Arthur P., A.M.I.E.E., assistant engineer, Charing Cross, West End & City Electricity Supply Co., Ltd., 85, Fenchurch-st., E.C.; & 18, Wood Vale, Forest Hill, S.E. (Teleph. No. 316, Sydenham.)
Hudson, H., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.
Hudson, R., Westwood, Leeds. Director Yorkshire Electric Power Co.
Hudson, Robert, A.M.I.E.E., 171, Uttoxeter New-rd., Derby.
Hudson, R. C. D., Cheswardine, Market Drayton. Chairman Market Drayton Electric Light & Power Co., Ltd.
Hudson & Bowring, Ltd., tramway life-guards & accessories, Temple-chbrs., 33, Brazennose-st., Manchester. (Telegs.: "Meacots, Manchester.")
Hudson Economiser Co., Ltd., The, fuel economisers, 7, Victoria-st., London, S.W.
Hudson, Edmunds & Co., Ltd., brass, copper & aluminium tube & metal manufacturers, Sheepcote-st., Birmingham. (Telegrams: "Metallicus, Birmingham." Telephone No. 80.)
Hudson Engineering Co., Ltd., electrical & general engineers, 30, Spring-gdns., Manchester.
Hudson, John, & Co.'s Successors, manganesite manufacturers, 4, Victoria Warehouses, Mansell-st., London, E. (Telegs.: "Adamantos, London." Teleph. No. 1020, Avenue.)
Hudson & Kearns, tracing paper makers, 83, Southwark-street, London, S.E. (Telegrams: "Hudson, London." Telephone No. 609, Hop.)
Hudson & Son, electrical instrument makers, Stockwell-st., Greenwich, London, S.E. (Telephone No. 2019, Deptford.)
Hudswell, Clarke & Co., Ltd., sole makers of Rodgers' pulleys (registered), Railway Foundry, Leeds. (Telegs.: "Loco, Leeds." Teleph. No. 3540.)
Hues, George J., & Co., Ltd., sulphate of copper manufacturers, Widnes. (Telegrams: "Hues, Widnes.")
Huggett & Worthington, electrical engineers, Sankey-st., Warrington.
Huggins, Ed., electrical engineer, 55, City-rd., Cardiff. (Teleph. No. 103 X. 2, Roath.)
Hughes, Arnold S., A.I.E.E., Carron Co., Carron, Stirlingshire.

Hughes, E., consulting electrical engineer, 5, Parsonage, Manchester.
Hughes, Edgar, M.I.E.E., 35, Belfield-rd., Didsbury, Manchester.
Hughes, F. J., F.R.G.S., 14, Argyle-st., Bath, Somerset; & Inspector of Telegraphs, Southern Nigerian Government, Lagos, West Africa.
Hughes, G., engineer, Liverpool, Southport & Crossens Elec. Railway (L. & Y. Rly.), Horwich, Lancs.
Hughes, G. A., A.I.E.E., Addiscombe House, Havelock-rd., Croydon.
Hughes, Henry, electrical engineer, Everson & Hughes, 4, Mason's-ave., Basinghall-st., London, E.C. (Telephone No. 4455, Central.)
Hughes, John, F.C.S., analytical chemist, 79, Mark-lane, London, E.C.
Hughes, R. J., M.I.E.E., superintendent, Commercial Cable Co., Waterville, Co. Kerry.
Hughes, T. Vaughan, consulting elec. engineer, metallurgist & analyst, 130, Edmund-st., Birmingham.
Hughes, W. G. Crawford, F.G.S., A.M.INST.C.E., electrical engineer, 2A, Ryder-st., St. James's, London, S.W. (Telegs.: "Conversant, London." Teleph. No. 7609, Gerrard.)
Hughes, W. M., electrical engineer, New-rd., Kidderminster.
Hughes, W. Walter, A.M.I.E.E., South Wales Daily News-bldgs., St. Mary-st., Cardiff. (Telegrams: "Multiphase, Cardiff." Nat. Telephone No. 1370.)
Hughes Butterfield Bros., "Bantam" Accumulator & Coil Works, Stechford, Birmingham.
Hughes, Fawcett & Co., iron founders & machine tool makers, Hebden Bridge. (Telegrams: "Hughes-Fawcett, Hebden Bridge." Telephone No. 17, Nat.)
Hughes, H., & Son, Ltd., mathematical instrument makers, 59, Fenchurch-st., London, E.C. (Telegrams: "Azimuth, London." P.O. Telephone No. 555, Central.)
Hughes, John & Joseph, metal merchants, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)
HUGHES LABEL CO., LTD., THE, makers of ivory, ivorine, bone & brass labels for all purposes, 34, Great Titchfield-st., W. (Telegrams: "Nivose, London." Telephone No. 2732, Gerrard.)
Hughes & Lancaster, electrical engineers, 47, Victoria-st., Westminster, London, S.W. (Telegrams: "Voidance, London." Telephone No. 3372, Westminster.)
Hughes, R. T., & Co., electric lighting contractors, 37, Sheen-lane, Mortlake.
Hughes, Son, & Thornton, patent agents, 38, Chancery-lane, London, W.C.
HUGHES & STIRLING, ENGINEERS & REFUSE DESTRUCTOR PLANT MAKERS, Bootle, Liverpool; & 7, Arundel-st., London, W.C. (Telegs.: "Hugeling, London." Teleph. No. 7285, Gerrard.)
Hughes, William, Ltd., wire drawers, Drury-lane, London, W.C.
Hughes, W. C., & Co., electrical apparatus for projection & stage, Brewster House, Mortimer-rd., Kingsland, London, N. (Telegs.: "Pamphengos, London." Teleph. No. 1122, North.)
Hughman, R. W., A.I.E.E., 43, Cranhurst-rd., Willesden Green, London, N.W.
Hulbert, Frank, carbon cutter, Milford Works, Queen's-rd., Battersea, London, S.W.
Hulett, D., & Co., Ltd., electrical engineers, contractors, & manufacturers, 55 & 56, High Holborn, London, W.C. (Telegrams: "Hulett, London." Telephone No. 4864, Holborn.) Registered 1889. Secretary, Joseph Huskisson; electrical engineer, J. W. Polley, A.M.I.E.E.
Hull, Wm. George, A.I.E.E., electrical & mechanical engineer, Pangbourne, Reading, Berks.
Hull City Electric Light & Power Works, Sculcoates-lane, Hull. (Corp. Telephone No. 197.) Electrical engineer, H. Bell, A.M.I.E.E.
Hull Corporation Tramways. (Corp. Telephone No. 443.) Engineer, J. Wilkinson, M.I.E.E.
Hull Municipal Technical School, Hull.
Hulme, G. Ratcliffe, general manager South Metropolitan Electric Tramways & Lighting Co., Ltd., Donington House, Norfolk-st., London, W.C.; & Croydon.
Hulme & Son, electricians, 8 & 9, Sadlergate, Derby. (Teleph. No. 694 X. 1.)
Human, Henry, A.M.I.E.E., Guardian Assurance Co., 11, Lombard-st., London, E.C.
Hume, Charles E., resident engineer, Twickenham & Teddington Electric Supply Co., Ltd., Electric Lighting Station, Twickenham.
Hume, G. H., M.I.E.E., 3, Brick-ct., Temple, London, E.C.
Hume, W., scientific instrument maker, 1, Lothian-st., Edinburgh. (Telegrams: "Hume, Edinburgh.")
Humpage, Jaques & Pedersen, Ltd., gears, &c., Ashton Gate, Bristol. (Telegs.: "Humpage, Ashton Gate." Teleph. No. 1018, Bristol.)
Humpherson & Co., elecl. engineers, Woodhall Spa, Lincoln. (Telegs.: "Humpherson's." Tel. No. 17.)
Humphery, S. W., A.M.I.E.E., 65, London-rd. South, Lowestoft.
Humphrey, F. J., A.I.E.E., Electric Light Department, Stanwell-st., Colchester.
Humphrey, Herbert A., M.I.E.E., M.I.M.E., M.I.C.E., consulting engineer, 38, Victoria-st., Westminster, London, S.W. (Telegrams: "Gazonner, London." Telephone No. 360, Victoria.)
Humphreys, Hugh, electrician & contractor, Meirion, High-st., Aberystwith.
Humphreys, Thomas, A.M.I.E.E., 158, Whitworth-rd., Rochdale, Lancs.
Humphreys, J. H., & Sons, dynamo manufacturers, Horsedge Electric Works, Oldham. (Teleph. No. 76 Y.)
Humphreys, William, & Co., merchants & agents, Chatham-bldgs., Hope-st., Piccadilly, Manchester. (Telegrams: "Avant, Manchester.")

Humphries, R., A.M.I.E.E., electrical engineer & manager Isle of Thanet Electric Tramways & Lighting Co., Ltd., St. Peter's, Broadstairs.

Hunns & Co., electrical engineers, Stopford-road, Plaistow, London, E.

Hunsiker, M., 71 & 72, King William-st., E.C. Director Traction & Power Securities Co., Ltd.

Hunslet Electrical Pottery Co., Ltd., Balm Road Mills, Hunslet, Leeds.

HUNT, A. H., A.I.E.E., electrical engineer & supplier for wholesale & export, 115–117, Cannon-st., E.C. (Telegs.: "Keyage London." Teleph. No. 8114, Bank. Lieber's & A.B.C., 4th Edition, Codes.)

Hunt, Frederic Osmond, A.M.I.E.E., consulting electrical engineer, 65, Blackett-st., Newcastle-on-Tyne.

Hunt, Herbert F., B.SC., A.M.I.E.E., electrical engineer, Pembroke Dockyard.

Hunt, J. A., divisional engineer, Northern District, National Telephone Co., Ltd., 7, Colveston-cres., Ridley-rd., Dalston, London, N.E. (Telephone No. 101, Dalston.)

Hunt, J. H., machinery broker & dealer, Lombard-wharf, Lombard-rd., Battersea, S.W.

Hunt, Louis J., A.M.I.C.E., A.M.I.E.E., chief electrical engineer, Sandycroft Foundry Co., Chester.

Hunt, T. C., mains & distribution engineer, Electricity Works, Tucker-st., West Ham, London, E

Hunt, T. C., A.I.E.E., electrical engineer, Baldock-st., Ware, Herts.

Hunt, Edmund, & Co., chartered patent agents, 121, West George-st., Glasgow. (Telegrams: "Hunt, Glasgow." Nat. Telephone No. 713, Royal.)

Hunt, F. O., & Co., electrical engineers & agents for dynamos, motors, arc lamps, cables & lifts, 65, Blackett-st., Newcastle-on-Tyne. (Teleph. No. 894, Central.)

HUNT & HESS, manufacturers of LITHOLITE insulating material, The Grove, Hackney, London, N.E. (Telegs.: "Ferrules, London." Teleph. No. 1492, North.) *See advt. under* INSULATING MATERIALS.

Hunt & Mitton, lubricators, oil gauge, brass finishers & founders, 12–16, Oozells-st. North, Birmingham. (Telegs.: "Mitton, Birmingham." Teleph. No. 394.)

Hunt, R., & Co., Ltd., pulley makers, Atlas Works, Earls Colne, Essex. (Telegrams: "Hunt, Earls Colne." P.O. Telephone No. 2.)

Hunter, C. C., manager of the Electrical Department, Maple & Co., Ltd., 141–149, Tottenham Court-rd., London, W. (Telegs.: "Maple, London." Teleph. No. 7000, Gerrard.)

Hunter, C. E., electrical engineer & manager Ediswan Works, Ponder's End, London, N.

Hunter, C. P., electrical engineer, Tarvin Hall, nr. Chester. (Telegs.: "Hunter, Tarvin.")

Hunter, David, electrical engineer, Lanark.

Hunter, F. R., resident engineer, Southwold Electricity Supply Station, Southwold.

Hunter, G. B., Wallsend-on-Tyne. Director Newcastle-on-Tyne Electric Supply Co., Ltd.

Hunter, J., 20, Fairfield-cres., Fairfield. Director New St. Helen's & District Tramways Co., Ltd.

Hunter, John M., A.M.I.E.E., c/o Osborne & Hunter, 108A, West Regent-st., Glasgow.

Hunter, Summers, 27, Percy-gdns., Tynemouth. Director Tyneside Tramways & Tramroad Co.

Hunter, T., engineer, Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh.

Hunter, W., electrician-in-charge, Overhead Railway, Liverpool.

Hunter, W. D., M.I.E.E., managing director & engineer, Newcastle & District Electric Lighting Co., Ltd., 38, Grainger-st.-west, Newcastle-on-Tyne.

Hunter & Co., electrical & mechanical engineers, Eastdown Works, Lewisham, London, S.E. (Telegs.: "Hunters, Lewisham, London.")

HUNTER ELECTRIC CANDLE LAMP CO., LTD., manufacturers of the "Huntalite" patent candle lamp, 77, Newman-st., Oxford-st., London, W. (Telegs.: "Huntalite, London." Teleph. No. 1908A, Gerrard.)

Hunter & Goudie, electrical engineers, Causeyside-st., Paisley.

Hunter & Jack, electric light & power engineers, 101, St. Vincent-st., Glasgow. (Telephone No. 614.)

Hunter, John, & Co., electrical & mechanical engineers, 11, Paradise-st., Liverpool. (Telegs.: "Inductance, Liverpool." Teleph. No. 7877, Central.)

Hunter & Swan, electrical & mechanical engineers, 1, James-st., Bute Docks, Cardiff. (Telegs.: "Hydrostatic, Cardiff." Nat. Teleph. No. 1011, Cardiff.)

Hunter-Brown, Philip, A.M.I.E.E., Charnwood, Barrow-on-Soar, Leicestershire.

Huntley, D., A.M.I.E.E., electrical engineer, 70, Loveday-rd., West Ealing, London, W.

Huntley, R., Ltd., ferro-manganese merchants, 34 & 36, Mowbray-st., Sheffield. (Telegrams: "Huntley, Sheffield." Telephone No. 343.)

Hunton, Wm., A.I.E.E., 84, Sunderland-st., Houghton-le-Spring, Durham, R.S.O.

Hurlet & Campsie Alum Co., manufacturing chemists, 115, Wellington-st., Glasgow. (Telegrams: "Campsie, Glasgow.")

Hurley, T. (of Gent & Hurley, Leicester), High-st., Lutterworth.

Hurrell, G. C., manager Cable Accessories Co., Britannia-st., Tividale, Tipton.

Hurst, B., director Leicestershire & Warwickshire Electric Power Syndicate, Ltd., 5, Great George-st., S.W.

Hurst, Geo. H., F.C.S., analytical & consulting chemist, Laboratory, 22, Blackfriars-st., Manchester; & 4, Wentworth-st., Bolton.

Hurst, A., & Co., importers of ebonite & glassware for electrical purposes, 53, Leadenhall-st., London, E.C. (Telegrams: "Vivifico, London." Telephone No. 2673, Avenue.)

Hurst, Nelson & Co., Ltd., builders of railway carriages, wagons, electric cars & light railway rolling stock of every description; makers of wheels & axles, railway plant, forgings, smith work, iron & brass castings. Registered office & chief works: The Glasgow Rolling Stock & Plant Works, Motherwell. London office: 14, Leadenhall-st., E.C. Manchester office: Northern Assurance-bldgs., Albert-sq. Glasgow office: 40, West Nile-st.; & at Chatsworth Wagon Works, nr. Chesterfield. (Telegs.: "Nelson, Motherwell;" "Lintel, London;" "Corridor, Manchester;" "Nelson, Glasgow;" "Nelsons, Chesterfield." Teleph. No. 5549, Avenue, London.)

Hurworth, T., electrician, Leeds Industrial Co-operative Society, Leeds.

Husbands & Sons, theodolites, levels & scientific instrument makers, 8, St. Augustine's-parade, Bristol. (Telegrams: "Husbands, Opticians, Bristol.")

Huskisson, W. Marshall, A.M.I.E.E., 45, Cambridge-gardens, Notting Hill, London, W.

Hussey, Major W. C., R.E., A.I.E.E., H.M. Office of Works, Storey's Gate, London, S.W.

Huston, Frank, electrician, 52, Creswick-st., Breck-rd., Liverpool.

Hutcheson, Andrew, electrical engineer, 97, Waterloo-st., Glasgow.

Hutcheson, J., electrical engineer, 199, Bath-st., Glasgow.

Hutchin, George, electrical engineer, Hope-buildings, 39A, South Castle-street, Liverpool.

Hutchins, C. D'Oyley, electrical, civil & general engineer, Wood Hall, 13, Charlwood-rd., Putney, S.W.

Hutchins, F., A.M.I.E.E., electrical engineer, Crescent Works, Manor Park-rd., Harlesden, London, N.W. (Teleph. No. 133, Harlesden.)

Hutchinson, C., assistant electrical engineer, District Council, Barnes.

Hutchinson, J., A.M.I.E.E., The Palace, Crediton, Devon.

Hutchinson, J. A., M.D., Northallerton. Director Northallerton Electric Light & Power Co., Ltd.

Hutchinson, Maj.-Gen. C. S., C.B., 14, Kidbrook Park-rd., Blackheath. Director Baker-st. & Waterloo Electric Railway.

Hutchinson, Robert W., A.M.I.E.E., 18, Washington-st., Newland, Hull.

Hutchinson, S. H. C., A.M.I.C.E., c/o H. S. King & Co., 45, Pall Mall, S.W.

Hutchinson, T. J., Aden House, Manchester-rd., Bury. Chairman Douglas Southern Electric Tramways, Ltd.

Hutchinson, W., director City of Buenos Ayres Tramways Co. (1904), Ltd., 1, Great Winchester-st., E.C.

Hutchinson, W. E., electric light engineer & contractor, 5, Batoum-gdns., London, W.

Hutchinson, W. L., A.I.E.E., 4, Vanbrugh Park, Blackheath.

Hutchinson Bros. & Co., Ltd., electrical engineers, &c., Sackville-st., Barnsley. (Telegrams: "Hutchinson Bros., Barnsley." Telephone No. 54.)

Hutchison, H. W., Kirkcaldy. Director Fife Electric Power Co., Ltd.

Hutchison, J., electrical contractor, 199, Bath-st., Glasgow.

Hutton, F. H., M.A., electrician, Vicar's-ct., Lincoln.

Hutton, James, engineer, 98, King's-rd., Camden-rd., London, N.W.

Hutton, J., Solberge, Northallerton. Chairman Northallerton Electric Light & Power Co., Ltd.

Hutton, John Ernest, A.I.E.E., Sowber Gate, Northallerton, Yorks. Managing director Northallerton Electric Light & Power Co., Ltd.

Hutton, Lucius O., Wyckham, Dundrum, co. Dublin. Chairman Great Northern Railway Co. (Ireland).

Hutton, Robert Salmon, D.SC., A.I.E.E., Electrochemical Laboratory, The University, Manchester.

Hutton Bros., electrical engineers, St. Aldate-st., Gloucester.

Hyde, Albert W., district manager, National Telephone Co., Ltd., Stockton-on-Tees.

Hyde, C. G., M.P., 75, Gloucester-ter., Hyde Park, London, W. Director Great Northern & City Rly. Co.

Hyde, H., electrical engineer, 48, Spring Bank, Hull. (Nat. Telephone No. 487.)

Hyde, J., manufacturing chemist, High-street, Wednesfield.

Hyde, J. B., A.I.E.E., Bloxham, Banbury, Oxon.

Hyde, John Derby, A.I.E.E., Bloxham, Banbury, Oxon.

Hyde Electrical Manufacturing Co., Ltd., electrical & general engineers, Hyde, nr. Manchester.

Hyde Technical School, Hyde. *See* SCHOOLS.

Hyderabad Electric Light & Traction Co., Ltd., Worcester House, Walbrook, London, E.C. Registered April 13, 1904. Nominal capital: £10,000 in £1 shares. Issued: £27. Directors: J. Kerr, Esq.; G. Flett, Esq. Secretary, W. R. Elston.

Hyland & Borrow, engineers & electricians, 91, King's-rd., Chelsea, S.W.

Hyndman, H. H. F., B.SC., A.M.I.E.E., electrical engineer, 5, Warwick-rd., London, S.W.

Hythe Electricity Works (Folkestone Electricity Supply Co., Ltd.), Hythe, Kent. Managing engineer, T. Hesketh, M.I.E.E.; resident engineer, A. C. Wampach.

I. T. E. ELECTRIC CO., LTD., circuit breakers, 20, Great Russell-st., London, W.C. (Telegs.: "Useite, London." Teleph. No. 7479, Central.)

Iago, Frank, F.C.I.S. (sec.), Westminster Electric Supply Corp., Ltd., Eccleston-pl., Belgravia, London, S.W.

Ibbotson Brothers & Co., Ltd., steel manufacturers, &c., 7, Victoria-st., London, S.W. (Telegrams: "Ibbotson, London"); & Globe Steel Works, Sheffield.

Ickelheimer, M., agent for M. Fleischmann, Vienna, 36A, Aldersgate-st., London, E.C.

Iddon Bros., Ltd., makers of electric wire & cable covering machines, Brookfield Iron Works, Leyland, nr. Preston.

Ide, T. & W., glass works, Glasshouse Fields, Ratcliff, London, E.; & at Birmingham. (Telegrams: "Twide, London." Telephone No. 5133, Eastern.)

Ideal-Meyra Electric Co., electrical engineers & dry battery makers, 78, York-rd., King's Cross, London, N. (Teleph. No. 11200, Central.)

Iles, B. M., A.M.I.E.E., Corporation Electricity Works, Manchester.

Ilford Accumulators, Ltd., 13, Borough High-st., London, S.E.

Ilford Urban District Council Electricity Works & Electric Tramways, Ilford. Engineer, A. H. Shaw, M.I.E.E. (Telephone No. 32, Ilford.)

Ilfracombe Electric Light & Power Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W. Registered Sept. 16, 1901. Nominal capital: £15,000 in £5 shares. Issued: 67 shares. The full amount has been called & £335 has been received. Directors: F. E. Gripper, Esq.; J. C. Wigham, Esq. Engineer, A. Alan Jenkins, A.M.I.E.E.; secretary, C. H. Jones.

Ilkeston Corporation Electricity Works & Electric Tramways. Engineer, A. C. Gilbert.

Ilkeston Electricity Works (Derbyshire & Nottinghamshire Electric Power Co.), Ilkeston, Derbyshire. (Telegs.: "Power, Ilkeston." Teleph. No. 38, Ilkeston.) Engineer & manager, A. E. Loos; resident engineer-in-charge, S. S. Foster.

Illingworth, Edgar Darnell, A.M.I.E.E., "Ravendale," Mornington-rd., Sale, nr. Manchester.

Illingworth, T. H. & W. R., cotton driving band manufacturers, Ridgehill-lane, Stalybridge.

Illingworth, Ingham & Co., Ltd., wood casing & cleats for wires, City Saw Mills, Leeds (Telegs.: "Timber, Leeds." Teleph. Nos. 70, 71 & 72); Albert-st., Goole (Telegs.: "Timber, Goole"); 61, Whitworth-st. West, Manchester (Telegs.: "Flooring, Manchester"); & Trafford Park, Manchester. (Telegs.: "Plinth, Manchester.")

Illuminated Signs, Ltd., 21A, Manor-st., Clapham, London, S.W.

Illustrated Official Journal (patents) (weekly, 6*d.*; by post, 8*d.*; ann. sub., 35*s.*), Patent Office, Sale Branch, 25, Southampton-bldgs., Chancery-lane, London, W.C.

Immisch Launch & Boat Co., Ltd., Platt's Eyot, Hampton-on-Thames (Telegrams: "Immisch, Hampton." Telephone No. 17, Molesey); & Donington House, Norfolk-st., Strand, W.C.

Imperial Construction Co., Ltd., electrical engineers & contractors, Parliament Mansions, Victoria-st., Westminster, London, S.W. (Telephone No. 5314, Westminster.)

Imperial Enamel Co., Ltd., makers of cones & reflectors for electric light, Watery-lane, Birmingham. (Telegrams: "Impervious, Birmingham." Telephone No. 874.)

Imperial Engineering Supplies Co., Ltd., Parliament Mansions, Victoria-st., London, S.W. (Teleph. No. 5314, Westminster.)

Imperial Lighting Co., 13, Gate-st., Holborn, London, W.C.

Imperial Steam Users' Association, Anchor Works, Malt-st., Old Kent-rd., London, S.E. (Telegrams: "Vaporoso, London." Telephone No. 2433, Hop.)

Imperial Tramways Co., Ltd., Clare Street House, Bristol. (Telegrams: "White, Bristol." Telephone Nos.: Nat., 74; P.O., 2.) Registered Sept. 29, 1898. Capital authorized: £200,000 in ordinary shares of £10 each, £200,000 in 6 per cent. cumulative preference shares of £10 each & £300,000 debenture stock. Capital issued: 20,000 £10 ordinary shares & 20,000 £10 preference shares; total, £400,000. There is an issue of £300,000 4½ per cent. first mortgage debenture stock secured by trust deed & redeemable Jan. 1, 1920, at 110 per cent. Directors: Sir Geo. White, Bart. (chairman); Hugh C. Godfray, Esq.; Samuel White, Esq., J.P.; Sir Clifton Robinson (managing). Secretary, W. G. Verdon Smith. The company owns the undertaking of the Middlesbrough, Stockton & Thornaby Electric Tramways; the whole amount of the ordinary stock of the Corris Railway Co.; & a large interest in the London United Tramways (1901), Ltd., who own an extensive system of electric tramways in the western suburbs of London. Dividends: 1901, 10 per cent.; 1902, 55 per cent.; 1903, 1904 & 1905, 9 per cent.; & first half of 1906, 8 per cent. (*interim*).

Imperial Tube Co., Birmingham.

IMPROVED ELECTRIC SUPPLIES CO., LTD., manufacturers of incandescent lamps & general electric supplies, arc lamps & street lighting fittings, 7, Great Newport-st., St. Martin's-lane, W.C. (Telegs.: "Lunarian, London." Teleph. No. 3278, Gerrard.) Electrical engineer, N. D. Watsham; secretary, H. Hepworth Thompson.

Improved Electric Traction, Ltd., motor car manufacturers, 17, Cockspur-st., London, S.W.

Improved Plug Co., wall plug manufacturers, 75, Edmund-st., Birmingham.

Ince, Francis, A.I.E.E., 15, Netherhall-gdns., Hampstead, N.W.

Incorporated Association of Electric Power Cos., 35, Parliament-st., Westminster, London, S.W. (Teleph. No. 2110, Victoria.)

Incorporated Association of Municipal & County Engineers. President, A. E. Collins; secretary, Thomas Cole, 11, Victoria-st., London, S.W. (Telegrams: "Bisecting, London." Telephone No. 5083, Westminster.)

Incorporated Municipal Electrical Association. President, S. E. Fedden; treasurer, J. E. Edgcome; secretary, C. McArthur Butler, Staple Inn-bldgs. S., Holborn, W.C.

INDIA OFFICE. For officials, *see* GOVERNMENT OFFICIALS—CLASSIFIED SECTION.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Office: 106, Cannon-st., London, E.C. (Telegs.: "Silvergray, London." Teleph. Nos. 726 & 746, Bank.) A. P. Crouch, Esq., secretary. Directors: Major Leonard Darwin (chairman); Robert Kaye Gray, Esq., M.I.C.E. (engineer-in-chief & managing); J. Y. Buchanan, Esq., F.R.S.; Lt.-Col. A. Weston Jarvis, C.M.G.; Chas. H. Moore, Esq.; The Hon. Hy. Marsham (extraordinary). Nominal capital: £812,000 in ordinary shares. Issued: £500,000 in fully paid shares of £10, & 4 per cent. first mortgage debentures £400,000 secured by trust deed, dated March 27, 1906. Dividends: 1900, 1901, 1902 & 1903, 10 per cent.; 1904, 5 per cent.; 1905, 10 per cent. *See advt. outside back cover.*

Indian & Colonial Development Co., Ltd., Worcester House, Walbrook, London, E.C.

Indian & Eastern Engineer (monthly; ann. sub., 20*s.*), 50, Fenchurch-st., London, E.C. (Telegs.: "Gasify, London." Teleph. No. 6164, Central.)

Indian Electric Supply & Traction Co., Ltd., 20, St. Helen's-pl., London, E.C. Registered April 11, 1905. Nominal capital: £600,000 in £5 shares. A charge, dated May 4, 1905, to secure the amount to be expended on or in relation to the company's Cawnpore undertaking (being supplemental to a deed of April 20, 1905, covering £125,000 debenture stock), has been registered. Issued: 1007 shares & £125,000 6 per cent. construction debenture stock. Directors: Sir W. R. Lawrence, Bart., G.C.I.E. (chairman); A. P. Simpson, Esq.; J. G. B. Stone, Esq.; D. Cruickshank, Esq.; W. H. Cheetham, Esq. Secretaries, Kilburn, Brown & Co.

Indo-European Telegraph Co., Ltd., 18, Old Broad-st., 6 & 8, Lime-st.-sq., & 10 & 11, Mincing-lane, London, E.C. (Telegs.: "Indo, London." Teleph. No. 1721, London Wall.) Registered April 8, 1868. Nominal capital: £450,000 in ordinary shares of £25 each; 17,000 have been taken up & £425,000 paid. Directors: J. H. Tritton, Esq. (chairman); Sir Wm. R. Brooke, K.C.I.E.; L. Delbrück, Esq., Berlin; John von Berenberg Gossler, Esq., Hamburg; C. Holland, Esq.; Sir Francis Mowatt, P.C., G.C.B.; Geo. Plate, Esq., Bremen; T. W. Stratford-Andrews, Esq. (managing director). John I. Bethell, secretary. Dividends: 1902, May 1, £1 17*s.* 6*d.* per share; Nov. 1, 12*s.* 6*d.* per share; 1903, the same; 1904, *interim*, 12*s.* 6*d.* paid Nov., 1904, £2 12*s.* 6*d.* paid May, 1905; 1905, *interim*, 12*s.* 6*d.* paid Nov., 1905, £2 12*s.* 6*d.* paid May, 1906; 1906, *interim*, 12*s.* 6*d.* paid Nov., 1906.

Industrial Engineering Co., manufacturers of dynamos & motors, Hyde, Manchester.

Industrial Motor Review (weekly, 1*d.*), 89, Fleet-st., London, E.C.

Industrial Railways Co., Ltd., 147, Cannon-st., E.C.

Ingersoll-Rand Drill Co., makers of blasting batteries, 114, Queen Victoria-st., London, E.C. (Telegs.: "Ingersoll, London." Lieber's Code used. Teleph. No. 5523, Bank.)

Ingham, W. P., engineer & manufacturer of the "Ingham" gas producer, Middlesborough. (Teleph. No. 269.)

Ingleton Electric Lighting & Power Co., Ltd., Ingleton, Yorks. Registered Feb. 22, 1899. Capital: £4000 in £1 shares, 3171 of which have been taken up & paid for in full. £400 debentures, created Jan. 27, & dated April 4, 1905, subject to prior debentures for £3200, have been filled. Directors: G. H. Padgett, Esq. (chairman); R. Atkinson, Esq.; W. Atkinson, Esq.; C. Bentham, Esq.; J. Barker, Esq.; J. H. Cragg, Esq.; N. Fisher, Esq.; T. Harris, Esq.; W. Mackay, Esq.; J. C. Walker, Esq.; J. Brookes, Esq. (managing & secretary). Engineer, D. Tattersall.

Inglis, Hugh, A.M.I.M.E., motor cars, electrical & mechanical engineer, managing director Omnium Wholesale Supply Co., Pinner, Middlesex. (Telegs.: "Inglis, Eastcote.")

Inglis, J. M., installation contractor, 19, Queensferry-st., Edinburgh.

Ingoldby, T. E., B.A. (Cantab), A.M.I.E.E., A.M.I.C.E., c/o Siemens Bros. Dynamo Works, Stafford.

Ingram, Alfred, A.M.I.E.E., 36, Cranhurst-rd., Willesden Green, London, N.W.

Ingram, Alfred, & Co., electric railway materials, Queen Anne's-chbrs., Westminster, London, S.W.

Ingram, E. Ll., M.I.E.E., chief engineer, Bournemouth & Poole Electricity Supply Co., Ltd., Verulam House, Yelverton-rd., Bournemouth. (Telegs.: "Electric, Bournemouth." Teleph. Nos.: 199 & 257, Bournemouth; 13, Christchurch; & 2 X., Poole.)

Ingram & Co., electric organ builders, The Organ Works, Hereford; London & Liverpool.

Ingram & Kemp, Ltd., electric light fittings manufacturers, Newtown-row, Birmingham. (Telegrams: "Gaslight, Birmingham." Telephone No. 471.)

Ings, Walter, A.I.E.E., electrical engineer, 15, Ellingham-rd., Shepherd's Bush, London, W.

Inkpen, J. & W. T., electricians, 71, City-rd., London, E.C. (Teleph. No. 8995, London Wall); & 510A, Kingsland-rd., London, N. (Teleph. No. 651, North.)

Innes, Albert, A.I.E.E., 7, South Parade, Leeds. (Teleph. No. 37 Y.)

Innes, C. H., M.A., professor of applied mathematics, Rutherford College, Newcastle-on-Tyne.

Innes, W., assistant borough electrical engineer, Poplar, London, E.

Inniss & Riddle, electrical & mechanical engineers, City-chbrs., New-st., Birmingham. (Telegs.: "Powerful, Birmingham." Teleph. No. 2425, Central.)

Inrig, Alec. Gavan, electrical engineer, 75, Radbourne-rd., London, S.W.

Institute of Chemical Technology & Analytical Laboratory (A. Norman Tate & Co.), Hackin's Hey, Dale-st., Liverpool.

Institute of Scientific Research, 20, Easy-row, Birmingham.

Institution of Civil Engineers, The (J. H. T. Tudsbery, D.SC., secretary), Great George-st., London, S.W. (Telegrams: "Institution, London." Telephone No. 51, Westminster.)

Institution of Civil Engineers of Ireland (M. Backhouse, M.A.I., T.C.D., hon. sec.), 35, Dawson-st., Dublin.

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Institution of Engineers & Shipbuilders in Scotland, 207, Bath-st., Glasgow.

Institution of Heating & Ventilating Engineers, 99, Fonthill-rd., Finsbury Park, London, N. (Telegrams: "Instoventi, London.") Secretary, Arthur Taylor.

INSTITUTION OF MECHANICAL ENGINEERS (Edgar Worthington, secretary), Storey's Gate, St. James's Park, Westminster, S.W. (Telegrams: "Mech, London." Teleph. No. 264, Westminster.)

Institution of Mining Engineers (Maurice Deacon, president; M. Walton Brown, secretary), Neville Hall, Westgate-rd., Newcastle-upon-Tyne. (Telegs.: "Moneo, Newcastle-upon-Tyne." Nat. Teleph. No. 2201, Central.)

Institution of Mining & Metallurgy (C. McDermid, sec.), Salisbury House, London, E.C. (Telephone No. 236, London Wall.)

Insulating Syndicate, Ltd., 63, Crutched Friars, London, E.C. (Telegrams: "Hobnails, London." Telephone No. 5931, Avenue.)

International Dowsing Electric Heating & Appliances Co., Ltd., 24, Budge-row, London, E.C.

INTERNATIONAL ELECTRIC CO. (sole depôt for Mix & Genest, Ltd.; H. Oppenheimer, manager), telephone manufacturers & electrical engineers, 55, Red Cross-st., Barbican, London, E.C. (Telegrams: "Genest, London." Telephone Nos.: 129, Bank; & 11818, Central); & 34, Robertson-st., Glasgow. (Telegrams: "Megohm, Glasgow." Telephone No. 5277, Royal.) *See advt., page* 29.

International Electric Railways & Water Power Syndicate, Ltd. Registered Oct. 21, 1905. Nominal capital: £120,000 in £20 shares.

International Electric Traction & Power Syndicate, Ltd., Tower-chbrs., 29, Brown-st., Manchester. *In voluntary liquidation.* Liquidator, J. Morris, 33, Brazennose-st., Manchester.

INTERNATIONAL ELECTRICAL ENGINEERING CO., manufacturers of electric lighting, traction & power transmission plant, Clun House, Surrey-st., Strand, W.C. (Telegrams: "Clunch, London." Telephone No. 3227, Gerrard.)

International Ethiopian Railway Trust & Construction Co., Ltd., 34, Clements-lane, London, E.C. Registered June 27, 1901. Nominal capital: £500,000 in £1 ordinary shares, £167,000 debentures, 70 per cent. redeemed, £50,100 outstanding. Issued: £308,507 ordinary shares, 500 5*s.* paid & balance fully paid, & £50,100 debentures. Directors: Sir Chas. Euan-Smith, K.C.B., C.S.I., &c.; A. L. Ochs, Esq.; Lord Chesterfield; R. Baudouy, Esq.; A. H. W. Laye, Esq.; Captain Stracey Clitherow. Secretary, Thomas Day.

International Lighting Association, Ltd., 8, Hill-st., Edinburgh. (Telegrams: "Pattullo, Edinburgh." Telephone No. 2179.)

International Oil Co., lubricant manufacturers, 120, Fenchurch-st., London, E.C. (Telegrams: "Tropic, London." Telephone No. 1081, Avenue.)

International Okonite Co. *See* Okonite Co., Ltd.

International Rubber Co., 144, Commercial-st., Newport, Mon.

International Trade Exhibitions, Ltd., Broad-st. House, London, E.C. H. L. Benjamin, managing director. (Telegrams: "Promenade, London." Telephone No. 547, London Wall.)

Inverness Electricity Works, Scotland. North of Scotland Electric Light & Power Co., Ltd., proprietors. Engineer & manager, E. J. Williams. (Teleph. No. 111.)

Invincible Manufacturing Co., turbine water-wheel makers, 37 & 38, Seething-lane, London, E.C. (Telegrams: "Invinxerit, London." Telephone No. 6010, Avenue.)

Ionides, Alexander G., B.A., M.I.E.E., 116, Chancery-lane, London, W.C.

Ionides, P. D., electrical engineer, c/o British Westinghouse Co., 65, Renfield-st., Glasgow.

Ipswich Corporation Electricity Supply & Tramways. (Telegs.: "Ayton, Tramways, Ipswich." Teleph. No. 354, Ipswich.) Chief engineer & manager, F. Ayton, A.M.I.E.E.

Ireland, T., chief telegraph superintendent & engineer, Great Northern Railway Co., Retford.

Irish Electrical Agency, Ltd., Sanctuary House, Tothill-st., Westminster, London, S.W.

Irish Engineering & Industrial Review (monthly, 3*d.*), 15, Talbot-pl., Dublin.

Irish Technical Press, Ltd., 18, Fleet-st., Dublin.

Iron & Coal Trades' Review, The (weekly, 6*d.*, £1 per ann.), an illustrated journal for the coal, iron & allied trades, 165, Strand, W.C. (Telegrams: "Zacatecas, London." Telephone No. 2546, Gerrard.)

Iron & Copper Enamelling Co., metal shades & reflectors, 61, Farringdon-rd., E.C. (Tel. No. 1393, Holborn.)

Iron & Steel Fencing & Buildings Co., manufacturers of iron poles, &c., Baltic-chbrs., 50, Wellington-st., Glasgow. (Telegs.: "Orr, Glasgow." Teleph. No. 381, Argyle.)

Iron & Steel Institute, 28, Victoria-st., Westminster, London, S.W. (Telegrams: "Irosamente, London." Telephone No. 853, Victoria.)

Iron & Steel Trades Journal & Colliery Engineer (*weekly*, price 6*d.*; 20*s.* per ann. if paid in advance), Eldon-chbrs., 30, Fleet-st., London, E.C. (Telegs.: "Cerebellum, London.")

Ironmonger, Universal Engineer & Metal Trades Advertiser (*weekly*; price 10*s.* per ann.), 42, Cannon-st., London, E.C. (Telegrams: "Ironmonger, London." Telephone No. 852, Bank.)

Ironside, William D., C.E., director Aberdeen Electrical Engineering Co., Ltd., 17, Belmont-st., Aberdeen.

Irvin & Sellers, hard wood turners for electrical purposes, Preston. (Telegs.: "Primus, Preston." Teleph. No. 20.)

Irvine, Fearnside, M.I.E.E., A.M.I.C.E., consulting engineer, 1, London Wall-bldgs., London, E.C. (Telegs.: "Torquendo, London." Teleph. No. 9237, Central.)

Irvine, H. A., A.M.I.E.E., 51, Fountain Hall-rd., Edinburgh.

Irvine Chemical Co., Ltd., manufacturing chemists, 204, St. Vincent-st., Glasgow. (Telegrams: "Alkali, Glasgow." Teleph. No. 201, Argyle.)

Irving, G., & Co., Ltd., electrical engineers, 12, Canal-st., Nottingham. (Teleph. No. 62.)

Irwell & Eastern Rubber Co., Ltd., manufacturers of mechanical & other rubber goods, Mill-st., Ordsall-lane, Salford (Telegrams: "Para, Manchester." Telephone Nos. 726 & 4991); 4, Lloyd's-ave., Fenchurch-st., London, E.C. (Telegrams: "Colsell, London." Telephone No. 2077, P.O., Central); 58, Queen-st., Hull (Telegrams: "Belting, Hull." Telephone No. 644); & 25, Hope-st., Glasgow. (Telegrams: "Tinto, Glasgow." Telephone No. 1325, Royal.)

Irwin, John T., A.M.I.E.E., lecturer on dynamo machinery design, Central Technical College, Exhibition-rd., London, S.W.; & 27, Bohemia-ave., Chiswick, W.

Isaac, Chas., A.I.E.E., Craigmore, Sutton, Surrey.

Isca Foundry Co., railway plant & general engineers, Newport, Mon. (Nat. Teleph. No. 170); & 16 & 17, Devonshire-sq., Bishopsgate-st., London, E.C. (Telegs.: "Isca, Newport, Mon.;" & "Isca, London.")

ISENTHAL & CO., ELECTRIC HEATING & COOKING, &C., 85, MORTIMER-ST., LONDON, W. (TELEGS.: "ISENTHAL, LONDON." TELEPH. NO. 4829, GERRARD.) *See advt. under* HEATING & COOKING APPARATUS.

ISHERWOOD, W. H., & CO., manufacturing electrical & mechanical engineers, Carlton Mills, Leeds. (Teleph. No. 2670.)

Isle of Thanet Electric Tramways & Lighting Co., Ltd., Moorgate Station-chbrs., London, E.C. Registered Nov. 3, 1896. Directors: Lord Arthur Butler (chairman); H. Brown, Esq.; W. M. Murphy, Esq.; H. C. Levis, Esq. Electrical engineer & manager, R. Humphries, A.M.I.E.E.; secretary, J. Barber Glenn. Nominal capital: £300,000 in 30,000 £5 ordinary shares & 30,000 £5 5 per cent. preference shares & £300,000 debenture stock. All the ordinary & preference are issued & fully paid & £150,000 debenture stock. Trust deed, dated July 6, 1904 (supplemental to two trust deeds, dated Jan. 18 & Aug. 5, 1902, each securing £50,000 debenture stock), has been registered. Dividends on ordinary shares, *nil.*

Isle of Wight Electric Light & Power Co., Ltd. Head office: Electricity Works, Ventnor. (Teleph. No. 43, Ventnor.) Bonchurch; Sandown; Shanklin; Cowes; Newport; & Ryde. Registered Aug. 21, 1897. Nominal capital: £100,000 in 20,000 ordinary shares of £5 each, £50,000 in 10,000 5 per cent. cumulative preference shares of £5 each & £65,902 4½ per cent. debenture stock. All issued & fully paid. An acknowledgment of indebtedness, dated July 25, 1905, supplemental to a trust deed, dated Aug. 21, 1903, to secure the debenture stock, has been registered. Directors: F. E. Gripper, Esq. (chairman); J. C. Wigham, Esq.; W. T. Pressland, Esq.; Captain R. M. Alexander; Lieut.-Colonel J. F. C. Hamilton. Engineer & manager, A. E. Mayes; secretary, H. E. Corner.

Isler, C., & Co., artesian well engineers, Artesian Works, Bear-lane (Telegrams: "Isler, London"); & Edward-st., London, S.E. (Telephone No. 4849, Hop.)

Islington Borough Council Electricity Supply. Chairman, H. B. Vorley; electrical engineer, Albert Gay, Eden Grove, Holloway, N. (Telephone No. 115, North.)

Ison, White & Bedford, auctioneers to the metal trade, 40 & 41, Upper Thames-st., E.C. (Telegrams: "Eisen, London." Telephone No. 5619, Bank.)

Ivens, Thos. E., A.M.I.C.E., 18, King's-ave., Ealing. Director Madras Electric Supply Corp., Ltd.

Ivey, Wm., tramway & traction Parliamentary specialist, 171, Barking-rd., London, E. (Telegs.: "Ivey, Canning Town." Teleph. No. 3419, East.)

Ivimy, Alfred C., Leeds Electric Lighting Department, Whitehall-rd., Leeds.

Ivison, Edgar J., electrical engineer, Victoria Exchange, London, S.W.

Ivor-Moore, T., A.I.E.E., A.M.I.C.E., War Office, Atterbury-st., Grosvenor-rd., London, S.W.

IZANT, ALFRED, practical electrician, electrical instrument maker, electric bell fitter, & electric light contractor, 6, Lorenzo-st., King's Cross, London, W.C. (Teleph. No. 1559, Central.)

Jack, Alex., M.A., professor of civil engineering, Queen's College, Cork.

Jack, John Watson, A.I.E.E., electric lighting specialist, 37, Queensferry-st., Edinburgh. (Teleph. No. 1774.)

Jack, W., LL.D., D.SC., professor of mathematics, The University, Glasgow.

Jackaman, C. J., Highfield, Slough, Bucks. Director Slough & Datchet Electric Supply Co., Ltd.

Jackman, Jas., A.I.E.E., 74, Sandgate-rd., Folkestone.

Jackman & Marchant, electrical engineers & contractors, 74, Sandgate-rd., Folkestone. (Teleph. No. 157.)

Jacks, William, & Co., iron & steel merchants, 5, East India-ave., London, E.C. (Telegs.: "Alkalize, London." Teleph. No. 299, Avenue.)

Jackson, —, electrical engineer, Brunswick-st., Dublin.

Jackson, Alfred Edward, M.I.E.E., c/o Kincaid, Waller, Manville & Dawson, 29, Great George-st., Westminster, London, S.W.

Jackson, C. W., assistant electrical engineer, Corporation Electricity Works, King's Lynn.

Jackson, Edgar, analytical chemist, 106, Queen Victoria-street, London, E.C.

Jackson, F. A., A.I.E.E., electrical engineer, G. N. C. Mann & Co., Bank Plain, Norwich. (Tel. No. 752.)

Jackson, F. H., M.I.E.E., City of London Electric Lighting Co., Ltd., 64, Bankside, London, S.E. Chairman South American Light & Power Co., Ltd.

Jackson, G. H., M.I.E.E., M.I.M.E., chief engineer, Northampton Electric Light & Power Co., Ltd., 25, Bridge-st., Northampton. (Telegs.: "Electricity, Northampton." Teleph. No. 183.)

Jackson, H., electrician, 97, Drayton-gdns., South Kensington, London, S.W.

Jackson, H., M.I.E.E., telegraph superintendent & engineer, Lancashire & Yorkshire Railway Co., Glenthorn, Horwich. (Telephone No. 5.)

Jackson, H., electrical engineer, 8, Berners-st., London, W. (Telegrams: "Detector, London." Telephone No. 3975, Gerrard.)

Jackson, Harry, A.M.I.C.E., A.M.I.E.E., Council House, Birmingham.

Jackson, Henry, electric bell & telephone fitter, York-rd., West Hartlepool; & 134, Westfield-rd., Leeds.

Jackson, H. B., Rear-Admiral, R.N., K.C.V.O., F.R.S., M.I.E.E., A.I.N.A., controller of the Navy, Admiralty, London, S.W.; & Minster House, St. James Court, Buckingham Gate, London, S.W.

Jackson, H. F., electrical engineer, 31, Budge-row, Cannon-st., London, E.C. Director Anglo-Portuguese Telephone Co., Ltd.

Jackson, Herbert, A.M.I.E.E., 81, Station-st., Langley Mill, Notts.

Jackson, J., electrical engineer, 131, Union-st., Oldham.

Jackson, Jas. W., A.I.E.E., 24, Gledhow-ave., Leeds.

Jackson, Robert Cattley, M.I.E.E., c/o British Thomson-Houston Co., Ltd., King's-ct., Colmore-row, Birmingham. (Telegs.: "Asteroidal, Birmingham." Teleph. No. 3410.)

Jackson, W., J.P., Thorngrove, Aberdeen. Director Aberdeen Suburban Tramways Co.

Jackson, W. A., boro' electrical engineer & manager, Corporation Electricity Dept., West Bromwich.

JACKSON BROS., Electrical Engineers & Contractors, Broadway, Plaistow, London, E. (Telephone No. 874, Eastern.)

Jackson Bros., Ltd., slide rule manufacturers, &c., Bankfield Mills, Armley, Leeds.

Jackson, C. F., & Co., electrical engineers, 13, Size-lane, Queen Victoria-st., London, E.C.

Jackson, F., & Co., electrical apparatus makers, 14, Cross-st., Manchester. (Telegrams: "Apparatus, Manchester." Telephone No. 2038.)

Jackson, H. A., & Co., manufacturing electrical engineers, Caxton Hall, Chapel-st., Salford, Manchester. (Telegs.: "Armoured, Manchester." A.B.C. & Lieber's Codes. Teleph. No. 5437.)

Jackson, P. R., & Co., Ltd., mechanical & electrical engineers, gear wheel makers, Salford Rolling Mills, Manchester. (Telegrams: "Jacksons, Manchester." Telephone Nos. 623 & 5079. P.O. Trunk line No. 31. A.B.C. Code, 5th Edition.)

Jacob, Arthur, M.I.E.E., Siemens Bros. & Co., York Mansions, York-st., Westminster, S.W.; & 60, Campden Hill-ct., Kensington, London, W.

Jacob, E. S., M.I.E.E., electrical engineer, 119, Victoria-st., London, S.W.; & 16, St. John's Wood Park, London, N.W.

Jacob, F., M.I.C.E., Ellesdene, Beaconsfield-rd., Westcombe Park, London, S.E.

Jacob, H. F. D., A.M.I.E.E., c/o Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st., Westminster, London, S.W.

Jacob & Schreppel, makers of porcelain fittings, &c., 28 & 29, London Wall, London, E.C. (Telegrams: "Schreppel, London." Teleph. No. 9846, Central.)

Jacobs, Robert E., electrical engineer, Baily, Grundy & Barrett, Ltd., 2, St. Mary's-passage, Cambridge.

Jacoby, H., electrical engineer, White, Jacoby & Co., 54, Bayham-pl., Camden Town, N.W.

Jacomb-Hood, John W., M.I.E.E., Engineer's Office, Waterloo Station, London, S.E.

Jacques, H. S., & Co., electricians, 21, Duke-st., Whitehaven. (Telegrams: "Jacques, Electricians, Whitehaven." Telephone No. 2 X. 2.)

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Jagger, J. & G., wire drawers, Old Wire Mills, Thurgoland, Sheffield.

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James, H. V., A.I.E.E., electrical engineer & manager Bergtheil & Young, Ltd., 12, Camomile-st., Bishopsgate, London, E.C.

James, Hon. R., St. Nicholas, Richmond, Yorks. Director Cleveland & Durham County Electric Power Co.

James, Matthew C., electrical engineer, 39, Beverley-ter., Cullercoats, Northumberland.

James, W. H. N., A.R.C.Sc., A.I.E.E., Spire Hollin, Glossop.

James, Wm., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 138, High-st., Ton-yr-efail.

James, A. A., Ltd., wire workers & weavers, sheet metal & general wrought iron workers, St. George's Works, Paradise-st., West Bromwich. (Telegrams: "James Wireworks, Westbromwich." Telephone No. 19 X., West Bromwich.)

James & Browne, motor carriage engineers. Works: Hammersmith, London, W. (Telegrams: "Jemminess, London." Telephone No. 215, Hammersmith.) Show-rooms: 395, Oxford-st., London, W. (Telegrams: "Voitures, London." Telephone No. 3837, Gerrard.)

James, C., & Co., screw, terminal & small detached accessories makers, 155, Fenchurch-st., London, E.C. (Telegrams: "Semaj, London." Telephone No. 4041, Avenue.)

James & Gurney, electrical engineers, 44, Park-st., Camden Town, London, N.W. (Teleph. No. 702, North.)

James, John, & Son, chemical merchants, 21, Lime-st., London, E.C. (Telegrams: "Quickly, London." Telephone No. 2479, Avenue.)

"James Watt" Laboratories, University, Glasgow. Director, Prof. A. Barr, D.Sc., M.I.C.E.; manager, J. S. Nicholson, B.Sc., WH.Sc.

Jamieson, James, agent for the Midland Electric Wire Co., Leicester, 212A, St. Vincent-st., Glasgow.

Jamieson, John, A.I.E.E., 1, Keildon-rd., Clapham Common, London, S.W.

Jamieson, Prof. A., F.R.S.E., M.I.C.E., M.I.E.E., &c. (*Electrical Engineering Science Taught by Correspondence*), 16, Rosslyn-ter., Kelvinside, Glasgow.

Jamieson, Walter, B.Sc. (Lond.), A.M.I.E.E., 6, Ralston Drive, Ibrox, Glasgow.

Jandus Arc Lamp & Electric Co., Ltd. Registered offices: Lombard-chbrs., 46, Brown-st., Manchester. A. A. Gillies, F.C.A., sec. Works: Hartham-rd., Holloway, N. (Telegrams: "Jandunus, London." Telephone No. 471, North.) Sole agents: Drake & Gorham, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Accumulator, London." Telephone Nos.: 71 & 393, Westminster; & P.O. 1218, Victoria.) This company was registered on April 24, 1895. Capital: £30,000 in £10 shares. Issued: £14,435, part paid up in full & part paid £5 per share. Mortgages & charges, £8000. Directors: Ed. N. Galloway, Esq. (chairman); John T. Petro, Esq.; T. A. Earle, Esq.; B. M Drake, Esq.; J. M. Gorham, Esq.

Jandus Arc Lamp (Continental Patents) & Electric Co., Ltd., 46, Brown-st., Manchester.

Japp, F. R., LL.D., F.R.S., professor of chemistry, The University, Aberdeen.

Japy Frères & Co., electrical manufacturers, 22, Goswell-rd., E.C. (Telegs.: "Changeable, London." Teleph. No. 620, P.O. Central.)

Jaques, O. S., Erin Manor, Burgess Hill. Director Burgess Hill & District Electric Supply Co., Ltd.

Jaray, Alfred, A.M.I.E.E., electrical engineer, 66, Berners-st., London, W.

Jaroslaw, D., mica merchant, slab & cut mica for insulation, 5, George-st., Tower Hill, London, E.C. (Telegrams: "Monazite, London." A.B.C. Code used.)

Jarratt, J. T., maker of lathes for electricians, 57, Highcross-st., Leicester. (Telephone No. 04467.)

Jarrow & District Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C. Registered Sept. 30, 1903. Nominal capital: £50,000 in £1 shares, all issued, & £25,000 debentures. Directors: W. J. Greer, Esq. (chairman); G. J. Somerville, Esq.; R. P. Simpson, Esq. Secretary, C. H. Godward.

Jarrow Electricity Works (County of Durham Electrical Power Distribution Co.), Jarrow. General manager, A. S. Esslemont; technical manager, J. S. Watson.

Jarvis, Lieut.-Col. A. Weston, C.M.G., 66, Park-st., Grosvenor-sq., W. Director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.; director Spanish National Submarine Telegraph Co., Ltd.

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Jasper, H., Woodstock-rd., Strood, Kent. Director Kent Electric Power Syndicate, Ltd.; director Kent Electric Power Co.

Jay, Col. W., director Commercial Cable Co.

Jay, Henry Francis, A.I.E.E., 17, Lorrimore-sq., Kennington, London, S.E.

JEACOCK, W., divider & engraver, 14, Gloucester-st., London, E.C. (Teleph. No. 4892, Holborn.)

Jeakes, C., & Co., electrical engineers, 51, Great Russell-street, London, W.C.

Jeboult Bros., electrical contractors, 194, Broadhurst-gdns., West Hampstead, London, N.W.

Jeckell, J. A., A.I.E.E., manager & engineer, Corporation Electricity Works, Coventry.

Jedburgh Electricity Works, Jedburgh, Roxburgh. The Electric Supply Corporation, Ltd., proprietors. Chief engineer, K. A. Scott-Moncrieff.

Jefcoat, Chas., A.R.C.SC., A.I.E.E., lecturer in physics & electrical engineering, Municipal Technical School, Belfast.

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Jeffreys, A. G., A.I.E.E., 35A, St. James-st., London, S.W.

Jeffries, J., A.M.I.E.E., M.S.A., electrical engineer, 29, Court-rd., Balsall Heath, Birmingham.

Jeken, H. G., chief assistant electrical engineer, Leeds City Tramways, Leeds.

Jelf, J. F., assistant controller, Central Telegraph Office, London, E.C.

Jenkin, Bernard M., M.I.C.E., M.I.M.E., M.I.E.E., 17, Victoria-st., Westminster, S.W. (Telegrams: "Kinematic, London." Teleph. No. 621, Westminster.)

Jenkin, C. F., A.M.I.C.E., M.I.E.E., 34, Ladbroke-sq., London, W.

Jenkin, John, M.I.E.E., Postal Telegraphs, Cambridge.

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Jenkins, L., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 138, High-st., Tonyrefail.

Jenkins, Robert, castings, forgings & stampings for dynamos & other electrical work, 88, Bishopsgate-st. Within, London, E.C. (Telegrams: "Permeable, London." Telephone No. 8205, Central.)

Jenkins, T. A., electrical engineer, Heolgerrig, Merthyr-Tydfil.

Jenkins, John, & Co., builders' merchants, &c., 55, Camberwell-rd., London, S.E. (Telegs.: "Dignanter, London." Teleph. Nos. 751 & 771, Hop.)

Jenkins, W., & Son, lightning conductor manufacturers & erectors, 7, Trinity-st., Leamington.

Jenkins, W. J., & Co., Ltd., electrical & mechanical engineers, Beehive Works, Retford, Notts.

Jenkinson, B. H., C.E., A.M.I.E.E., consulting electrical engineer, 9, Gray's Inn-sq., London, W.C. (Teleph. No. 3606, Central); & 88, Crouch Hill-rd., Crouch End, N.

Jenks, A. E., & Cattell, washers & rivets, Heath Town, Wolverhampton. (Telegrams: "Washers, Wolverhampton." Telephone No. 104.)

Jennings, E. J., A.I.E.E., West Walls, Westgate-rd., Newcastle-on-Tyne. (Telegrams: "Potential, Newcastle Tyne." Telephone No. 04429.)

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Jennings, C., & Co., conduits & wood work, Pennywell-rd., Bristol. (Telegs.: "Stairs, Bristol." Teleph. No. 288.)

Jennings, George, Ltd., electrical engineers, 65 & 67, Lambeth Palace-rd., London, S.E. (Telegrams: "Jennings, London." Telephone No. 680, Hop.)

Jenrick & Crocker, electric light contractors, 233, Borough High-st., London, S.E. (Teleph. No. 4833, Hop.)

Jensen, W., A.M.I.E.E., engineer & manager Chatham & District Light Railways Co., Chatham.

Jensen & Son, chartered patent agents, 77, Chancery-lane, London, W.C. (Telegrams: "Venture, London." Telephone No. 1249, Holborn.)

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Jervis-Smith, Rev. F. J., M.A., M.I.E.E., F.R.S., Millard lecturer in experimental mechanics, Trinity College, & University lecturer in mechanics, Oxford.

Jesson, Birkett & Co., Ltd. (late Faulkner Bronze Co., Ltd.), art metal workers, 27, Ely-pl., London, E.C. (Teleph. No. 2216, Holborn.)

Jessop, W., assistant engineer, Electric Light Works, Eastbourne.

Jessop, Wm., & Sons, Ltd., manufacturers of steel of every description, forgings & castings, Brightside Works, Sheffield (Telegs.: "Jessops, Sheffield." Nat. Teleph. No. 152); & 54, Cannon-st., London, E.C.

Jevons, S., Ltd., electrical contractors, Constitution Hill, Birmingham. (Teleph. No. 4413.)

Jewell, C. J., A.M.I.E.E., 12, Chesterfield-st., Argyle-sq., London, W.C.

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Jewsbury, J., & Co., art metal workers, 71, Broad-st., Birmingham. (Nat. Telephone No. 3399.)

Jewson, F. K., A.I.E.E., telephone engineer, Western Electric Co., North Woolwich, London, E.

Jobling, J. A., manganese mines owner, St. Nicholas-chbrs., Newcastle-on-Tyne. (Telegs.: "Manganese, Newcastle-on-Tyne." Teleph. No. 1930, Nat.)

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Johnson, C., electrical engineer, Cookridge-st., Leeds.

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Johnson, E. E., director Railway Lighting, Ltd., 78, King-st., Manchester.

Johnson, E. F., manager Electrical Dept., Croggon & Co., Ltd., 230, Upper Thames-st., London, E.C.

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Johnson, H., engineer, Mexborough, Swinton & Rawmarsh Tramways Co., Ltd., Rawmarsh, Yorks.

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Johnson, Herbert B., A.M.I.E.E., 46, Swanage-rd., Wandsworth, London, S.W.

Johnson, Hilton, A.M.I.E.E., A.M.I.MECH.E., electrical & mechanical engineer, 5, Bloomsbury Mansions, Hart-st., London, W.C. (Telephone No. 5612, Central.)

Johnson, H. S., director Oulton Broad Electricity Co., Ltd., Oulton Broad, Suffolk.

Johnson, John Henry, A.M.I.E.E., 15, Mayhill-rd., Charlton-rd., London, S.E.

Johnson, R., assistant superintending engineer, Post Office Telegraph Dept., Moseley, Birmingham.

Johnson, R. B., A.I.E.E., electrical engineer, 48, Watling-st., London, E.C. (Telephone No. 8174, Bank.)

Johnson, T. B., A.I.E.E., 96, Adelaide-rd., Brockley, S.E.

Johnson, T. H., resident engineer, South Wales Electrical Power Distribution Co., Cwmbram.

Johnson, W., installation contractor, 35, Nelson-rd., Worcester.

Johnson, W., scientific & electrical instrument maker, 188, Tottenham Court-rd., London, W.

Johnson, W. B., electrical engineer & patent adviser, 4, Clayton-sq., Liverpool. (Telegrams: "Inventions, Liverpool." Telephone No. 1593, Royal.)

Johnson, Walter Claude, M.I.E.E., M.I.C.E., F.R.A.S., Broadstone, Colemans Hatch, Sussex. Chairman D.P. Battery Co.

Johnson & Appleyards, Ltd., electrical engineers, Fargate, & Leopold-st., Sheffield.

Johnson Bros., electricians, Idle-rd., Bradford. (Telephone No. 02554.)

Johnson, C. H., & Sons, Ltd., wire drawers & manufacturers, Manchester Wire Works, Smedley-rd., Manchester. (Telegrams: "Irkdale, Manchester.")

Johnson & Co., electrical contractors, Leopold-st., Sheffield.

Johnson, E., & Co., cotton waste, cordage, &c., Mary Ann-st., Birmingham.

Johnson Economiser & Smoke Consumer, Ltd., 6, Lloyd's-ave., London, E.C.

Johnson, George, & Son, paraffin wax manufacturers, 34, Bishopsgate-st. Within, London, E.C. (Telegrams: "Jeshurun, London." Telephone No. 9208, London Wall.)

Johnson & Hooper, manufacturing chemists, Marsh Gate-lane, Stratford, London, E. (Telegrams: "Kindersley, London." Telephone No. 6096, Stratford. A.B.C. Code used.)

Johnson, J. H. & S., scientific & chemical apparatus makers, 6, 8 & 10, Whitechapel, Liverpool. (Telegrams: "Sodium, Liverpool." Telephone No. 700, Central.)

Johnson & Johnson, manufacturing chemists, 104, Golden-lane, Barbican, E.C. (Telegrams: "Porous, London.")

JOHNSON, MATTHEY, & CO., LTD., platinum refiners & dealers (wholesale), 74–81, Hatton Garden, London, E.C. (Telegrams: "Matthey, London." Telephone No. 568, Holborn.)

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent (Telegs.: "Juno, Charlton, Kent." Teleph. No. 75, Central); & 14, Union-ct., Old Broad-st., London, E.C. (Telegs.: "Juno, London." Teleph. No. 2207, Central), electric light & power & telegraph engineers, manufacturers of dynamos, motors, alternators, transformers, arc lamps, cables & wires, accumulators, insulators, carbons, measuring instruments, supply meters, &c., contractors for central stations & transmission of power plants; makers of paying out & picking up gears, dynamometers, bow & stern gears, leads, buoys, grapnels, centipedes, buoy rope, &c. Complete outfits for submarine cable factories & vessels. Every description of machine for cable making & wire covering, including stranding, cabling, indiarubber, gutta-percha, cotton, silk & other covering, &c., &c. Registered June 17, 1905. Nominal capital: £175,000 in £1 ordinary shares, all issued & fully paid; & £175,000 debentures, all issued & fully paid; & secured by trust deed dated Sept. 28, 1905. Directors: R. W. Blackwell, Esq. (chairman); Sir Hy. Benbow, K.C.B., D.S.O.; J. D. Bonner, Esq.; J. Macgregor, Esq. (joint managing); S. Paterson, Esq. (joint managing). Secretary, H. J. Sheppard. Dividends: 1905, at the rate of 7 per cent. *See advts., inside back cover* & ARC LAMPS.

Johnson, R., Clapham & Morris, Ltd., manufacturers of miners' lamps, dynamo brushes, 24–26, Lever-st., Manchester; & 23, Cheapside, Liverpool. (Telegs.: "Metallicus, Manchester;" "Johnsons, Liverpool." Teleph. Nos.: 6437, Manchester; 5315, Liverpool.)

JOHNSON, RICHARD, & NEPHEW, LTD., wire drawers & manufacturers, Bradford Iron Works, Manchester (Telegs.: "Johnsons, Manchester." Teleph. Nos. 6370 & 6371); 65, London Wall, London, E.C. (Telegs.: "Resistance, London." Teleph. No. 9400, London Wall); & Ambergate Wire Mills, nr. Derby. (Telegs.: "Johnsons, Ambergate.") *See advt.*, WIRE MFRS.—COPPER.

Johnson Secret Wireless Telegraph & Telephone Testing Syndicate, Ltd., 40, King-st., Cheapside, London, E.C. Registered July 7, 1905. Nominal capital: £15,000 in £1 shares. Directors: A. T. M. Johnson, Esq.; W. F. C. Michaelis, Esq. (joint managing); E. J. Richardson, Esq.

Johnson & Sharp, electrical engineers, High-st., Staines.

Johnson & Sons, Manufacturing Chemists, Ltd., manufacturers of chemicals for electricians, 23, Cross-st., Finsbury, London, E.C. (Telegrams: "Caustic, London." Telephone No. 677, London Wall.)

Johnson, Wm., & Co., electricians, 49, Leopold-st., Sheffield. (Telephone No. 787.)

Johnson, William, & Sons (Leeds), Ltd., engineers, Castleton Foundry, Armley, Leeds. (Telegrams: "Ronksley, Armley." Telephone No. 387.)

Johnson, W. H., & Son, electricians, motor & cycle engineers, St. James-st., King's Lynn; & Westgate, Hunstanton.

Johnson-Lundell Electric Traction Co., Ltd., electrical & general engineers, Spencer-st., Southall, Middlesex. (Telegs.: "Distancing, Southall." Teleph. No. 12, Southall.) Registered April 17, 1900. Nominal capital: £300,000 in £5 ordinary shares. Issued: 38,136 with £5 called up & 20,000 fully paid. Directors: A. Mackay, Esq. (chairman); E. H. Johnson, Esq.; H. Webb, Esq.; G. B. Hunter, Esq. Electrical engineer, G. Lang; secretary, A. Tilley, F.C.I.S.

Johnsons & Willcox, chartered patent agents, 47, Lincoln's Inn Fields, London, W.C. (Telegrams: "Lincijohn, London." Telephone No. 356, Holborn.)

Johnston, A., A.I.E.E., engineer, Swansea Improvements & Tramways Co., Swansea.

Johnston, Archibald W., A.M.I.E.E., consulting electrician, 286, Springburn-rd., Glasgow.

Johnston, C. M., M.I.E.E., M.I.MECH.E., borough electrical & consulting engineer, Electricity Works, Shrewsbury.

Johnston, Frank, A.M.I.E.E., Strathleven, Holywood, co. Down.

Johnston, F. A., Electra House, Finsbury Pavement, London, E.C. Director Eastern Telegraph Co., Ltd.; director Black Sea Telegraph Co., Ltd.; director Eastern & South African Telegraph Co., Ltd.; director Western Telegraph Co., Ltd.

Johnston, Hon. C. J., Wellington, N.Z. Director City of Wellington Electric Light & Power Co., Ltd.

Johnston, Jas., elec. inspector, British Engine, Boiler & Elec. Insurance Co., Ltd., 12, King-st., Manchester.

Johnston, J. J. H., M.A., A.M.I.E.E., A.AM I.E.E., electrical engineer, Oakfield, Lenzie, nr. Glasgow. (Nat. Teleph. No. 31, Lenzie.)

Johnston, Leonard, A.M.I.E.E., AM.I.M.E., general manager & engineer, Corporation Light Railways, Gloucester. (Teleph. No. 155.)

Johnston, Stanley, electrical engineer, 7 & 9, Queen-st., Belfast. (Telephone No. 1625.)

Johnston, George, & Co., electrical supplies dealers, 110, Cannon-st., London, E.C. (Telegrams: "Slapjack, London." Telephone No. 8024, Bank.)

Johnston, Park & Co., electrical engineers & contractors, 15, Oswald-st., Glasgow. (Telephone No. 1216.)

Johnston Technical School, Durham. *See* SCHOOLS.

JOHNSTONE, BENJAMIN, & CO., LTD., cable manufacturers for electric lighting, wire coverers for electrical purposes, & fine wire drawers, Crown Electric Works, Ascham-st., Kentish Town, N. (Telegs.: "Subacrid, London." Tel. No. 1920, King's Cross.) *See* CABLE MFRS.—ELECTRIC LIGHT.

Jolin, P., & Co., electrical engineers & scientific instrument makers, 25, Temple-st., Bristol.

Joll, F. W., A.M.I.E.E., electrician, c/o Electrical Co., Ltd., 121-125, Charing Cross-rd., London, W.C.

Jolley, A. C., A.M.I.E.E., Northampton Institute, Clerkenwell, London, E.C.

Joly, Henri L., A.M.I.E.E., A.M.AM.I.E.E., member Sté. Internationale des Electriciens; technical representative of the "Mois Scientifique et Industriel" for England, 32, South Parade, Trafalgar-sq., Chelsea, London, S.W.

Jonas, O. M., A.M.I.E.E., The Grange, Great Shelford, Cambs.

Jonas & Colver, Ltd., magnetic steel manufacturers, Continental Steel Works, Sheffield. (Telegs.: "Jonas, Sheffield." Teleph. Nos. 663, 3112 & 2551.)

Jones, A. Denman, A.M.I.E.E., St. Aubyns, The Vale, Hampstead, London, N.W. (Teleph. No. 471, North.)

Jones, A. W., M.I.E.E., British Thomson-Houston Co., Ltd., 83, Cannon-st., London, E.C.

Jones, Arthur W., A.M.I.E.E., electrical engineer, c/o W. L. Spence, M.I.C.E., M.I.M.E., 31, St. Vincent-pl., Glasgow; & 18, Trefoil-ave., Shawlands, Glasgow.

Jones, B., electric lighting contractor, Castle Hill, Lynton.

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Jones, D. L., 1 & 2, Collenau-rd., Tonyrefail. Director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd.

Jones, E., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester.

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Jones, F. W., Moiravale, Hampton Wick. Director Chili Telephone Co., Ltd., & Ecuador Telephone Co., Ltd.; chairman & managing director Monte Video Telephone Co., Ltd.

Jones, F. W. E., M.I.E.E., chief engineer & manager, Midland Electric Light & Power Co., Ltd., Leamington Spa (Telegrams: "Midland Electric Light, Leamington." Telephone No. 92); & 17, Claremont-rd., Leamington.

Jones, Henry, dynamo manufacturer & electrical engineer, 14, High-st., Lambeth, London, S.E.

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Jones, Herbert, M.I.E.E., electrical engineer, Waterloo & City Railway, Waterloo Station, London, S.E.; & 8, Altenburg-gdns., Clapham Common, London, S.W.

Jones, Herbert A., electrical engineer (managing director Phœnix Dynamo Manufacturing Co., Ltd.), Thornbury Works, Bradford; & "Arisaig," Fagley-rd., Bradford.

Jones, Horace John, A.M.I.E.E., 72, Victoria-st., London, S.W.

Jones, John W., Meter Testing Department, Westminster Electric Supply Corp., Ltd., Eccleston-pl., Eccleston-st., S.W. (Telegrams: "Visual, London." Telephone No. 266, Westminster Extension Instrument.)

Jones, O. C., A.I.E.E., electrical engineer, 11, Market-bldgs., Maidstone.

Jones, O. J., director Llanrwst Electricity Supply Co., Ltd., 13, Church-st., Llanrwst.

Jones, P., electrical engineer, High-st., Bangor.

Jones, P. Lloyd, maker of wood casings for wires, Romeo-st., Canada Dock, Bootle, Lancs.

Jones, R., chief assistant engineer, Urban District Council Electricity Works, Dartford.

Jones, R. H., engineer, Electricity Works, Colwyn Bay.

Jones, R. L., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st. Manchester.

Jones, Rev. D. Lloyd, M.A., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester.

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Jones, Wm., Comd.-st., Ogmore Vale. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Jones, William, A.M.I.E.E., 23, Thoresby-st., Hull.

Jones, Bernard G., & Co., engineers & electric power specialists, 33, Commercial-st., Newport, Mon. (Telegrams: "Motors, Newport." Nat. Telephone No. 0669.)

Jones Bros., electric light contractors, 348–366, Holloway-rd., N. (Teleph. No. 7523, King's Cross.)

Jones Bros., makers of slate switch bases, Bangor Slate Works, Semley-pl., Buckingham Palace-rd., London, S.W.

Jones Brothers & Co. (Wolverhampton), Ltd., manufacturers of reflectors & stampings for lamps, &c., Ablow-st., Wolverhampton. (Telegs.: "Jones, Wolverhampton." A.B.C. Code used. Nat. Teleph. No. 22 Y.)

Jones & Foster, brass founders & lamp makers, 39, Bloomsbury-st., Birmingham. (Telegrams: "Crucible, Birmingham." Telephone No. 2611.)

Jones, Fred, & Co., silicate cotton & slag wool manufacturers, Perren-street, London, N.W. (Telegrams: "Slagwool, London." Telephone No. 675, King's Cross.)

Jones, F. J., & Son, electrical & mechanical engineers, 134, Foregate-st., Chester. (Telegrams: "Jones, Electrician, Chester." Telephone Nos. 180 & 180A.)

Jones, George, Ltd., mechanical & electrical engineers, Lionel-st., Birmingham. (Telephone No. 1003.)

Jones & Horsfield, boiler & pipe coverers, Denton, nr. Manchester. (Telegrams: "Jones & Horsfield, Denton, Manchester.") SPECIALITY: Self-supporting & removable Sheet Iron & Blue Planished Steel Casings. Send for Catalogue.

JONES, INIGO, & CO., slate turners for electrical purposes, & makers of plain & enamelled switchboards & bases, Tudor Slate Works, Groeslon, R.S.O., N. Wales. (Telegrams: "Inigo Jones, Groeslon.") *See advt. under* SLATE ENAMELLERS.

Jones & Leslie Ltd., electrical engineers & experimentalists, 13, Greek-st., Shaftesbury-ave., London, W. (Telegs.: "Elemechan, London." Teleph. No. 3178, Gerrard.)

Jones, Oswald, & Co., electrical engineers, 7, Mill-st., Maidstone.

Jones, T., & Co., electrical engineers, 1, Central-chbrs., South Castle-st., Liverpool.

Jones, T. S. & J. D., electricians, 15, Beaufort-sq., Chepstow.

Jones, W. F., & Co., makers of switch gear, Dacre House, Victoria-st., S.W.

Jones, Westwood Electric Manufacturing Co., electrical engineers, Elland-rd., Leeds. (Telegs.: "Technical, Leeds." Teleph. No. 378.)

Jopling, Arthur, A.M.I.E.E., A.M.I.M.E., Langholm-rd., East Boldon, Newcastle-on-Tyne.

Jordan, Frank, & Co., engineers & agents, 15, George-st., Mansion House, London, E.C. (Telegrams: "Arrastra, London." Telephone No. 54, Bank.)

Jordan & Sons, Ltd., registration agents for electric lighting & power companies, motor car & cycle companies, 116 & 120, Chancery-lane, London, W.C.; 8, Bell-yard, Temple Bar; & 4–7, Bishop's-ct., Chancery-lane, W.C. (Telegrams: "Certificate, London." Telephone No. 246, Holborn.) Firm established 1863, incorporated as a company May 22, 1895. Nominal capital: £50,000 in £10 shares. Issued: £26,140 in ordinary shares, all paid up. Directors: William Jordan, Esq. (managing & chairman); Herbert Wm. Jordan, Esq. Secretary, A. E. Jordan.

Joseph, Edward L., consulting engineer & managing director of Ozonair, Ltd., 27, Chancery-lane, London, W.C. (Teleph. No. 9507, Central.)

Joseph, F. B., electrical engineer, Queen Anne's-chbrs., Westminster, London, S.W. (Telephone No. 5369, Westminster.)

Joseph, H., A.I.E.E., resident engineer & manager Melton Mowbray Electric Light Co., Melton Mowbray.

Joseph, L., A.M.I.E.E., 25, Cambridge-gdns., North Kensington, London, W.

Josephs, Joseph, A.I.E.E., c/o Victoria Works, Old Charlton, Kent.

Joslins, Ltd., electrical contractors, 108, 109 & 145, High-st., & Maidenburgh-st., Colchester; & Corn Market, Ipswich. (Telegs.: "Joslin, Colchester.")

Journal of the Institution of Electrical Engineers, E. & F. N. Spon, Ltd., 57, Haymarket, London, S.W.; & Spon & Chamberlain, 123, Liberty-st., New York.

Journal of the Röntgen Society (bi-monthly; price to non-members, 4s.; ann. sub., 16s.). Editor, J. H. Gardiner, F.C.S., 19, Hanover-sq., London, W.; publishers, Wertheimer, Lea & Co., Clifton House, Worship-st., Finsbury, London, E.C.

Journal of the Society of Chemical Industry (twice a month), 9, Bridge-st., Westminster, London, S.W. (Telegs.: "59, Palatable, London." Teleph. No. 715, Victoria.) (Watson Smith, editor. Annual subscription, 36s.)

Joyce, W. H., resident engineer, Cork Electric Tramways & Lighting Co., Ltd., Queenstown, Ireland. (Teleph. No. 22.)

JOYNER, CHARLES, & CO., LTD., manufacturers of electroliers & electrical accessories, Icknield-sq., Monument-rd., Birmingham. (Telegrams: "Joyner, Birmingham." Telephone No. 3513.) London office & show-rooms: 44, Farringdon-st., E.C.; Glasgow, 130, West Regent-st.

Joynt, A. Lane, 4, St. Stephen's-green, Dublin. Director Shannon Electric Power Syndicate, Ltd.; director Limerick Electric Tramways Co., Ltd.

Jubb, C., & Co., electrical & automobile engineers, Bradford-rd., Dewsbury. (Teleph. No. 8 Y.)

Judd, Walter, M.I.E.E., electrician-in-chief, Eastern; Europe & Azores; & Direct Spanish Telegraph Cos., Electra House, Moorgate, London, E.C.

Jude, R. H., D.SC., professor of mathematics & physics, Rutherford College, Newcastle-on-Tyne.

Judson, F. H., electrician, Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, London, S.E.

Jukes, Coulson, Stokes, & Co., telegraph iron buoy makers, 11 & 12, Clement's-lane, London, E.C. (Telegrams: "Kolson, London.")

Julian & Sons, Ltd., electricians, Basingstoke.

Junior Institution of Engineers, Incorporated (Founded 1884), 39, Victoria-st., London, S.W. (Telephone No. 912, Victoria.) W. T. Dunn, secretary.

Jupp, A., engineer, New Rottingdean Electricity Co., Brighton.

Justice, P. M., patents designs & trade marks agent, 55 & 56, Chancery-lane, London, W.C. (Telegrams "Syng, London." Telephone No. 3, Holborn.)

Jutson & Sons, chemical manufacturers, Liverpool-st., Birmingham. (Telephone No. 399.)

Kahler, G., & Co., electrical agents, 29, Fenchurch-st., London, E.C. (Telegs.: "Acetimeter, London." Teleph. No. 747, Avenue.)

Kahn, Dr. Max, electrical engineer, 120, Park-rd., Loughborough.

Kahn, Harry, 7, Lothbury, E.C. Director West London & Provincial Electric Supply Co., Ltd.; director Aron Electricity Meter, Ltd.; director Chiswick Electricity Supply Corporation.

Kain, Edward, & Co., staple & parallel vice makers, Sheffield.

Kaiser, J., electric lighting contractor, 57, Dale End, Birmingham.

Kalgoorlie Electric Power & Lighting Corporation (1906), Ltd., Broad-st. House, New Broad-st., E.C. (Telegs.: "Lucidandum, London." Teleph. No. 2579, London Wall.) Registered Dec. 14, 1906. Nominal capital: £225,000 in 175,000 6 per cent. non-cumulative preference shares of £1 each & 100,000 ordinary shares of 10s. each.

Kalgoorlie Electric Tramways, Ltd., 30 & 31, St. Swithin's-lane, London, E.C. (Telephone No. 5319, Bank.) Registered March 18, 1902. Nominal capital: £250,000 in £1 shares, & £200,000 debenture stock. Issued: all the ordinary shares, & £100,000 5 per cent. "A" debenture stock & £100,000 6 per cent. "B" debenture stock. A trust deed, dated Oct. 14, 1904 (supplemental to & varying the terms of a deed dated April 21, 1902, securing £200,000 debenture stock), has been registered. Directors: A. H. P. Stoneham, Esq. (chairman); O. Wethered, Esq.; R. C. Ogilvie, Esq.; C. C. Baker, Esq.; C. Wren, Esq. Secretary, F. A. Holyfield.

Kalker, E., & Co., makers of insulated wires & flexibles for automobiles, 141, Much Park-st., Coventry. (Telegrams: "Kalker, Coventry." Telephone No. 24 X.)

Kamm, Leo, electrical engineer, 27, Powell-st., Goswell-rd., E.C.; & 68, Cromwell-ave., Highgate, N. (Telegs.: "Zerograph, London." Teleph. No. 8281, P.O. Central.)

Kapp, Gisbert, Dr. Ing., M.I.C.E., M.I.E.E., professor of electrical engineering, University, Birmingham; & Pen-y-Coed, Edgbaston, Birmingham.

Kappey, Wirth & Co., manufacturers' agents, Dunedin House, Basinghall-ave., London, E.C. (Telegrams: "Kappessame, London.")

Karminski, E., Credit Lyonnais, 40, Lombard-st., London, E.C. Director South American Cable Co., Ltd.

Kay, Harry, dealer in electrical supplies, 15A, Watling-st., Manchester. (Teleph. No. 73 X.)

Kaye, G. W. Clarkson, A.M.I.E.E., 1, St. John's-rd., Cambridge.

Kaye, Joseph, & Sons, Ltd., seamless serrated oil cans, Lock Works, Leeds; & 93, High Holborn, W.C. (Teleph. No. 1847, Holborn.)

Keagey, Wm. Glenny (New York Car Wheel Works), 18, St. Swithin's-lane, London, E.C.

Kear, S., electric light & power engineer, Red Cross-st., Bristol. (Telegs.: "Motor, Bristol." Teleph. No. 444, Nat.)

Kearsley Electric Tramways. Works by Farnworth Council. (Telephone No. 0174, Farnworth.)

Keats, G. W., chief assistant electrical engineer, Woolwich Boro' Council Electric Light Works, Plumstead, London, S.E.

Keay, E. C. & J., Ltd., electrical, mechanical & general engineers, Cyclops Iron Works, West Bromwich; James Bridge Works, Darlaston, Staffs.; Manchester; & Corporation-st., Birmingham.

Keays, Arthur M., A.M.I.E.E., "Roseneath," Portsmouth-rd., Woolston, Southampton.

Keegan, F., director Dublin & Slane Co., Ltd.

Keeler & Co., Ltd., electrical apparatus manufacturers, 12, New Chesterfield-st., Marylebone, London, W.

Keeling, A. D., metal manufacturer & merchant, Warstone Metal Works, Birmingham. (Telegs.: "Nickel, Birmingham." Teleph. No. 151.)

Keen, H. E., A.M.I.E.E., 273, High-rd., Kilburn, London, N.W.

Keen, W. B., 3, Church-ct., Old Jewry, London, E.C. Director Yorkshire (West Riding) Electric Tramways Co., Ltd.

Keen, H. E., & Co., electrical engineers & contractors, 22, College-parade, Salusbury-rd., Kilburn, London, N.W.; & 1, Pinners-ct., Old Broad-st., E.C. (Teleph. No. 112, Paddington.)

Keenan, J. M., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Torquay.

Keep Bros., exporters of electrical goods, 35 & 36, Great Charles-st., Birmingham. (Telegrams: "Keep, Birmingham." Nat. Telephone Nos. 1483 & 3159. A.B.C., 5th Edition, Code used.)

Kegan Paul, Trench, Trübner & Co., Ltd., technical publishers, 43, Gerrard-st., London, W. (Telegrams: "Columnæ, London." Telephone No. 6164, Gerrard.)

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks. (Telegrams: "Electric, Keighley." Telephone No. 113.) Registered Aug. 12, 1895. Capital: £10,000 in £1 shares.

Keighley Municipal Electricity Works & Tramways, Coney-lane, Keighley, Yorks. (Teleph. No. 13.) J. M. Smyth, engineer, A.M.I.C.E., M.I.E.E.

Keith, George, C.E., M.I.E.E., 25, Rosslyn Hill, Hampstead, N.W. Director The Cuba Submarine Telegraph Co., Ltd.; chairman Chili Telephone Co., Ltd.; chairman & managing director Amazon Telegraph Co., Ltd.; chairman Ecuador Telephone Co., Ltd.; director United River Plate Telephone Co., Ltd.

Keith, James, B.SC., chief electrical engineer, Tuck & Co., Ltd., Dublin.

KEITH, JAMES, & BLACKMAN CO., LTD. (*see illustrated entry under* ENGINEERS—VENTILATING), 27, Farringdon-ave., E.C. Works: 443 & 443A, Holloway-rd., N. (Telegrams: "James Keith, London." Telephone Nos.: 620, Holborn; & 2808, Central.)

Kelburne, The Right Hon. Viscount, director Portpatrick Electric Supply Co., Ltd., Dunskey Estate Offices, Portpatrick, Wigtonshire.

Kelley, Henry, & Co., mechanical & electrical engineers, 26, Pall Mall, Manchester. (Telegs.: "Advantage, Manchester." Teleph. No. 663.)

Kellogg, E. H., & Co., dynamo oil, 8B, Rumford-pl., Liverpool. (Telegs.: "Sanxay, Liverpool." Teleph. No. 603.)

Kelly, A., A.M.I.E.E., consulting electrical engineer, Royal Insurance-bldgs., 18, Exchange-st., Manchester. (Telegs.: "Assessor, Manchester." Teleph. No. 6247.)

Kelly, B. G., A.M.I.E.E., electrical engineer, 34, Wingate-rd., Shepherd's Bush, London, W.

Kelman, C. S., 27, Broad-st.-ave., E.C. Director Adelaide Electric Tramways, Ltd.

Kelman, D. E., Hohenlinden Hall, Highbury New Park, London, N. Director Adelaide Electric Tramways, Ltd.

Kelman, J. A., 35, New Broad-st., E.C. Director Adelaide Electric Tramways, Ltd.; director City of Wellington Electric Light & Power Co., Ltd.; director Pioneer Gas, Electric Light & Power Co. of South Africa, Ltd.

Kelsall, Alfred Heinrich, A.M.I.E.E., Walden, Bearsden, Glasgow.

Kelsey, W. R., B.SC., A.M.I.E.E., consulting engineer, Municipal Technical Institute, Taunton.

Kelso & Co., manufacturing electricians, 55, Oxford-st., Glasgow. (Telegrams: "Model, Glasgow.")

Kelvin, Lord, O.M., P.C., G.C.V.O., D.C.L., F.R.S., F.R.S.E., LL.D., Hon. M.I.C.E., Hon. M.I.E.E., Emeritus Professor of natural philosophy, Netherhall, Largs, Ayrshire, Scotland (Telephone No. 4, Largs); & 15, Eaton-pl., London, S.W. Director Loch Leven Water & Electric Power Co.

Kelvin & James White, Ltd., makers of electrical instruments & switchgear, 18, Cambridge-st., Glasgow (Telegrams: "Meter, Glasgow." Telephone Nos.: P.O. 4519, Central; National, 172, Douglas); & 66, Victoria-st., London, S.W. (Telegrams: "Mho, London." Telephone No. 725, Westminster.)

Kemble, James, London House, Mevagissey. Director & secretary Mevagissey Electric Lighting Co., Ltd.

Kemp, George, A.I.E.E., chief assistant engineer, Borough Electric Lighting Station, Shoreditch, E.C. (Teleph. No. 1157, London Wall); & 61, Foulden-rd., Stoke Newington, N.

Kemp, Jas. P., A.M.I.E.E., resident engineer, Corporation Electricity Works, Summer-lane, Birmingham.

Kemp, Robert, A.M.I.E.E., 33, Falkland Mansions, Hyndland, Glasgow.

Kemp, A., & Son, copper & silver wire manufacturers, Tenby-st. North, Birmingham.

Kemp, Wm., & Co., manufacturers of electric light fittings, 159, Buchanan-st., Glasgow. (Telephone No. 3885.)

Kempe, H. R., A.M.I.C.E., M.I.E.E., principal technical officer, Postal Telegraphs, General Post Office. London, E.C.

Kempster, John Westbeech, M.I.E.E., Harland & Wolff, Belfast; & Burnleigh, Holywood, co. Down, Ireland

Kendal Corporation Electricity Works, Kendal. (Telegs.: "Thomson Electricity, Kendal." Teleph. No. 24 G.) Engineer, W. Thomson; electrician, J. Ainscough.

Kendal & Gent, Ltd., tool makers, Victoria Works, Gorton, Manchester.

Kendal, J. Lomax, & Co., Ltd., electrical & mechanical engineers, 4, John Dalton-st., Deansgate, Manchester. (Telegs.: "Motor, Manchester." Teleph. No. 2135.)

Kendall, A. G., director Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st. Within, London, E.C.

Kendall, F., electrical engineer, 10A, North Church-st., Nottingham.

Kendall, J. A., electro-chemist, Lonesome Chemical Works, Streatham Common, London, S.W.

Kendall, R., & Sons, wiring contractors, 21, Milsom-st., Bath.

Kendell, T., & Sons, electrical engineers & contractors, Norfolk Iron Works, Shoreditch, London, E.C. (Telephone No. 172, London Wall.)

Kendrew, T. J., general manager Southport Corporation Electric Tramways, 44, Chapel-st., Southport.

Kennard, Alfred Ernest, A.M.I.E.E., 23, Wheathill-rd., Anerley, London, S.E.

Kennard, F. E., A.I.E.E., 13, Manor-lane-ter., Lewisham, S.E.

Kennard, H. L. E., A.I.E.E., 28, Greenvale-rd., Well Hall, Kent.

Kennaway, C. W., A.M.I.E.E., 8, Queen Anne's Gate, Westminster, London, S.W.

Kennedy, D. H., A.M.I.E.E., 8, Lyncroft-gdns., Ealing, W. (Teleph. No. 510, P.O.)

Kennedy, Donald R., electrician, Bute Villas, Springboig, Shettleston, Glasgow.

Kennedy, F. C., 15, Palmerston-pl., Edinburgh. Director Burmah Electric Tramways & Lighting Co., Ltd.

Kennedy, Rankin, consulting engineer & electrician, Bute Villas, Springboig, Shettleston, Glasgow.

Kennedy, Sir Alex. Blackie William, LL.D., F.R.S., M.I.C.E., M.I.M.E., M.I.E.E., 17, Victoria-st., Westminster, London, S.W. (Telegrams: "Kinematic, London." Teleph. No. 621, Westminster.)

Kennedy, H., & Son, engineers & makers of the "Empress" Turbine, &c., Coleraine, Ireland.

Kennedy & Jenkin, consulting civil & electrical engineers, 17, Victoria-st., London, S.W. (Telegrams: "Kinematic, London." Teleph. No. 621, Westminster.)

Kennett, A. J. N., A.M.I.E.E., 5, Doune Quadrant, Kelvinside North, Glasgow.

Kenningham, R. H., electrical engineer, 91, Beverley-rd., Hull.

Kenshole, H. H., A.M.I.E.E., The Elms, Goodmayes, Ilford, Essex.

Kensington & Knightsbridge Electric Lighting Co., Ltd., 148, Brompton-rd., S.W. (Teleph. No. 585, Kensington.) Kensington Court Station (Teleph. No. 527, Western). Registered June 5, 1886. Nominal capital: £250,000 in ordinary shares, £50,000 in 6 per cent. 1st preference shares & £50,000 in 5 per cent. 2nd preference shares, & £90,000 in 4 per cent. debenture stock. Issued capital: £105,000 in ordinary shares of £5 each (fully paid up), £50,000 in 6 per cent. 1st preference shares of £5 each (fully paid up), £90,000 in 4 per cent. debenture stock, £50,000 in 5 per cent. 2nd preference shares (fully paid up). £152,000 debenture stock has been issued by this company jointly with the Notting Hill Electric Light Co., Ltd., of which £100,000 is covered by a trust deed of July 12, 1900, & £50,000 covered by a trust deed of Nov. 18, 1902. A trust deed, dated Nov. 2, 1904, to secure a further £50,000 debenture stock, ranking *pari passu* with the two former joint issues, has been registered. R. S. Erskine, secretary; H. W. Miller, chief engineer. Directors: Lieut.-Col. R. E. Crompton, C.B. (chairman); Sir H. W. Bliss, K.C.I.E.; R. W. Wallace, Esq., K.C.; G. H. Hopkinson, Esq.; Colin C. Wyllie, jun., Esq. Dividends: on ordinary shares, 1901 & 1902, 10 per cent.; 1903, 1904, 12 per cent.; 1905, 5 per cent.; & first half of 1906, 5 per cent.

Kensington & Notting Hill Co.'s Joint Electricity Works, Shepherd's Bush, W. (Telegs.: "Electrorum, London." Teleph. No. 143, Hammersmith.) Engineers, H. W. Miller & G. Schultz; resident engineer, C. M. Bennett.

Kensington Stamping Co., Ltd., manufacturers of electric fittings, Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)

Kensit, H. E. M., M.I.E.E., general manager, Kent Electric Power Co., Bank-chbrs., 1, Railway-st., Chatham (Telegs.: "Power, Chatham." Teleph. No. 95, Chatham); & Sidmouth House, Canterbury-rd., Herne Bay.

Kent, G., maker of electrical water-level recorders, 199–202, High Holborn, London, W.C. (Telegrams: "Kentobin, London.")

Kent, Reginald Herbert, A.I.E.E., 54, Durley-rd., Stamford Hill, London, N.

Kent Electric Power Co., 7, St. Helen's-pl., London, E.C. (Telephone No. 855, Avenue); & Bank-chbrs., 1, Railway-st., Chatham. (Telegrams: "Power, Chatham." Telephone No. 95, Chatham.) Incorporated 1902. Nominal capital: £750,000. Engineers, G. L. Addenbrooke & A. A. C. Swinton; general manager at Chatham, H. E. M. Kensit, A.M.I.E.E.; secretary, F. A. H. Walker. *Has acquired the undertaking of the Chatham, Rochester & District Electric Lighting Co., Ltd.* Directors: G. H. Brougham Glasier, Esq. (chairman); J. F. Albright, Esq. (vice-chairman); W. A. Buchanan, Esq.; A. White, Esq.; Capt. G. S. C. Swinton; H. Jasper, Esq.

Kent Electric Power Syndicate, Ltd., 7, St. Helen's-pl., E.C. (Teleph. No. 855, Avenue); & 1, Railway-st., Chatham. Registered Feb. 11, 1902. Nominal capital: £15,030 in 1500 ordinary shares of £10 each & 600 deferred shares of 1s. each. Issued: 1500 ordinary shares & all the deferred shares. Directors: G. H. Brougham Glasier, Esq.; W. A. Buchanan, Esq.; A. White, Esq.; H. Jasper, Esq.; J. F. Albright, Esq. Joint electrical engineers, G. L. Addenbrooke & A. A. Campbell Swinton; secretary, F. A. H. Walker.

Kenward, J., consulting lighthouse engineer, 12, Marine Parade North, Great Yarmouth.

Kenyon, E. A., M.I.E.E., The Mount, Ellesmere; & Government Telegraph Dept., Allahabad, India.

Kenyon, John, & Co., steel & tool manufacturers, Millsands, Sheffield. (Telegs.: "Kenyon, Sheffield." Teleph. No. 3611.)

Kenyon, William, & Sons, makers of cotton driving ropes, Chapel Field Ropery, Dukinfield, Cheshire. (Telegrams: "Kenyon, Dukinfield." Telephone No. 80, Ashton.)

Ker, W. Arthur, A.M.I.C.E., consulting engineer, electrical & mechanical, 124, St. Vincent-st., Glasgow (Telegs.: "Acredale, Glasgow." Teleph. No. 1645, Argyle.)

Kerr, E. McKinnon, A.M.I.E.E., c/o Siemens Bros., Stafford.

Kerr, F. W., 31, Budge-row, London, E.C. Director Anglo-Portuguese Telephone Co., Ltd.

Kerr, George A., electrician, Woodside, Upper Norwood, London, S.E.

Kerr, Jno., Gaddesdon Place, Hemel Hempstead, Herts. Director Hyderabad Electric Light & Traction Co., Ltd.

Kerr, R. L., machinery agent & engr., 41, John Dalton-st., Manchester. (Telegs.: "Roker, Manchester.")

Kerr, Thomas, electric bell hanger, 75, Norfolk-lane, Glasgow.

Kerr, Thomas A., A.M.I.E.E., Brookville-ter., Edge-lane, Droylsden, Manchester.

Kerr, W. T., resident engineer, Corporation Electricity Works, Hereford. (Teleph. No. 62.)

Kerr & Co., installation contractors, Georges Quay, Dublin.

Kerr-Jones, T., A.M.I.E.E., consulting electrical engineer, 11, Victoria-st., London, S.W. (Teleph. No. 5542, Avenue.)

Kerridge, H. E., wiring contractor, Market-place, Yarmouth.

Kerridge, W. B., electric bell & telephone fitter, Wimborne.

Kerry Electric Supply Co., Ltd., College-st., Killarney, co. Kerry, Ireland. (Telegs.: "Electric Supply, Killarney.") Registered May 15, 1905. Nominal capital: £2000 in £1 shares. Directors: Valentine Ryan, Esq.; W. A. Ryan, Esq., B.A., B.L.; T. Traynor, Esq.; R. Bell, Esq. Engineer, Valentine Ryan; secretary, J. B. Ryan.

Kershaw, Abraham, electrician & scientific instrument manufacturer, Dorrington-st., Leeds.

Kershaw, J. B. C., chemist & electrician, 2, Queen Anne's Gate, Westminster, London, S.W.; & West Lancashire Laboratory, Waterloo, Liverpool.

Kershaw, John, & Co., Ltd., electric bell fitters, 36, Market-st., Heywood, nr. Manchester. (Telephone No. 1101.)

Kesnor, Thos., & Co., electrical, mechanical & experimental engineers, Armadale-rd., Fulham, S.W. (Telegrams: "Kesnor, London." P.O. Telephone No. 449, Western.) H. J. Norballe, A.I.E.E., & J. E. Lawson, joint managers.

Keswick Electric Lighting Co., Ltd., Forge, Keswick. (Telegs.: "Electricity, Windermere." Teleph. No. 17, Windermere.) Nominal capital: £5000. Issued capital: £3420 in shares £1 each (fully paid). Directors: W. Long, Esq. (chairman); W. P. J. Fawcus, Esq.; Rd. Rigg, Esq.; A. M. Sing, Esq.; Geo. Wilson, Esq. Engineer, G. A. Leighton; secretary, C. Walker.

Ketley, F. W., manager Douglas Southern Electric Tramway, Douglas Head, Isle of Man. (Telegrams: "Traffic, Douglas, Man.")

Kettering Urban District Council Electricity Works, Kettering. (Telegs.: "Electricity Works, Kettering." Teleph. No. 98.) Engineer, W. A. Walker, A.M.I.E.E.

Kettle, L. J., A.I.E.E., superintendent, Pigeon House Electricity Station, Dublin.

Kettle, H. G., & Co., electric lighting & power contractors, 24, Lower Brook-st., Ipswich.

Kettle River Power Co., Ltd., 3, Laurence Pountney Hill, London, E.C. *In voluntary liquidation.* Liquidator, A. G. Bartholomew, Salisbury House, London Wall, E.C.

Key Engineering Co., Ltd., electrical & mechanical engineers, 4, Queen Victoria-st., London, E.C. (Telegs.: "Keypoint, London." Teleph. No. 7234, Central); & 38, Deansgate, Manchester. (Telegs.: "Keypoint, Manchester." Teleph. No. 4945, Manchester.) Works: Trafford Park, Manchester.

Keynsham Electric Light & Power Co., Ltd., Keynsham, Somerset. Registered Dec. 29, 1899. Nominal capital: £5000 in £1 shares. Debentures issued: £1500. Directors: J. E. Mills, Esq.; E. T. Collins, Esq.; C. E. Barry, Esq.; G. J. T. Parfitt, Esq. (managing & secretary).

Keys, W. H., bitumen refiner, Hall End Works, West Bromwich. (Telegrams: "Oil, West Bromwich." Telephone Nos. 54 & 57.)

Keys, J. W., & Co., electrical engineers, 162, Lambeth-rd., London, S.E.

Keyworth, J. & H., & Co., engineers, 35, Tarleton-st., Liverpool. (Telegs.: "Keyworth, Liverpool." Teleph. No. 1877, Central.)

Kidd, A. M., district manager, National Telephone Co., Ltd., 91, South Mall, Cork.

Kidderminster & District Electric Lighting & Traction Co., Ltd., electrical engineers & contractors, Donington House, Norfolk-st., Strand, W.C. Registered Dec. 19, 1898. Nominal capital: £100,000 in 50,000 ordinary & 50,000 preference shares of £10 each, of which £30,000 in 5 per cent. preference shares & £47,000 in ordinary shares are issued & are fully paid. Debenture stock: £50,000, of which £27,500 is issued. Directors: W. L. Madgen, Esq. (chairman); Sir E. Spencer; J. A. Lycett, Esq.; H. R. Arnold, Esq. Managing engineer, A. Charlton; secretary, H. A. Stagg.

Kidderminster & Stourport Electric Tramway Co., Donington House, Norfolk-st., Strand, W.C. Incorporated by Act of Parliament 1896. Nominal capital: £60,000 in ordinary shares of £10 each. Mortgage authorised: £15,000. Issued: £57,200 in shares. Directors: J. A. Lycett, Esq.; H. R. Arnold, Esq. Managing engineer, A. Charlton; secretary, H. A. Stagg. Dividends: 1903, 4 per cent.; 1904, 3½ per cent.

Kidman, F. C., A.M.I.E.E., Ormesby House, Ormesby St. Michael, Great Yarmouth.

Kidner, Walter, chief assistant electrical engineer, Leatherhead & District Electricity Co., Ltd., Leatherhead.

Kidston, A. G., & Co., exporters of electric stores, 155, Fenchurch-st., London, E.C.

Kieffer, Frank, A.I.E.E., Electricity Works, High-st., Mortlake.

Kiersey & Co., agents of the "National" feed-water heater, Kilmacthomas, Co. Waterford, Ireland. (Telegrams: "Kiersey, Kilmacthomas.")

Kierzkowski-Steuart, C. F. de, M.I.E.E., M.I.C.E., St. Stephen's Club, 1, Bridge-st., Westminster, S.W.

Kiesow & Co., glass globe makers, 25, Fore-st.-ave., London, E.C. (Telegrams: "Kiesows, London." Telephone No. 1871, London Wall.) Agents for Schreiber & Neffen, Vienna.

Kilburn, Brown & Co., exporters of electrical machinery & accessories, 20, St. Helens-pl., London, E.C. (Telegrams: "Tasconium, London." Telephone No. 1532, Avenue.)

Kilby, B. M., director Woking Electric Supply Co., Ltd., Board School-rd., Woking.

Kildare Electricity Works, Kildare, Ireland. Consulting engineer, W. H. Clegg; resident engineer, H. Rylance.

Kilgour, Hamilton, M.I.E.E., electrical engineer, Examiner Office, Cheltenham.

Killingley, A., chairman Bray & Enniskerry Railway Co., 52, Westland-row, Dublin.

Kilmacolm Electric Lighting Co., Ltd., 163, Hope-st., Glasgow. (Telegs.: "Oversman, Glasgow." Teleph. Nos.: Nat. 1010, Argyle: Corp., 481.) Registered June 12, 1902. Nominal capital: £10,000 in £1 ordinary shares & £5000 in 5 per cent. £1 preference shares. Issued: 4470 ordinary shares & 3695 preference shares, both fully paid. Directors: R. Barr, Esq. (chairman); T. Hall Barr, Esq.; J. Fullarton, Esq.; Dr. Jas. Parker; Wm. Forrest Salmon, Esq.; W. A. Sloan, Esq.; W. B. Stirrat, Esq.; A. C. Wallace, Esq. Resident engineer, Jas. Brown, A.M.I.E.E.; secretary, H. Macmillan, C.A.

Kilmarnock Corporation Electricity Works & Trams, Kilmarnock. Engr., A. H. Burbidge. (Tel. No. 95.)

Kilowatt Publishing Co., Ltd., publishers of *Electrical Engineering*, 203–206, Temple-chbrs., Temple-ave., London, E.C.

Kilpatrick, J. L., A.I.E.E., 6, Fairlawn-ct., Chiswick, London, W.

Kilpatrick, Jas., & Son, electrical installation & apparatus contractors, Terrace-bldgs., High-st., Paisley (Teleph. No. 94, Paisley); & 34, West Blackhall-st., Greenock. (Teleph. No. 466.)

Kilpin & Billson, electric light engineers & contractors, Bedford. (Telephone No. 7.)

Kilroy, W. Dickson, A.M.I.E.E., A.M.I.M.E., Acton-lane Works, Chiswick, W. (Telegs.: "Dorothea, London." Teleph. No. 221, Hammersmith.)

Kilshaw, Henry, electrical engineer, West Derby Union, West Derby, Liverpool.

Kimber, H. Dixon, Maritzdaal, Streatham. Director East India Tramways, Ltd.

Kimber, Harry Watkins, A.I.E.E., c/o Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C.

Kimber, Sir Henry, Bart., M.P., 79, Lombard-st., E.C. Director Calcutta Tramways Co., Ltd.

Kimmins, P. T., manager Lynton & Lynmouth Electric Light Co., Lynmouth, Devon.

Kincaid, Joseph, M.A., M.I.C.E., consulting engineer, 29, Great George-st., Westminster, London, S.W. (Telegrams: "Kincaid, London." Telephone No. 11, Westminster.) Director Primitiva Gas & Electric Lighting Co. of Buenos Aires, Ltd.; director British Eastern Electric Power Co., Ltd.

Kincaid, Waller, Manville & Dawson, consulting civil & electrical engineers, 29, Great George-st., London, S.W. (Telegrams: "Kincaid, London." Telephone No. 11, Westminster.)

Kindersley, E. R., director Burmah Electric Works Synd., Ltd., 53 & 54, Chancery-lane, London, E.C.

Kindersley, H. R., Cliffe Cottage, Dorchester, Dorset. Director Burmah Electric Tramways & Lighting Co., Ltd.; chairman & secretary Burmah Electric Works Syndicate, Ltd.

Kindersley, M. F., 3, Whitehall-ct., S.W. Managing director & agent, Burmah Electric Works Syndicate, Ltd.

Kinetic Swanton Co., Ltd., electric organ blowing, Rosemary-lane, Lincoln. (Telegs.: "Kinetic-Swanton, Lincoln.")

King, Arthur, engine speed counter & register manufacturer, Pinxton, Alfreton.

King, C. A., resident electrical engineer, Metropolitan District Railway, St. James's Park Station, S.W

King, C. M., Antermony House, Milton-of-Campsie. Director Clyde Valley Electric Power Co.

King, Ernest Wellesley, A.M.I.E.E., Corporation Electricity Works, Bootle.

King, G. W., manager, Greenock & Port Glasgow Tramways Co., Ladyburn, Greenock.

King, Harold C., A.M.I.E.E., consulting engineer, Craven House, Kingsway, Holborn, London, W.C. (Teleph. No. 12392, Central.)

King, John, electrician, 29, Kay-rd., Brixton, London, S.W. (Telegrams: "Ajaci, London.")

King, J. Russell, electrical engineer, 13, St. John's-sq., London, E.C.

King, John T., patent agent, 4, Clayton-square-west, Liverpool. (Telegrams: "Inventions, Liverpool." Telephone No. 5893.)

King, L. H., A.I.E.E., resident electrical engineer, Urban District Council, Whitby.

King, P. T., installation contractor, Bute-st., Luton.

King, Wilfred, managing director Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, London, E.C. (Telephone No. 1918, Avenue.)

King, W. F., F.R.S.E., A.I.E.E., Leith Electric Works, Prince Regent-st., Leith, N.B.

King, Wm. Noel York, A.M.I.E.E., Tramway Power Station, Kelham Island, Sheffield.

King & Co., engineers & contractors, Leith Electric Works, Leith. (Telegrams: "Electric, Leith." Telephone No. 793.)

King & Co., lighting & telephone engineers, Western Electrical Works, Park-row, Bristol.

King & Co., electricians, Eton, Windsor.

King & Co., Ltd., electric light engineers, South Church Side, Hull. (Telegrams: "Kings, Hull." Telephone No. 136.)

King, P. S., & Son, publishers of electrical & scientific books, Orchard House, Westminster, S.W.

King's College, courses of telegraphic & electrical engineering, 160, Strand, London, W.C. *See* SCHOOLS, &c.

King's Lynn Corporation Electricity Works. (Teleph. No. 2.) J. Pilling, M.I.E.E., electrical engineer.

King's Lynn Electrical Engineering Co., Broad-st., King's Lynn.

King's Norton Metal Co., Ltd., telegraph wire manufacturers, 16, Great George-st., London, S.W. & King's Norton, nr. Birmingham. (Telegs. "Ammunition, London;" "Metal, Kingsnorton.")

Kingdon, Z. H., electrical engineer, The Admiralty, Whitehall, London, S.W.

Kingfisher (1118), Leeds, manufacturers of the Kingfisher patent lubricators & lubricants, Leeds. (Write, wire, or ring: "Kingfisher, 1118, Leeds.")

Kingham, R. D., Parkleigh, Farnham. Director Farnham & District Electricity Supply Co., Ltd.

Kinghorn, D. M., chief engineer & manager, Borough Council's Electricity Works, Southwark, S.E. (Teleph. No. 2697, Hop.)

Kinghorn, W. A., machinery agent, 81, Saint Vincent-st., Glasgow. (Telegrams: "Ardoch, Glasgow." Telephone No. 1453.)

Kinghorn Gas Light Co., Ltd., electric light contractors, Kinghorn, Fifeshire.

Kingsbridge & South Devon Electric Lighting & Traction Co., Ltd. Registered July 1, 1904. Nominal capital: £2000 in 1990 shares of £1 each, 200 deferred shares of 1*s.* each. Directors: J. R. Parkin, Esq.; D. F. Gregson, Esq.; F. W. Sturton, Esq.; C. H. Brown, Esq.; A. Wright, Esq.; A. G. Field, Esq.; O. B. Thomas, Esq.

Kingsbury, J. E., M.I.E.E., manager, Western Electric Co., 171, Queen Victoria-st., London, E.C. (Telegrams: "Relay, London." Telephone Nos.: 418, Bank; & 2389, P.O. Central.) Director Anglo-Portuguese Telephone Co., Ltd. *See* CABLE MANUFACTURERS, & TELEPHONE APPARATUS MAKERS.

Kingsford, W. B., 11, Lawrence Mansions, Cheyne Walk, S.W. Chairman West India & Panama Telegraph Co., Ltd.

Kingsland, Wm., M.I.E.E., 8, Bream's-bldgs., Chancery-lane, London, E.C.

Kingston, H. W., engineer, Charing Cross, West End & City Electric Supply Co., Ltd., 60, St. Martin's-lane, London, W.C.

Kingston, Lucius A., A.I.E.E., 33, Pembridge Villas, Bayswater, London, W.

Kingston & Co., Ltd., electrical engineers & contractors, 8, Trinity-sq., & 110, Northdown-rd., Margate.

Kingston Municipal Science & Art School & Technical Institute, Kingston Hall-rd., & Polytechnic, Fife-rd., Kingston-upon-Thames. *See* SCHOOLS.

Kingston-upon-Thames Corporation Electricity Supply, Down Hall-rd. (Nat. Telephone No. 93, Kingston.) Consulting & borough electrical engineer, J. E. Edgcome, M.I.M.E., M.I.E.E.

Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol. Registered Nov. 26, 1903. Nominal capital: £1000 in £1 shares. Issued: 400 shares, & £322 10*s.* paid. Directors: Seymour Williams, Esq.; W. Lawrence, Esq.; H. Taylor, Esq.; J. Muse, Esq.; E. Watts, Esq.; W. Bates, Esq.; H. N. Harvey, Esq. (secretary).

Kingzett, C. T., F.I.C., F.C.S., analytical chemist, Locksly-st., Limehouse, London, E.

Kinnaird, Lord, 10, St. James's-sq., S.W. Director Westminster Electric Supply Corporation, Ltd.

Kinnear, J., & Son, electric light contractors, 27, Market-st., Brechin.

Kinninmont, J., & Sons, electric light apparatus makers, 26, Chilworth-street, London, W. (Telegrams: "Kinninmont, London." Telephone No. 383, Paddington.)

Kinsey, Albert Thornley, A.I.E.E., P.O., College Green, Dublin.

Kinver Light Railway. Dudley, Stourbridge & District Electric Traction Co., Ltd., proprietors, Donington House, Norfolk-st., Strand, London, W.C.

Kinzbrunner, Carl, A.M.I.E.E., 45, Dulwich-rd., Herne Hill, London, S.E.

Kipping, Percival Philip, A.M.I.E.E., commercial manager Telephone, Telegraph & Signalling Department, General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C.

Kipps, E. J., A.M.I.E.E., electrical engineer, Engineering Dept., The University, Edgbaston, Birmingham.

Kirby, T. F., 7, College-st., Winchester. Chairman Winchester Electric Light & Power Co., Ltd.

Kirby Banks Screw Co., Ltd., bolt & screw manufacturers for any trade, Meadow-lane, Leeds. (Telegs.: "Hexagon, Leeds." Teleph. No. 541.)

Kirk, A., electrical engineer (Bromley, Batstone & Kirk), 24, Holborn, London, E.C.

Kirk, H. A., director-in-chief Indo-European Government Telegraphs, India Office, London, S.W.

Kirkaldy, D., & Son, testing & experimenting works, 99, Southwark-st., S.E. (Telephone No. 203, Hop.)

Kirkcaldy Corporation Electricity Works & Electric Tramways, Kirkcaldy, N.B. O. F. Francis, A.M.I.E.E., engineer & tramways manager. (Telephone No. 124.)

Kirker, H. L., electrical engineer, c/o British Westinghouse Co., 2, Norfolk-st., London, W.C.

Kirkham, Wm., A.I.E.E., 436, Liverpool-st. West, Seedley, Manchester.

Kirkhams, battery jar manufacturer, London-road, Stoke-on-Trent. (Telegrams: "Kirkhams, Stoke-on-Trent." Telephone No. 2032, Nat.)

Kirkland, T., director Western Electric Distributing Corporation, Ltd.

Kirkland & Capper, consulting electrical engineers, 17, Victoria-st., Westminster, S.W. (Telephone No. 5255, Westminster.)

Kirkpatrick, G. L., electrical engineer, Raworth's Traction Patents, Ltd., 2, Queen Anne's-gate, S.W.

Kirkpatrick, Wm. Dry, A.M.I.E.E., "Lincluden," Penkett-rd., Liscard.

Kirkpatrick & Rastall, electrical engineers, Victoria Foundry, Barrack-st., Hulme, Manchester. (Telegs.: "Wonderful, Manchester." Teleph. No. 4416.)

Kirkstall Forge Co., iron, steel & shafting manufacturers, Kirkstall Forge, nr. Leeds. (Telegrams: "Forge, Kirkstall." Telephone No. 147.)

Kirkwood, John, B.SC., A.I.E.E., Technical College, Glasgow.

Kirkwood, Stephen, A.I.E.E., chief assistant electrical engineer, Corporation Electricity Works, Shrewsbury.

Kirlew Bros., Ltd., iron & steel stampers, 215, Pentonville-rd., London, N. (Telegrams: "Kirlew, London.") Works: Walsall.

Kitchen, M., Eller Close, Roundhay. Director Roundhay & District Electric Lighting Co., Ltd.

Kitchener, J. V., electrical engineer, British Electric Traction Co., Donington House, Norfolk-st., Strand, London, W.C. Director Oldham, Ashton & Hyde Electric Tramway, Ltd.; director Barrow-in-Furness Tramways; director Birkdale District Electric Supply Co., Ltd.; director Middleton Electric Traction Co., Ltd.; director Potteries Electric Traction Co., Ltd.; director Rossendale Valley Tramways; director Southport Tramways Co., Ltd.

Kitcher, A. E., electric lighting contractor, St. Swithun's-rd., Bournemouth.

Kitchin, G., 81, Avenue-rd., London, N.W. Director Hastings & District Electric Tramways Co., Ltd.

Kitching, A. G., Chace Court, Enfield. Director Metropolitan Railway Co.

Kite, Chas., & Co., electrical engineers, 132, Euston-rd., & Christopher Works, Chalton-st., London, N.W. (Telegrams: "Midair, London.")

Kitson & Co., mechanical engineers, Airedale Foundry, Hunslet-road, Leeds. (Telegrams: "Airedale, Leeds." Telephone No. 3510.)

Kitto, B., F.G.S., F.I.C., Assay Office & Chemical Laboratory, 30 & 31, Saint Swithin's-lane, London, E.C. (Telephone No. 1161, Central.)

Klyne, C. H., chief assistant engineer, Electricity Works, King's Lynn.

Knap, C., & Co., Ltd., water-tube steam boiler makers, 11, Queen Victoria-street, London, E.C. (Telegrams: "Conrad, London.")

Knatchbull-Hugessen, Hon. C. M., 2, Mitre Court-bldgs., Temple, E.C. Director North-West London Railway Co.

Knight, Alfred W., electrician, Cuckfield & Station Iron Works, Market-pl., Hayward's Heath, Sussex. (Telegrams: "Ironmongery, Cuckfield.")

Knight, Frederick Arthur, A.I.E.E., 11, Langdale-rd., New Brighton, Cheshire.

Knight, J. Douglas, M.I.E.E., M.I.M.E.A., consulting & borough electrical engineer to the Corporation of Ealing Electric Light Station, Ealing, London, W. (Telegs.: "Electricity Works, Ealing, W." P.O. Teleph. No. 307, Ealing.)

Knight, O. C., electrical engineer, International-chbrs., Edmund-st., Birmingham.

Knight, W. L., electrical engineer & contractor, Aberystwith.

Knight & Co., electric light engineers, 36, Terminus-rd., Eastbourne.

Knight & Farr, electrical engineers, 25, Mansfield-rd., Nottingham.

Knocker, L. C., A.M.I.E.E., Avenel, Leven, Fife, N.B. (Teleph. No. 38, Leven.)

Knollys, The Right Hon. Lord, G.C.V.O., &c., St. James's Palace, S.W. Director Great Northern & City Railway Co.; director Central London Railway Co.

Knowledge & Illustrated Scientific News (monthly; 6*d.* net; ann. sub., 7*s.* 6*d.*), 27, Chancery-lane, London, W.C. (Telegs.: "Africanism, London." Teleph. Nos.: 121, Holborn; & 1571, Central.)

Knowles, C. E., A.I.E.E., A.M.I.C.E., resident engineer, Urban Electric Supply Co., Ltd., Glossop.

Knowles, C. S., electrical accessory manufacturer, 7, Victoria-st., London, S.W. F. S. Allen, manager. (Telegs.: "Sevenarch, London.")

Knowles, F. C., A.I.E.E., 21, Benthal-rd., Stoke Newington, London, N.

Knowles, H. B., M.A. (Oxon.), Principal of the Royal Technical Institute, Salford.

Knowles, John T., trade marks registration agent, 11 & 12, Southampton-bldgs., London, W.C. (Telegrams: "Junkring, London." Telephone No. 893, Holborn.)

Knowles, Reginald, works superintendent, Corporation Electricity Works, Pigeon House, Dublin. (Teleph. Nos. 546 & 211.)

Knox, R., engineer, Bridge, Douglas, Isle of Man.

Knox, John, & Co. (J. Mellings), contractors' plant makers & dealers in screws, engineers' tools, &c., 210, Upper Thames-st., London, E.C. (Telegrams: "Knox, London." Telephone No. 958, Bank.)

Knox, W., & Sons, engineers, Bridge, Douglas, Isle of Man.

Koenigs, H., & Co., telegraph wire manufacturers, 38, Lime-st., London, E.C. (Telegrams: "Bamboo, London." Telephone No. 4270, Avenue.)

Koerber, J. A., manufacturing electrician & electrical engineer, 44, Frith-street, Soho, London, W.

Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C. Registered Sept. 11, 1903. Nominal capital: £30,000 in £1 shares, all issued. Directors: Capt. W. B. M'Taggart (chairman); Lord Ribblesdale; Sir Chas. Tennant, Bart.; J. Taylor, Esq.; E. Taylor, Esq. Secretary, J. H. Wood.

Kolben & Co., Ltd., dynamos, turbines, &c., 20, Budge-row, Cannon-st., London, E.C.

Kolle, H. W., A.M.I.C.E., M.I.E.E., Egremont House, Tulse-hill, London, S.W.; & c/o Babcock & Wilcox, Ltd., Oriel House, Farringdon-st., London, E.C. (Telegrams: "Kolle, c/o Babcock, London." Telephone Nos. 1741 & 1742, Holborn.)

Koppel, Arthur, manufacturer of electric & light railway plant, 27, Clements-lane, London, E.C. (Telegrams: "Alighting, London." Telephone No. 5724, Avenue.)

Korting Bros., Ltd., condenser makers, 53, Victoria-st., London, S.W. (Telegrams: "Korting, London." Telephone No. 49, Victoria.)

KORTING & MATHIESEN, LTD., c/o Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London.")

Kramos, Ltd., mechanical & electrical engineers, Locksbrook Engineering Works, Bath. (Telegs.: "Kramos, Locksbrook, Bath." Nat. Teleph. No. 20, Weston); & 169 & 170, Shoreditch High-st., London, E.C.

Krasa, F., & Co., makers of porcelain insulators, bobbins, pushes, &c., 7, Wood-st.-sq., London, E.C. (Telegrams: "Krasa, London." A.B.C. Code used. Telephone No. 1982, Central.)

Krause, R. Howard, M.I.E.E., Comberton Hall, nr. Kidderminster.

Kray, Max, & Co., glass manufacturers, 70 & 71, Chiswell-st., London, E.C. (Telegrams: "Biheller, London." Telephone No. 1597, London Wall.)

Krieger Electric Carriage Synd., Ltd., 26, Victoria-st., London, S.W. (Telegrams: "Silencieux, London." Telephone No. 6817, Gerrard.)

Kroeger, Martin, manufacturer & patentee of scientific & electro-medical apparatus, 67, Elizabeth-st., Eaton-sq., London, S.W.

Kroeger Light-Cure & Electro-Therapeutic Institutes, Ltd., 67, Elizabeth-st., Eaton-sq., S.W. (Telegrams: "Vibratoire, London." Telephone No. 630, Victoria.)

Krogh, K. K. V., A.M.I.E.E., c/o British Westinghouse Co., Trafford Park, Manchester.

KRUPKA & JACOBY, contractors to H.M. Government, corporations, railway companies, &c.; sole agents for Dr. Alb. Lessing, Nürnberg; selling agents for Siemens Bros. & Co., Ltd. (cables & wires), Siemens-Schuckert-Werke & Siemens & Halske; 61 & 62, Watling-st., London, E.C. (Telegs.: "Acromion, London." Teleph. No. 367, Bank.)

Kryptol Syndicate, Ltd., electrical & mechanical engineers, 49, Queen Victoria-st., London, E.C.

Kuenen, J. P., PH.D., professor of physics, University College, Dundee.

Kuettner, B., consulting engineer, 37, Endell-st., Long Acre, London, W.C. (Telegs.: "Kuemacoo, London." Teleph. No. 6409, Gerrard.)

Kuettner, MacDonell & Cookson, Ltd., engineers & contractors, 37, Endell-st., Long Acre, London, W.C. (Telegs.: "Kuemacoo, London." Teleph. No. 6409, Gerrard.)

Kuhn, Ernst, brass & copper wire manufacturer, 7, Savage-gardens, London, E.C.

Kühner, Henderson & Co., suppliers of electrical material, &c., 115, Cannon-st., London, E.C. (Telegrams: "Kühner, London." A.B.C., A1 & Lieber's Codes used. Teleph. No. 5220, Bank.)

Kuner, J. A., electrical engineer, 103, Greenstead-rd., Colchester. (Teleph. No. 15 X.)

Künster & Co., iron & steel wire manufacturers, 70, Gracechurch-street, London, E.C. (Telegrams: "Kunric, London.")

Kyle, J. A., A.I.E.E., electrical engineer, 10A, St. James-rd., Wandsworth Common, London, S.W.

Labour, H., A.M.I.E.E., Victoria Works, Charlton, Kent.

La Capital (Extensions) Tramways Co., Ltd. (operating in Buenos Ayres), 62, London Wall, London, E.C. (Teleph. No. 1022, London Wall.) Registered Feb. 7, 1898. Capital: £100,000 in £1 ordinary shares, all issued & fully paid; £140,000 debentures. Directors: T. N. Vail, Esq. (chairman); A. B. Scott, Esq.; R. J. Davis, Esq.; H. A. Trotter, Esq.; T. Frame Thomson, Esq. Electrical engineer, J. T. Cornish; secretary, Fortescue Thursby.

La Capital Traction & Electric Co., Buenos Aires, Ltd., 62, London Wall, London, E.C. (Telegrams: "Tracollone, London." Telephone No. 1022, London Wall); & Avenida de Mayo 761, Buenos Ayres. Registered May 27, 1899. Capital: £1,200,000 in £5 ordinary & 5 per cent. cumulative preference shares. All the ordinary & preference shares are issued & fully paid. Particulars of a series of debentures created Dec. 21, 1900, to secure £600,000 (liable to increase to £800,000), have been filed. Directors: T. N. Vail, Esq. (chairman); A. B. Scott, Esq.; R. J. Davis, Esq.; Herr E. Prieger; H. A. Trotter, Esq.; T. Frame Thomson, Esq. Electrical engineer, J. T. Cornish; secretary, Fortescue Thursby. Dividends: to June 30, 1906, 5 per cent. (less income tax) on preference shares.

La Capital Tramways Co., Ltd. (operating in Buenos Ayres), 62, London Wall, London, E.C. (Telegs.: "Tramontane, London." Teleph. No. 1022, London Wall); & Avenida de Mayo 761, Buenos Ayres. Registered Oct. 3, 1896. Capital: £100,000 in £1 ordinary shares, & £270,000 debentures. All the ordinary shares are issued & fully paid. Directors: T. N. Vail, Esq. (chairman); A. B. Scott, Esq.; R. J. Davis, Esq.; H. A. Trotter, Esq.; T. Frame Thomson, Esq. Electrical engineer, J. T. Cornish; secretary, Fortescue Thursby.

Lacey, Ernest M., M.I.C.E., M.I.E.E., consulting electrical engineer, 2, Queen Anne's-gate, Westminster, London, S.W.

Lacey, F. W., M.I.C.E., F.R.I.B.A., A.M.I.E.E., borough & tramway engineer, Municipal-bldgs., Bournemouth. (Telephone No. 233.)

Lacey, Sillar & Leigh, consulting engineers, 78, King-st., Manchester (Telegs.: "Advisory, Manchester." Teleph. No. 2109); & 2, Queen Anne's Gate, Westminster, S.W. (Telegs.: "Advisedness, London." Teleph. Nos.: 678, Westminster; & 76, Victoria.)

Lackenby & Co., tramcar cover makers, Anlaby-rd., Hull.

Lackie, William W., M.I.C.E., M.I.E.E., electrical engineer, Corporation Electricity Works, 75, Waterloo-st., Glasgow. (Telegs.: "Ampere, Glasgow." Teleph. Nos.: 936 & 1304, Argyle, Nat.; & 834 & 835, P.O.)

Lacombe & Co. *See* Le Carbone.

Lacre Motor Car Co., The, specialists in electrical appliances for motor cars, 1–5, Poland-st., Soho, London, W. (Telegs.: "Unbaffled, London." Teleph. No. 1308, Gerrard.)

Lacy-Hulbert & Co., Ltd., manufacturers of air compressors, vacuum pumps, &c., 91, Victoria-st., S.W. (Telegs.: "Percussive, London." Teleph. No. 944, Victoria); & Borcas Works, Beddington.

Ladiges, Greiner & Co., glass accumulator boxes & trays, Weisswasser O./L. London representative, E. Muller, 58 & 59, Chiswell-st., E.C. *See advt., under* GLASS CELL (BATTERY) MFRS.

Lagerwall, Richard, managing director Phosphor-Bronze Co., Ltd., 87, Sumner-st., London, S.E. (Telegs.: "Phosbronze, London." Teleph. No. 4557, Hop.)

LAHMEYER ELECTRICAL CO., LTD., ELECTRIC LIGHT, POWER & TRACTION ENGINEERS, manufacturers of generators, motors, transformers, controllers & switchboards, 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. No. 2822, Gerrard.)

Laidlaw, Laidler & Co., electrical & mechanical engineers, Nutsford Vale Works, Longsight, Manchester. (Telephone No. 132, Rusholme.)

Laidler, Thomas, lightning conductor maker, 1, Lee-st., Thomas-st., Limehouse, London, E.

Laidler, Wm. Cranswick, A.M.I.E.E., 80, Clitheroe-rd., Longsight, Manchester.

Laidler, James, & Son, electricians, 83, New Elvet, Durham.

Laing, D. F., installation contractor, 25, Eglinton-st., Glasgow.

Laing, Wharton & Cunnington, electrical engineers & contractors, 93, St. Martin's-lane, London, W.C. (Telegs.: "Whardown, London." Teleph. No. 4934, Gerrard.)

Laird, G. C., A.I.E.E., Marchmont, Port Glasgow.

Lake, A., electric bell fitter, Old Fore-st., Sidmouth.

Lake, F., dealer in electrical plant and sundries, 132, Upper Thames-st., London, E.C.

Lake, G. H., assistant engineer, Corporation Electricity Works, Derby.

Lamb, A. Ramsay, district manager, National Telephone Co., Ltd., Greenock, N.B. (Telegrams: "National Telephone, Greenock." Telephone No. 1.)

Lamb, C. G., M.A., B.SC., A.M.I.E.E., lecturer in applied electricity, Engineering Laboratory, Cambridge.

Lamb, Ernest H., A.I.E.E., electrical engineer & telephone contractor, 37, King William-st., London, E.C. (Telegrams: "Lamblike, London." Nat. Telephone No. 168, Bank.)

Lamb, F. J., A.I.E.E., 52, Queen's-ave., Muswell Hill.

Lamb, Geo., lighting inspector to the Corporation, Newcastle-on-Tyne.

Lamb, Harry, A.M.I.E.E., Corporation Electricity Works, Stuart-st., Manchester.

Lamb, James, electrical engineer, Strathern House, Crieff.

Lamb, J. F., A.M.I.E.E., assistant superintending engineer, P.O. Telegraphs, Northern District, Newcastle-on-Tyne.

Lamb, Sir John C., C.B., C.M.G., director West India & Panama Telegraph Co., Ltd., Dashwood House, New Broad-st., E.C.

Lamb, Joseph P., & Co., lightning conductor manufacturers, 24, Canning-place, Liverpool.

Lambert, Carlton J., M.A., professor of mathematics, Royal Naval College, Greenwich.

Lambert, Ernest A., A.I.E.E., engineer, Pier Electric Railway, Walton-on-Naze, Essex.

Lambert, J., A.M.I.E.E., resident electrical engineer & tramways manager, Corporation Electricity Works, Perth. (Teleph. No. 101.)

Lambert, R., switch block & electrical case maker, Mansfield-rd. Cabinet Works, Oak-lane, Bradford.

Lambert Bros., manufacturers of wrought iron tubes, &c., Alpha Tube & Fitting Works, Walsall.

Lambert & Sons, wiring contractors, Broad-st., Bath.

Lambeth Brass & Iron Co., Ltd., mechanical engineers, 91 & 93, Southwark-st., London, S.E. (Telegrams: "Diaphragm, London." Telephone No. 9804, Central); & at Walsall, Staffs.

Lammond, J., & Son, electric light contractors, 32, Market-st., Brechin.

Lampard, Percy, A.M.I.E.E., 114, Clapton Common, London, N.

Lampen & Co., electrical engineers, Railway Works, & Kirkgate, Wakefield.

Lanarkshire Tramways Co. (late Hamilton, Motherwell & Wishaw Tramways Co.), 83, Cannon-st., E.C.; & Motherwell, N.B. Nominal capital: £416,000 in £10 ordinary shares & £122,000 debentures. Issued: £287,230, all fully paid, & £42,400 debentures. Directors: A. R. Monks, Esq. (chairman); H. C. Levis, Esq.; W. H. Whaite, Esq.; J. F. Nauheim, Esq.; Sir Bache E. Cunard, Bart.; G. Franklin, Esq. Secretary, A. Clements; electrical engineer, G. F. Moller.

Lanaway, R. S., electric bell manufacturer, Church-rd., Burgess Hill, R.S.O., Sussex.

Lanaway, Thos., & Son, electric bell manufacturers, Station-rd., Redhill, Surrey.

LANCASHIRE DYNAMO & MOTOR CO., LTD., electrical engineers. Head office & works: Trafford Park, Manchester (Telegs.: "Ironclad, Manchester." Teleph. Nos. 6430 & 6431); Victoria Mansions, 28, Victoria-st., London, S.W. (Telegs.: "Unformer, London." Nat. Teleph. No. 839, Westminster); Caledonian-chbrs., 87, Union-st., Glasgow (Telegs.: "Ironclad, Glasgow." Nat. Teleph. No. 1404, Royal); Star-bldgs., Northumberland-st., Newcastle-on-Tyne (Telegs.: "Ironclad, Newcastle." Teleph. No. 1923); Prudential-bldgs., St. Mary-st., Cardiff (Telegs.: "Dynamo, Cardiff." Nat. Teleph. No. 1024); & 3, New-st., Birmingham. (Telegs.: "Generator, Birmingham." Teleph. No. 4406, Central.) *See advt.*, TRANSMISSION OF POWER—ELECTRIC.

Lancashire Electric Power Co., 196, Deansgate, Manchester. (Telegs.: "Phase, Manchester." Teleph. No. 5990.) Incorporated by special Acts of Parliament, 1900, 1904 & 1906. Nominal capital: £3,000,000 in £10 shares. Directors: H. Wolfenden, Esq. (chairman); F. E. Gripper, Esq.; W. J. P. Fawcus, Esq.; W. B. Hopkins, Esq.; N. Scott Russell, Esq.; R. P. Sellon, Esq. Engineer & manager, C. D. Taite; secretary, T. E. Kay, F.C.I.S.

Lancashire Electric Supply Co., Ltd., 27A, Blackfriars-st., Manchester.

Lancashire Electrical Engineering Co., Ltd., Volt Works, Old-st., Ashton-under-Lyne. (Telegrams: "Volt, Ashton-under-Lyne." Telephone No. 172, Ashton-under-Lyne.) Registered April 19, 1898. Nominal capital: £5000 in £1 shares. 1883 shares have been taken up; £1834 is considered as paid. Director: J. McDermott, Esq., J.P. (chairman).

Lancashire Light Railways Co., Ltd., Atherton, Lancs. (Telegs.: "Tramways, Atherton." Teleph. No. 36, Atherton.) Registered April 21, 1898. Capital: £50,000 in £1 shares. 49,367 shares issued fully paid. Directors: Hon. Arthur Stanley, M.P. (chairman); J. Beecham, Esq.; J. M. Henderson, Esq., M.P.; A. Adam, Esq.; R. Watson, Esq.; J. S. Austen, Esq. Engineer, J. R. Salter, A.M.I.M.E., A.M.I.E.E.; secretary, H. P. Conibear.

Lancashire Power Construction Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W. Registered April 29, 1903. Nominal capital: £180,000 in £10 "A" shares & £120,000 in £10 "B" shares. Issued: 18,000 "A" with £10 paid & 10,000 "B" £10 paid. Directors: H. Wolfenden, Esq. (chairman); M. Barr, Esq.; T. O. Callender, Esq.; E. O. Carolan, Esq.; W. B. Hopkins, Esq. Engineer, C. D. Taite; secretary, C. H. Jones.

Lancashire Steel Co., Ltd., steel makers, Motherwell, N.B.

Lancashire United Tramways, Ltd., Atherton, Lancs. (Telegs.: "Tramways, Atherton." Teleph. No. 36.) Registered Dec. 29, 1905. Nominal capital: £200,000 in £1 shares. Nominal loan capital: £300,000 second debenture stock, £300,000 prior lien debenture stock & £100,000 deferred debenture stock. Directors: Hon. Arthur Stanley, M.P.; J. M. Henderson, Esq., M.P.; A. Adam, Esq.; J. Beecham, Esq.; R. Watson, Esq.; J. S. Austen, Esq. Secretary, H. P. Conibear; general manager, J. R. Salter, M.I.E.E.

Lancashire Watch Co., Ltd., electric bells, batteries, non-magnetic watches, &c., Prescot, Lancs.; & Bath House, 57/60, Holborn Viaduct, London, E.C. (Telegrams: "Watch, Prescot;" "Watchhouse, London." Telephone Nos.: Nat. X. 3, Prescot; & P.O. 2895, Central, London.) Registered March 13, 1897. Capital: £200,000 in £10 shares.

Lancashire & Yorkshire Railway Co. (electrical portion, Liverpool-Southport), Hunt's Bank, Manchester. Engineer, W. B. Worthington.

Lancaster, E. W., A.M.I.C.E., M.I.E.E., 59, Holborn Viaduct, London.

Lancaster, H., electrical engineer, Dolter Elec. Traction, Ltd., 3 & 4, Great Winchester-st., London, E.C.

Lancaster Corporation Electricity Supply. Works: Marton-st., Lancaster. Chairman, Councillor James Heald; borough electrical & tramways engineer, W. A. Tester; chief assistant, D. A. Hamilton.

Lancaster Electrical Fittings Co., 10A, Market-st., Lancaster; & 100, Lancaster-rd., Morecambe. A. Taylor, manager.

Lancaster, Jas., & Son, electrical instrument makers, 37, Colmore-row, Birmingham. (Telegrams: "Lankster, Birmingham." Telephone No. 216.)

Lancaster & Tonge, Ltd., engineers, steam trap & piston makers, Pendleton, Manchester. (Telegrams: "Pistons, Manchester." Telephone No. 559.)

Lance, H. Willoughby, electrical & automobile engineer, 9, Tudno-st., Llandudno. (Telegs.: "Lance, Llandudno." Teleph. Nos.: 3 Y. & 23 Y. 4; & Garage, 19 Y.)

Land, S. T., A.M.I.E.E., Electricity Works, Rathmines, co. Dublin.

Land, T., & Son, enamelled conduits for interior wiring, 73, Robertson-st., Glasgow.

Land-und-Seekabelwerke Aktiengesellschaft, Cöln-Nippes, Germany. London agents: R. W. Grant & Co., 20, St. Dunstan's Hill, Eastcheap, E.C.

Landenberger & Co., electric clocks, 91, Aldersgate-st., London, E.C. (Teleph. No. 6615, P.O.)

Lander, Leon H., A.I.E.E., works manager, Simplex Steel Conduit Co., Ltd., Garrison-lane, Birmingham.

LANDER & LARSSON, metal merchants, importers & exporters of Swedish iron, steel castings, &c. also of bright drawn brass & steel rods for high-speed lathe-work. A LARGE & WELL ASSORTED STOCK KEPT. 164, Edmund-st., Birmingham. (Telegrams: "Lander, Birmingham." Telephone No. 676. A.B.C., Lieber's & Private Codes.) *See advt. under* BRASS & IRON DRAWN RODS.

Landier, A., et fils, glass manufacturers, Sèvres & Paris. G. G. MacWilliam, home & export agent, 20, Bartlett's-bldgs., Holborn, London, E.C. (Telegrams: "Macwilliam, London.")

Landon, Will de Manôel, A.M.I.E.E., consulting electrical engineer, Green Bank, West Timperley, Cheshire.

Lane, W. E., A.M.I.E.E., hon. secretary, Electro-Harmonic Society, Finsbury Pavement House, E.C.

Lane, W. H., electrician, Sydney-rd., Staines.

Lang, Charles, import & export agent for electric supplies, 165, Queen Victoria-st., E.C. (Telegrams: "Clarinette, London." Telephone No. 10014, Central.)

Lang, Wm., A.I.E.E., 44, Torbay-rd., Chorlton-cum-Hardy, Manchester.

Lang, John, & Sons, makers of lathes, engineers' tools, &c., Johnstone, nr. Glasgow; & 149, Bishopsgate-st. Without, London, E.C. (Telegrams: "Lang, Johnstone.")

Langdon, G., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Langdon-Davies, C., electrical engineer & electrician, 35, Craven-st., Charing Cross, London, W.C. (Telegrams: "Langdies, London.")

Langdon-Davis, F. H., local manager National Telephone Co., Ltd., Bedford. (Teleph. No. 10.)

Langdon-Davies, W., A.I.E.E., 41, Portland-pl., Addison Bridge, Kensington, London, W.

LANGDON-DAVIES MOTOR CO., LTD., SOUTHWARK WORKS, DEVERELL-ST., LONDON, S.E. SINGLE-PHASE, POLYPHASE & CONTINUOUS CURRENT ELECTRO MOTORS. F. B. O. HAWES, A.M.I.C.E., A.I.E.E., MANAGING DIRECTOR. (TELEGRAMS: "DAMOPHON, LONDON." TELEPHONE NO. 277, HOP.) Registered Jan. 20, 1905. Nominal capital: £5000, divided into 4195 shares of £1 each, & 16,100 shares of 1s. each. 2507 shares of £1 each have been taken up, & 16,100 shares of 1s. each have been issued as fully paid. £5000 debentures issued. Directors: F. B. O. Hawes (chairman); A. W. Cree, Esq.; F. W. Hartmann, Esq.; E. Yatman, Esq. Secretary, W. R. Sidwell. *See* ALTERNATE CURRENT MOTORS.

Lange, F. M. T., M.I.M.E., A.M.I.C.E., C.E. (Paris), M.H.V.E., of Geipel & Lange, Victoria Works, 72A, St. Thomas'-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 2468 & 594, Hop.)

Lange, Philip A., general manager, Westinghouse Works, Trafford Park, Manchester.

Langford, W., engineer & general manager, Gas & Electric Light Works, Longton, Staffs. (Telegs.: "Gas Works, Longton." Teleph. No. 4013.)

Langley, F., A.I.E.E., 74, Marlcliffe-rd., Sheffield. (Teleph. No. 82, Owlerton.)

Langlois, T., & Co., electrical engineers, 31, Bordage-st., Guernsey. (Teleph. Nos. 62 & 2329.)

Lankester & Son, Ltd., electric light engineers & contractors, High-st., Southampton. (Telephone No. 140.)

Lanng, V. R., superintendent, Great Northern Telegraph Co., Ltd., Aberdeen.

Lappin, A., testing superintendent, Corporation Electricity Department, 33, Swan-rd, Harrogate.

Larbert Electricity Works, Larbert, Scotland. Scottish Central Electric Power Co., proprietors. Engineer, W. D. Morgan; general manager, E. C. Churchward.

Laredo, A. M., director Mazarron Electric Light Co., Ltd., 103 & 104, Dashwood House, E.C.

La Reina de Plata, Ltd., 4, Great Winchester-st., London, E.C. Registered March 7, 1905. Nominal capital: £12,000 in £1 shares.

Larke, W. J., M.I.E.E., A.M.AM.I.E.E., M.I.MINING.E., A.M.I.MECH.E., 121, Clifton-rd., Rugby.

Larkin, Thomas J., M.I.E.E., Reculver Villa, Beltinge, Herne Bay, Kent.

Larkins, A. B., M.I.E.E., 33, Philbeach-gdns., South Kensington, London, S.W.

Larkins, Wm., lightning conductor erector, 18, Alfred-st., Bow, London, E.

Larkman, Alfred E., A.I.E.E., 78, High-st., Southampton.

Larmuth, T., & Co., makers of machinery for electric & telephone wires & cables, Salford, Manchester. (Telegrams: "Hirnant, Manchester." Telephone No. 956.)

Larne Electric Light Works, Ltd., Suffolk House, Laurence Pountney-hill, London, E.C. Registered Feb. 24, 1896. Nominal capital: £4000 in £1 shares (500 preference). All the ordinary & preference have been taken up & considered as fully paid. Directors: P. A. Scratchley, Esq.; J. D. A. Norris, Esq. Engineer at Larne, M. G. Smyth, A.M.I.E.E.; secretary, A. H. Tucker.

Lassen & Hjort, makers of water softeners, 52, Queen Victoria-st., E.C. (Telegrams: "Tentwort, London." Telephone No. 4369, Central.)

Latch & Batchelor, Ltd., steel makers, wire drawers & wire rope makers, Hay Mills, nr. Birmingham (Telegrams: "Latch, Hay Mill." Telephone No. 3338); & at Avon Steel Works, Sheffield.

Latham, P. W., M.D., Trumpington-st., Cambridge. Director Cambridge Electric Supply Co., Ltd.

Latimer, Frederic Digby, A.M.I.E.E., Engineer-in-Chief's Department, National Telephone Co., 26, Cooper-st., Manchester.

Lauderdale, The Right Hon. the Earl of, Thirlestane Castle, Lauder, N.B. Chairman Great Northern & City Railway Co.

Laurence, Reginald, A.M.I.C.E., director of Laurence, Scott & Co., Ltd., Gothic Works, Norwich.

LAURENCE, SCOTT & CO., LTD., Electrical Engineers, manufacturers of the Norwich dynamos & motors, enclosed motors, &c., Gothic Works, Norwich. (Telegrams: "Gothic, Norwich." Nat. Telephone No. 246. A.B.C. Code used.) Reconstructed Dec. 24, 1896, with a capital of £50,000 in 4995 shares of £10 each & 50 founders' shares of £1 each.

Laurie, A. P., M.A., D.SC., principal Heriot Watt College, Edinburgh.

Laurie, P., power house engineer, Cork Electric Tramways & Lighting Co., Ltd., Cork.

Laurie, Thomas, electrical apparatus for schools, 13, Paternoster-row, London, E.C.

Laurie, T., & Co., electric lighting power & telephone engineers, West End, Falkirk. (Teleph. No. 42.)

Law, A. Bonar, M.P., Kintillo, Helensburgh, N.B. Director The Traction & Power Securities Co., Ltd.

Law, Alexander H., B.A., A.M.I.C.E., A.I.E.E., 150, Portland-rd., Newcastle-on-Tyne.

Law, E., The Pavilion, Hampton Court Palace, Hampton Court. Director Metropolitan District Railway.

Law, G., electric tramways & public works contractor, Kidderminster. (Telegrams: "Law, Kidderminster." Telephone No. 61.)

Law, G. C., chief assistant electrical engineer, Electricity Works, Barnes.

Law, G., jun., director Nuneaton & District Light Railway Co., Ltd., 89, Glover-st., Birmingham.

Law Accident Insurance Society, Ltd., 215, Strand, London, W.C. (Telegrams: "Lifeguard, London." Telephone No. 140, Holborn.)

Law, J. & A., arc lamp post makers, Rae-st., Glasgow. (Telegs.: "Cast-iron, Glasgow." Tel. No. 179.)

Law, S., & Sons, Ltd., wire drawers & manufacturers, Moorland Mills, Cleckheaton, Yorks. (Telegrams: "Law, Cleckheaton.")

Lawler, J. E., engineer & agent, 39, Lime-st, London, E.C.

Lawless, Louis J., A.I.E.E., 27, Castlewood-ave., Rathmines, Dublin.

Lawrance, N. McL., A.I.E.E., electrical engineer, director Mountain & Gibson, Ltd., Elton Fold Works, Bury, Lancs.

Lawrance, W. J., ivory & wood turner in electrical small work, 9, Giltspur-street, London, E.C.

Lawrence, Julius Pierpoint, A.M.I.E.E., 16D, Chapel-st., Harrogate, Yorks. (Telephone No. 20 X.); & Market-pl., Knaresborough.

Lawrence, Sir Ed., J.P., The Grange, St. Michael's Hamlet, Liverpool. Director Liverpool Overhead Railway Co., Ltd.

Lawrence, Sir W. R., Bart., G.C.I.E., 22, Sloane-gdns., S.W. Chairman Indian Electric Supply & Traction Co., Ltd.

Lawrence, W., director Kingswood Electric Supply Co., Ltd., All Saints' Works, The Exchange, Bristol.

Lawrence Patent Water Softener & Sterilizer Co., Ltd., Norland-yard, Uxbridge-rd., London, W. (Telegrams: "Sterility, London." Telephone No. 1481, Western.)

Lawrence's, Ltd., electrical & general engineers, 6, Spur-st., Leicester-sq., London, W.C. (Telephone No. 1307, Central.) Works: Blackfriars, S.E.

Lawrie, J., engineer, Corporation Electricity Works, Paisley.

Lawry, H., Ltd., installation contractors, Old Town-st., Plymouth.

Laws & Son, electric light fittings makers, 155–159, Rosebery-ave., London, E.C.

Lawson, A. J., M.I.C.E., M.I.E.E., civil & consulting engineer, 4, Adelphi-ter., London, W.C.

Lawson, H. M., A.I.E.E., 47, Kirkley-rd., Merton Park, Wimbledon, S.W.

Lawson, J., electrical contractor, 24, High-row, Darlington.

Lawson, Turnbull & Co., Ltd., electric light fitting factors, Mealmarket-st., Aberdeen. (Telegrams: "Lawson, Aberdeen." Telephone No. 132.)

Lawson's Non-Conducting Composition, Ltd., manufacturers of & dealers in insulating materials, &c., 140, Minories, London, E.

Layborn, Daniel, & Co., iron, steel, metal & tinplate merchants, Dutton-st., Liverpool. (Telegrams: "Laypat, Liverpool." Telephone No. 499.)

Laye, A. H. W., director International Ethiopian Railway Trust & Construction Co., Ltd.

Layton, A. B., A.M.I.E.E., c/o Jos. Crosfield & Sons, Ltd., Warrington.

Layton, Gordon, A.I.E.E., A.AM.I.E.E., electrical engineer, "Clovelly," Rowan-ave., Brooklands, Cheshire.

Layton, J., electrical engineer, Corporation Electricity Works, Tucker-st., Canning Town, London, E.

Lazenby, Arthur, M.I.E.E., c/o Willans & Robinson, Ltd., Victoria Works, Rugby.

Lea, A. H., M.I.M.E., A.I.E.E., Glenroy, Kettering.

Lea, Frank J., A.I.E.E., consulting electrical engineer, Silverdale, The Mount, Shrewsbury. (Telegs.: "Lea, Silverdale, Shrewsbury." Teleph. No. 8 X.)

Lea, Fred M., A.M.I.C.E., M.I.MECH.E., A.M.I.E.E., 38, Bennett's Hill, Birmingham.

Lea, Henry, agent for Messrs. Veritys, Ltd., High-st., Burton.

Lea, Henry, M.I.E.E., M.I.C.E., M.I.M.E., 38, Bennett's Hill, Birmingham. (Telegrams: "Engineer, Birmingham." Telephone No. 113.)

LEA, HENRY, & SON, consulting & electrical engineers, 38, Bennett's Hill, Birmingham. (Telegrams: "Engineer, Birmingham." Telephone No. 113.)

Lea & Perrins, manufacturers of electric light fittings, Midland Works, Bracebridge-st., Birmingham. (Telephone No. 3260.)

LEA, SON & CO., electrical engineers & manufacturers of electroliers, switchboards & electrical accessories, Pengwerne Works, Shrewsbury (Telegs.: "Lea, Son, Shrewsbury." Teleph. No. 60); & St. Mary's Walk, Stafford. (Telegs.: "Lea, Son, Stafford." Teleph. No. 93.)

Lea & Warren, electrical & general engineers, Glenroy Works, Kettering. (Telegs.: "Lea Warren, Kettering." Tel. No. 1 Y., Kettering.) Branches at Northampton, 53, Gold-st. (Tel. No. 9 X.); & Kettering, Rockingham-rd. (Tel. No. 1 Y.) London office: 7, VICTORIA-ST., WESTMINSTER.

Leach, E. H., The Chestnuts, Newmarket. Director Newmarket Electric Light Co., Ltd.

Leach, H. L., M.I.E.E., consulting electrical engineer, 3, Victoria-st., London, S.W. (Telegs.: "Cornutam, London." Teleph. No. 1201, Victoria); & 64, Drewstead-rd., Streatham, S.W.

Leach, R. B., electrical engineer, Urban District Council, Farnworth.

Leach Bros. & Co., contractors for telegraphs, telephones, electric bells, &c., Deansgate, Manchester.

Leadbeater & Gill, Ltd., hydraulic, mechanical & electrical engineers, Braithwaite-st., Holbeck, Leeds.

Leader Engineering Co., Ltd., electrical & mechanical engineers, 30, Red Lion-sq., London, W.C. (Telephone No. 13542, Central.)

Leaf, Henry M., mechanical & electrical engineer & contractor, 47, Victoria-st., Westminster, S.W. (Telegrams: "Locksley, London." Telephone No. 653, Westminster.)

Leaf, Walter, 6, Sussex-pl., N.W. Director & vice-chairman St. James' & Pall Mall Electric Light Co., Ltd.; director Central Electric Supply Co., Ltd.

Leahy, A. H., M.A., professor of mathematics, University College, Sheffield.

Leahy, C. E., electrical engineer, Church-street, Tralee.

Leake, H. C., A.M.I.C.E., A.M.I.E.E., electrical engineer, H.M. Dockyard, Devonport.

Leake, J. M., director Welsh Electric Traction Co., Ltd., 33, Brazennose-st., Manchester.

Leake, H., & Co., wiring contractors, The Elms, Lytham-rd., St. Anne's-on-Sea.

Leamington Spa Electricity Works. Midland Electric Light & Power Co., Ltd., proprietors. (Teleph. No. 92.) Engineer, F. W. E. Jones, M.I.E.E.

Leamington & Warwick Electrical Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C.; & Power Station, Emscote-rd., Warwick. Capital authorized: £75,000 in £10 ordinary shares, £25,000 in £10 preference shares, & £100,000 loans. Issued: 6759 ordinary shares fully paid, 241 preference shares fully paid & £4600 debentures. Directors: E. Garcke, Esq. (chairman); J. W. Mann, Esq.; R. S. Gold, Esq.; J. C. Purser, Esq.; J. A. Lycett, Esq. Engineer, F. J. Smith; secretary, B. Kingsford. Dividends: 1902, 6 per cent.; 1903, 7 per cent.; 1904, 5 per cent.; 1905, 4 per cent.

Lean, A. Ll., A.M.I.E.E., electrical engineer, 99, Jerningham-rd., New Cross, London, S.E.

Leask, A. R., consulting engineer, 11, Crescent, Minories, E.C. (Telegrams: "Polygram, London.")

Leather, Geo. Hy., acid manufacturer, North Brook Vitriol Works, Bradford, Yorks. (Telegrams: "Leather, Bradford." Telephone No. 1012.)

Leather, J. H., Normansleigh, Minehead. Chairman Minehead Electric Supply Co., Ltd.

Leatherhead & District Electricity Co., Ltd., 28, Victoria-st., Westminster, S.W.; & Leatherhead, Surrey. (P.O. Teleph. No. 6.) Registered June 26, 1901. Nominal capital: £25,000 in £1 shares; issued & fully paid, £20,000. Loans: £1769. Directors: P. Ralli, Esq. (chairman); S. H. Cook, Esq.; G. E. S. Venner, Esq. Consulting engineers, Handcock & Dykes; electrical engineer, H. L. Dixon, A.M.I.E.E.; secretary, G. E. S. Venner.

Leaver, J. J., ironmonger & electrician, 30, High-st., Weston-super-Mare. (Telegrams: "Leaver, Ironmonger, Weston-super-Mare." Telephone No. 63.)

Le Bas, Edward, & Co., iron, steel & metal, Dock House, Billiter-st., London, E.C. (Telegs.: "Gramercy, London." Teleph. Nos.: 1414, Avenue; & 1414, Central. A1, A.B.C., Lieber's & Western Union Codes.)

Leber, J., press & press tool maker, Kingsbury-rd., Ball's Pond, London, N.

LE CARBONE (formerly Lacombe & Co.), WORKS, LEVALLOIS-PERRET, PARIS, manufacturers of CARBONS, 17, Water-lane, E.C. (Telegs.: "Lacombe, London.") *See* DYNAMO BRUSHES & DYNAMO MKRS.

Le Clair, Louis J., A.M.I.MECH.E., A.M.I.E.E., &c., Engineer's Dept., St. James's Gate Brewery, Dublin.
Le Claire, August, electrician, 67, Praed-street, London, W.
Ledger, P. G., A.I.E.E., "Winston," 210, High-road, Lee, London, S.E.
Lednor, C., engineer & electrician, King-st., Ramsgate. (Telephone No. 3 X. 5.)
Ledward, A. P., 29, Langland-gdns., N.W. Director Brisbane Electric Tramways Investment Co., Ltd.
Ledward & Beckett, Ltd., mechanical engineers, Sanctuary House, Tothill-st., London, S.W. (Telegrams: "Preferment, London." Telephone No. 872, Victoria, P.O.)
Lee, A. E., electrical engineer, Rugby School Electricity Works, Dunchurch-rd., Rugby.
Lee, A. M., electrical contractor, 61, Leadenhall-st., London, E.C.
Lee, Edwin, electrical engineer & wiring contractor, Torquay.
Lee, E. H., A.I.E.E., electrical engineer, 149, Clive-rd., Dulwich, London, S.E.
Lee, G. P., A.M.I.E.E., c/o Westminster Electric Supply Corporation, Millbank-st., London, S.W.
Lee, H. B., electrical & manufacturing engineer, 42, Kentish Town-rd., London, N.W.
Lee, Walter, engineer, Macroom & District Electric Lighting Syndicate, Ltd., Cork, Ireland.
LEE, ARTHUR, & BROS., LTD., manufacturers of marble & slate slabs for electrical fittings, Hayes, Middlesex. (Telegrams: "Lee, Hayes, Middlesex." P.O. Telephone No. 11, Hayes. A.B.C. Code.) Factories & wharves: Cumberland-rd., Bristol.
Lee, Arthur, & Sons, Ltd., steel & wire manufacturers, also hot & cold rollers, Crown Steel & Wire Mills, Sheffield. (Telegrams: "Crown, Sheffield." Telephone Nos.: 40; & Rolling Department, 2032.)
Lee, Charles, & Son, electric bell fitters, Stall-st., Bath.
Lee & Co., manufacturers of electric light fittings, 57, Theobald's-rd., London, W.C.
Lee, Fred, & Co., manufacturers of jewels for watches, for electrical phonographs & telegraphic instruments, Dover-st., Coventry. (Telegrams: "Fred Lee, Coventry.")
Lee & Hunt, machine & engineers' tool makers, Arkwright Tool Works, Crocus-street, Nottingham. (Telegrams: "Lee, Nottingham." Telephone No. 246.)
Lee, Lawrence, & Son, electric bell fitters, 13 & 15, Great George-st., Liverpool. (Telephone No. 1816.)
Leech, S. G., M.I.E.E., electrical engineer, 127, Stanwell-rd., Penarth, S. Wales. (Tel. No. 71, Penarth.)
Leech & Sinkinson, Ltd., Leeds, manufacturers of electric wire covering materials. (Telegrams: "Sinkinson, Leeds." Telephone Nos. 855 & 860. A.B.C. & Lieber's Codes used.)
Leeds Copper Works, Ltd., Pontefract-rd., Leeds. (Telegrams: "Electro, Leeds." Telephone No. 615.)
Leeds (City of) Electric Lighting Department, 1, Whitehall-rd., Leeds. (Telegs.: "Electricity, Leeds." Teleph. Nos.: 3525–6, Office; 2055, Works.) Engineer, H. Dickinson.
Leeds Corporation Tramways. (Telegrams: "Tramways, Leeds." Telephone Nos. 44, 1690 & 2011.) Engineer, J. Burbridge.
Leeds Forge Co., Ltd., manufacturers of Siemens acid open-hearth steel, flat plates, &c., Leeds; & 108, Fenchurch-st., & 63, Queen Victoria-st., London, E.C. (Telegrams: "Vulpes, Leeds." Telephone Nos. 107 & 2593, Leeds.)
Leeds Institute, Technical School, Cookridge-st., Leeds. *See* SCHOOLS.
Leeds Local Section of the Institution of Electrical Engineers. H. Dickinson, hon. secretary, Corporation Electricity Department, Whitehall-rd., Leeds.
Leefe, F. E., art metal workers & artistic fittings maker, 364, Goswell-rd., London, E.C. (Telegs.: "Leefregel, London." Teleph. No. 1926, Central.)
Leek Urban District Council Electricity Works, Leek, Staffs. Engineer, R. M. Carr, A.M.I.E.E.; assistants, F. Williams & R. B. Perring.
Leeming, W. J., A.M.I.E.E., chief electrical engineer to the Electricity Department, Buxton.
Leeming, Wm. T., A.M.I.E.E., Booth-st.-chbrs., Booth-st., Ashton-under-Lyne.
Lees, Charles H., D.SC., F.R.S., A.I.E.E., professor of physics, East London Technical College, Mile End-rd., London, E.
Lees, H., assistant shift engineer, West Ham Corporation Electricity Works, Tucker-st., Canning Town, E.
Leese, W. F., 17, Carlton-rd., Ealing, London, W. Director Brompton & Kensington Electric Light Supply Co., Ltd.; director Rosario Electric Co.; chairman Costa Rica Electric Light & Traction Co.
Leeson, J. G., A.M.I.E.E., 39, Tyrwhitt-rd., St. John's, London, S.E.
Le Feuvre, W. T., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Bexhill. (Telephone No. 7.)
Legg, F. G. I., electrical engineer, Spiers & Pond, Bridge House, 181, Queen Victoria-st., London, E.C.
Legg, John, & Sons, telephone contractors, Nelson-st., Swansea. (Telegrams: "John Legg, Swansea." Telephone No. 96.)
Leggat, John, A.I.E.E., c/o Scott & Leggat, Cardiff.
Leggat, J. F., & Co., electrical & general engineers, 94, Dobbies-loan, Glasgow. (Teleph. Nos.: Corp. 4889, Central; Nat. 4889, Royal.)
Legge, W. A., assistant engineer, Corporation Electricity Works, Govan.
Legge, W. N., electrician-in-charge, Corporation Electricity Works, Southport.
Le Grand & Sutcliff, artesian well engineers, 125, Bunhill-row, London, E.C. (Telegrams: "Abyssinian, London." Telephone No. 1649, Central.)
Legros, Lucien Alphonse, A.I.E.E., Melbury, Clarendon-rd., Watford.

Lehmann, L., mica merchant, 68, Basinghall-st., London, E.C. (agent for Frankfort Mica Manufacturing Co.). (Telegrams: "Richtig, London." Telephone No. 2180, Central.)

Lehmann Bros. (late T. Lehmann), original maker of the B.A. standard screw threads, Hampshire Works, Station-rd. (nr. St. James-st. Station, G.E.R.), Walthamstow, London, N.E.

Leicester Corporation Electricity Works, Leicester. (Telegrams: "Gas, Leicester." Telephone Nos.: Offices, 433; Works, 788.) Engineer, Alfred Colson, M.I.C.E., M.I.E.E.; superintendent, J. E. M. Stewart.

Leicester Municipal Technical School, Leicester. *See* SCHOOLS, CLASSIFIED SECTION.

Leicestershire & Warwickshire Electric Power Co., 5, Great George-st., Westminster, London, S.W. Acts obtained in 1902 & 1904. Nominal capital: £750,000, & borrowing powers, £250,000. Engineer, H. Graham Harris (Bramwell & Harris).

Leicestershire & Warwickshire Electric Power Syndicate, Ltd., 5, Great George-st., Westminster, London, S.W. Registered Dec. 24, 1901. Nominal capital: £20,000 in £10 shares. Issued: £14,800. Directors: Lieut.-Gen. Sir R. H. Sankey; C. Thomson, Esq.; Major W. M. Mackenzie; H. Holloway, Esq.; M. Robinson, Esq.; B. Hurst, Esq. Engineer, H. Graham Harris (Bramwell & Harris). Secretary, C. D. Prince.

Leigh, F. A. Cortez, M.I.E.E., consulting engineer (of Lacey, Sillar & Leigh), 78, King-st., Manchester.

Leigh Corporation Electrical Department, Leigh, Lancs. Engineer & manager, A. T. Smith.

Leigh, Evan, & Son, machinery exporters, 19, James-st., Liverpool.

Leigh Technical School, Leigh. *See* SCHOOLS.

Leighton, G. A., engineer, Keswick Electric Light Co., Keswick.

Leinster Paper Co., Ltd., manufacturers of American insulating, glass & tag papers, &c., Clondalkin nr. Dublin. (Telegrams: "Paperworks, Clondalkin.")

Leiper, A. D., superintendent of telegraphs, Aberdeen.

Leith, Alexander, & Co., electrical engineers, 10, Neville-st., Newcastle-on-Tyne.

Leith Corporation Electricity Works, Leith. Engineer, A. P. Rutherford, A.M.I.E.E. (Telegrams: "Ampere, Leith." Telephone No. 230.)

Leitner, Hy., managing director Accumulator Industries, Ltd., Woking.

Le Maistre, C. D., A.M.I.E.E., 81, Argyle-rd., West Ealing, W.

Le Marchant, J. G., director Monte Video Telephone Co., Ltd., 340, Dashwood House, London, E.C.

Lemon, John, & Son, electric bell fitters, Enniskillen, Ireland.

Lennard, J. Milner, Erimus-chbrs., Middlesbrough. Director Cleveland Trust, Ltd.

Lennard, R. F. Barrett, M.A., A.I.E.E., United University Club, Pall Mall East, London, S.W.

Lens Lamp Co., Ltd., incandescent electric lamp manufacturers, 7, Great St. Helens, London, E.C.

Leon, G. E., 5, Throgmorton-st., London, E.C. Director Yorkshire (West Riding) Electric Tramways Co., Ltd.

Leon, H. S., J.P., Bletchley Park, Bletchley, Bucks. Chairman Smithfield Markets Electric Supply Co., Ltd.; chairman Yorkshire (West Riding) Electric Tramways Co., Ltd.

Leonard, William, M.I.E.E., chief electrical engineer, S.E. & Chatham Railway Co., Tonbridge, Kent.

Leonardt, E. H., A.M.I.E.E., resident electrical engineer, Westminster Electric Supply Corporation, Eccleston-pl., Belgravia, London, S.W. (Telegs.: "Visual, London." Teleph. No. 266, Westminster.)

Leroux, L. A., dynamo brush maker, 3, Aldermanbury-bldgs., E.C. (Telegrams: "Questant, London.")

Leroy, F., & Co., manufacturers of Leroy's composition for coating boilers, 11, Gray-st., Commercial-rd., London, E. (Telegrams: "Efficiency, London." P.O. Telephone No. 5055, Central); & Gordon-st., Lower Broughton, Manchester.

Leslie, Bradford, M.I.E.E., 7, Sanctuary, Westminster, London, S.W.

Leslie, F., electrical & general engineer, 87A, Theobald's-rd., London, W.C.

Leslie, F. J., 15, Union-ct., Castle-st., Liverpool. Director South London Electric Supply Corporation, Ltd.

Le Souef, H. J., electrical engineer, c/o F. J. Stone & Co., 1B, Bishopsgate-st. Without, London, E.C.

Lester, J. E., electrical engineer, &c., 2, Cank-st., Leicester. Works: Langton-st., Belgrave Gate, Leicester (Telegs.: "Lester, Electrician, Leicester." Teleph. No. 04043); Newdigate-chbrs., Nuneaton (Telegs.: "Lester, Electrician, Nuneaton." Teleph. No. 4 X.); & Boston.

Lester, Ll. R., civil & electrical engineer, 57, Derwent-rd., Moss-rd., Stretford, Manchester.

Lester, W., & Co., electrical agents, 11, West Regent-street, Glasgow. (Telegrams: "Retsel, Glasgow." Telephone No. 1285.)

Le Tall, F. W., A.I.E.E., 2, Norfolk-st., Strand, London, W.C.

Letheren, T. W., wiring contractor, 29, Friars-walk, Exeter.

Letheren, W., & Sons, art metal workers, Vulcan Iron Works, Cheltenham.

Leven, Chas., M.I.E.E., 109–111, New Oxford-st., London, W.C.

Lever Bros. & Co., ignition accumulator manufacturers, 101, Dawes-rd., Fulham, London, S.W.

Levetus, E. & A., & Co., exporters of electrical & telegraphic plant, Stone House, 55 & 56, Basinghall-st., London, E.C. (Telegs.: "Levetus, London." Teleph. No. 12693, Central); & at Birmingham & Calcutta.

Levi, Walter, manager Midland Electric Wire Co., Leicester.

Levin, A. E., A.M.I.E.E., "Hillcroft," Shawfield Park, Bromley, Kent.

Levis, H. C., The Hall, Bushey, Herts. Managing director British Thomson-Houston Co., Ltd.; director Chatham & District Light Railways Co.; Lanarkshire Tramways Co.; Cork Electric Tramways & Lighting Co., Ltd.; British Tramways & General Construction Co., Ltd.; Uddingston District Electric Lighting Co., Ltd.; Isle of Thanet Electric Tramways & Lighting Co., Ltd.

Lewellen, F. W., & Co., electric light contractors, Clacton-on-Sea.

Lewenz, Henry I., A.M.I.MECH.E., A.M.I.E.E., c/o Hillier & Co., Camperdown Motor Works, Winchester-rd., Romsey, Hants.

Lewes & District Electric Supply Co., Ltd., Donington House, Norfolk-st., London, W.C.; & Lewes, Sussex (engineer, C. F. Butler, A.M.I.E.E.). Registered as the County of Sussex Electrical Power Distribution Co., Ltd., Nov. 28, 1899. Nominal capital: £25,000 in £10 ordinary shares, £25,000 in £10 preference shares. Issued: 2507 ordinary shares, fully paid. Directors: G. J. Somerville, Esq. (chairman); Geo. Offor, Esq. Secretary, H. A. Stagg.

Lewin, S. H., & Co., electric light, bell & telephone contractors, 154, Walton-st., W. (Telephone No. 373, Western.)

Lewis, C. G. H., A.M.I.E.E., 5, Windsor-rd., Rathmines, Dublin.

Lewis, D. M., M.A., professor of physics, University College of Wales, Aberystwyth.

Lewis, F., assistant engineer, Chatham, Rochester & District Electric Lighting Co., Ltd., Chatham.

Lewis, F. E., chief assistant electrical engineer, Town Council, Canterbury.

Lewis, F. H., director Cornwall Electric Power Co.

Lewis, F. Harman, A.I.E.E., electrical engineer & manager Leyton District Council Electricity Works, Cathall-rd., Leytonstone.

Lewis, H. A., B.A., A.M.I.E.E., Electrical Department, North Staffordshire Railway, Stoke-on-Trent.

Lewis, Herbert D. W., M.I.E.E., consulting engineer, Prudential-bldgs., St. Mary-st., Cardiff. (Teleph. Nos.: 978, Office; & 0666, House.)

Lewis, Joseph, electrical engineer & lightning conductor manufacturer, 5 & 6, Great Winchester-st., London, E.C. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.)

Lewis, Major D., Gorseinon. Director Gorseinon Electric Light Co., Ltd.

Lewis, Robert, A.I.E.E., electrical engineer, 19, Church-sq., Rye, Sussex.

Lewis, T., Bryngwyn Hall, Gorseinon. Director Gorseinon Electric Light Co., Ltd.

Lewis, T. E., electrical engineer, South Wales Electrical Power Distribution Co.'s Generating Stations, Bridgend & Neath.

Lewis, W., director Railway Construction & General Development Co. (Tasmania), Ltd., 231–3, Dashwood House, E.C.

Lewis, Wm. T., dealer in electrical sundries, 10, Chryssel-rd., Brixton, London, S.W.

Lewis, Edwin, & Sons, tube manufacturers, Wolverhampton, Staffs. (Telegs.: "Lewis, Wolverhampton." Teleph. No. 7015); & 56–58, South John-st., Liverpool. (Telegs.: "Unexcelled, Liverpool." Teleph. No. 1582.)

Lewis & Fletcher, consulting electrical engineers, Prudential-bldgs., St. Mary-st., Cardiff. (Telephone No. 978, Nat.).

Lewis, J. & S. W., electric motor car builders, London-rd., Twickenham, London, S.W.

Lewis Motor Co., Ltd., motor & dynamo manufacturers & contractors, 4, South Parade, Leeds. (Tel. No. 7.)

Lewisham Electrical Laboratory, 13, Manor-ter., Lewisham.

Leybourne, S. J., Birchholme, Gateshead. Director Priestman Power Co., Ltd.

Leyland & Birmingham Rubber Co., Ltd., insulating material manufacturers, Golden Hill Works, Leyland, nr. Preston (Telegrams: "Rubber, Leyland." Telephone No. 11); 45, Hope-st., Glasgow; Tower-chbrs., 29, Brown-st., Manchester; 26 & 30, Duke-st., Aldgate, London, E.C.; & 124, New-st., Birmingham. Registered May 18, 1898. Nominal capital: £300,000 in £1 shares, 233,557 of which are issued & are fully paid.

Ley's Malleable Castings Co., Ltd., malleable iron castings, Vulcan Iron Works, Derby. (Telegrams: "Leys, Derby." Telephone No. 69.)

Leys, G. Duthie, electrical engineer, H.M. Dockyard, Haulbowline, Ireland.

Leyton Technical Institute, Leyton. *See* SCHOOLS.

Leyton Urban District Council Electricity Works, Cathall-rd., Leytonstone, London, E. F. Harman Lewis, A.I.E.E., engineer & manager. (Teleph. No. 930, East.)

Libby, J., electric bell fitter, Camborne.

Lichtenberg, Carl Louis, A.I.E.E., Electric Light Station, Kensington Court, London, W.

Lichtenberger, Rudolf, electric table lamp maker, 183, Finchley-rd., London, N.W.

Lichtwitz, L., & Co., zinc merchants, Zinc Works, Carlton-bridge, Westbourne-park, London, W. (Telegrams: "Lichtwitz, London.")

Liddell, C. O., Shirenewton Hall, Chepstow. Director Chepstow Electric Lighting & Power Co., Ltd.

Liddердale, A. H., A.M.I.E.E., A.AM.I.E.E., South Hall, Hemel Hempsted, Herts.

Liddle, John, chartered patent agent, 154, St. Vincent-st., Glasgow. (Telegs.: "Patentable, Glasgow.")

Lidgerwood Manufacturing Co., electric crane & hoist makers, Caxton House, Westminster, London, S.W. (Telegs.: "Lidgerwood, London." Teleph. No. 585, Westminster.)

Lidwell, W. J., engineer, Rottingdean Electric Light & Power Co., Ltd., High-st., Rottingdean.

Liebert, E. H., A.M.I.E.E., c/o J. Holroyd & Co., Ltd., Perseverance Works, Milnrow, nr. Rochdale.

Lieder, P. A., Blumenstr., Hamburg. Director Peking & North China Electrical Corporation, Ltd.

Lift Accessories Co., Standard Works, Rolt-st., Deptford, S.E. (Teleph. No. 127, Deptford.)

Light, J., Kenley Court, Kenley, Surrey. Director Metropolitan Railway Co.

Light Electric Motor Co., Ltd., manufacturers of electrical specialties, Seven Kings Electric Works, Ilford, Essex.

Light & Power Fittings Co., Ltd., City Arcade, Birmingham.

LIGHT RAILWAY & TRAMWAY JOURNAL (weekly, 1s.; ann. sub., 10s.), 16, Eldon-st., London, E.C. (Telegs.: "Colonizers, London." Teleph. No. 1716, London Wall.) Editor, W. E. Freir. *See advt. facing* PUBLICATIONS.

Light Railways Syndicate, Ltd., 56, Lincoln's Inn Fields, London, W.C.

Lightfoot, Thomas Bell, M.I.C.E., consulting engineer, 35, Queen Victoria-st., London, E.C. (Telegrams: "Separator, London." Telephone No. 1573, Bank.)

Lightfoot Bros., electrical engineers, 15A, Cooper-st., Manchester. (Telephone No. 350.)

Liley, E. L., consulting electrical engineer, Central Electric Works, Wood-st., Liverpool. (Telephone No. 2654, Royal.)

Lilleshall Co., Ltd., makers of cables, iron, &c., Shifnal, Salop.

Lilley, J. E., 10, Throgmorton-ave., E.C. Chairman Pioneer Gas, Electric Light & Power Co. of South Africa, Ltd.

Limavady Power & Light Works, Largy Mills, Limavady, Ireland. Manager & electrician, E. J. S. Ritter; engineer, A. Rankin.

Limerick Corporation Electricity Works, Limerick. Consulting engineer, J. Enright; resident engineer, J. Gallinagh.

Limerick Electric Tramway Co., Ltd., Star Life-bldgs., College Green, Dublin. Registered June 2, 1898. Capital: £2000 in £1 shares. Issued: 604 shares, £1 called. Directors: J. Chambre, Esq.; J. A. Wilson, Esq.; W. H. Wilson, Esq.; A. Lane Joynt, Esq.; H. R. Glynn, Esq. Secretary, J. H. Barton.

Limerick Municipal Technical Schools, Limerick. *See* SCHOOLS.

Linay, J. Carter, manufacturing electrician, High-st., Chatham (Telegrams: "Linay, Chatham"); & Vulcan Works, Rochester.

Lincoln Corporation Electricity Works & Tramways. Stanley Clegg, M.I.E.E., city electrical & tramway engineer. (Telegrams: "Stanley Clegg, Lincoln." Telephone No. 109.)

Lind, A. L., A.I.E.E., 60, Castle-st., Liverpool.

Lind, E. G., A.M.I.E.E., Tudor Storage Battery Export Syndicate, Ltd., Milton House, Surrey-st., W.C.

Lind & Co., wholesale electric supplies & manufacturers' agents, 60, Castle-st., Liverpool. (Telegrams: "Ampère, Liverpool." Telephone No. 5249, Central.)

Linde, Albert de, A.M.I.C.E., M.I.E.E., Sanctuary House, Tothill st., London, S.W.

Lindley, H., M.I.E.E., mechanical engineer, Kendall & Gent, Ltd., Victoria Works, Gorton, Manchester.

Lindley, C., & Co., Ltd., engineers' tools, 34, Englefield-rd., London, N. (Telegs.: "Beauvoir, London." Teleph. No. 168, Dalston); & Beauvoir Bolt & Nut Works, Luddenden, Yorks.

Lindsay, Alex., A.M.I.E.E., electrician, 8, Bothwell-st., Glasgow. (Teleph. Nos.: 2190, Nat.; & 145, P.O.)

Lindsay, Robert, A.I.E.E., 5, Lower Granton-rd., Trinity, Edinburgh.

Lindsay, Robert, A.I.E.E., 281, High-st., Southwark, London, S.E.

Lindsay Burnet & Co., boiler makers & engineers, Moore Park Boiler Works, Govan, N.B. (Telegs.: "Burnet, Glasgow.")

Lineham, Wilfrid J., M.I.C.E., M.I.M.E., M.I.E.E., consulting constructional & mechanical engineer, 21, Newstead-rd., Lee, London, S.E. (Nat. Telephone No. 282, Lee Green.)

Linney, C. T., A.M.I.E.E., resident engineer, Kent Electric Power Co., Chatham. (Telegrams: "Power, Chatham." Telephone No. 95, Chatham.)

Linolite Co., electric light fittings makers, 25, Victoria-st., London, S.W. (Teleph. No. 244, Victoria.)

Linotype & Machinery, Ltd., suppliers of "L & M" electric motors for printing machinery, &c., 188 & 189, Fleet-st., London, E.C. (Telegrams: "Linotype, London." Telephone No. 1464, Holborn.)

Linsell, S. E., A.M.I.E.E., electrician, Martin's Hall, Stebbing, Essex.

Linsley, W. A., electrical engineer, 8, Airedale Cliff, Pollard-lane, Bramley, Leeds.

Linthwaite Electric Tramways, *owned by Huddersfield Corporation.* Engineer, R. H. Wilkinson. (Telephone No. 398.)

Linton, J. R. W., A.I.E.E., 60, St. Martin's-lane, London, W.C.

Lintott, Harold J., A.I.E.E., Engineering Works, Horsham. (Telegs.: "Vulcan, Horsham." Teleph. No. 036.)

Linzill, Alexander D., A.M.I.E.E., 25, Heathwood-gdns., Charlton, S.E.

Lion, S., screw manufacturer & electrical sundriesman, 96, Forest-rd., Dalston, London, N.E.

Lipscombe, F., & Co., water softener manufacturers, 49, Queen Victoria-st., London, E.C.

Lironi, V. G., M.I.M.E., A.M.I.E.E., engineer, Corporation Electric Tramways, Portsmouth (Telephone No. 690, Corp.); & Como Villa, London-rd., North End, Portsmouth.

Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C. (Telegs.: "Lisbonense, London." Teleph. No. 2827, London Wall.) Registered July, 1899. Nominal capital: £1,250,000 in £1 shares: 500,000 6 per cent. cumulative preference & 750,000 ordinary. 594,188 ordinary & 425,553 preference have been taken up & are considered as paid. Debentures, £500,000, secured by trust deed, dated Nov. 22, 1899. Directors: Col. Sir Chas. Euan-Smith, K.C.B., C.S.I. (chairman); L. Breitmeyer, Esq.; A. da Silva, Esq.; F. Robinow, Esq.; L. Wagner, Esq.; J. B. Taylor, Esq.; W. B. Rommel, Esq.; Admiral Sir A. H. Markham G.C.B. Secretary, S. W. Jameson; consulting engineer, Fearnside Irving.

Liscombe, John, machine belting manufacturer, 10, Commercial-st., Newport, Mon. (Telegs.: "Liscombe, Newport." Nat. Teleph. No. 120, Newport.)

Lister, G. A., B.SC., A.M.I.E.E., Carlton Works, Lockhurst-lane, Coventry.

Lister, George, electrical engineer, maker of tramway overhead equipments, Dursley.

Lister, John, A.I.E.E., South Western Polytechnic, Manresa-rd., Chelsea.

Lister, J. Fraser, A.M.I.E.E., works director, Veritys, Ltd., Aston, Birmingham.

LISTER ELECTRIC MANUFACTURING CO., Dursley, Glo'shire. (Telegrams: "Electricity, Dursley." Telephone No. 6, Nat.) London offices: 52, Cannon-st., E.C. (Telegrams: "Armatrix, London." Telephone No. 8091, Bank.) Glasgow office: 220-222, Broomielaw. (Telegs.: "Triphase, Glasgow." Teleph. No. 3675, Municipal.)

Lister, Thomas, & Co., Brassfounders, Ltd., Perseverance Brass & Iron Works, Brighouse, Yorks. (Telegrams: "Lister, Brighouse." Telephone No. 51, Nat.)

Lithgoe, John, A.M.I.E.E., Royce, Ltd., Trafford Park, Manchester.

LITTAUER, JAMES, dealer in electrical supplies. Offices: 72, Finsbury Pavement, London, E.C. Stores: 4, Cross-st., Finsbury, London, E.C. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

Little, Chas. Wm. Godson, A.I.E.E., British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.

Little, F., A.M.I.E.E., Ward's-bldgs., High Bridge, Newcastle.

Little, N. E. G., chief assistant electrical engineer, Corporation, Doncaster.

Littleboy, T. G., A.M.I.E.E., electrical engineer, Brymbo, nr. Wrexham.

Littlewood, Beaumont & Co., dynamos & motors, Thirston Iron Works, Honley, Yorks. (Tel. No. 0186.)

Liveing, E. H., electrical engineer, 52, Queen Anne-street, Cavendish-square, London, W.

Liveing, G. D., M.A., F.R.S., professor of chemistry, University of Cambridge.

Livens, C. M., electric light installation contractor, 172, High-st., Burton-on-Trent. (Telegrams: "Livens, Burton." Nat. Telephone No. 61.)

Liverpool Corporation Electric Supply, Highfield-st., Liverpool. (Telegrams: "Dynamo, Liverpool." Telephone No. 946.) Alfred Clough, A.M.I.C.E., resident electrical engineer; A. Bromley Holmes, M.I.C.E., consulting electrical engineer.

Liverpool Corporation Electric Tramways. (Telegrams: "Tramways, Liverpool." Telephone No. 7701, Central.) Resident electrical engineer, A. Clough, A.M.I.C.E.

Liverpool District Lighting Co., Ltd., electric light company, 16, Tithebarn-st., Liverpool. Registered June 29, 1895. Nominal capital: £75,000 in £5 ordinary shares. Issued: 11,000 shares, fully paid. Directors: A. H. Holme, Esq. (chairman); H. Cunningham, Esq.; H. Gaskell, jun., Esq.; C. McLaren, Esq.; Th. A. von Sobbe, Esq.; W. A. Cookson, Esq. Electrical engineer & secretary, W. Miles Horsfall, M.I.E.E. Dividends: 1900, *nil*; 1901, 3½ per cent.; 1902, 5 per cent.; 1903, 4 per cent.; 1904, 2 per cent.; 1905, 4½ per cent.; & first half of 1906, at rate of 5 per cent. per annum.

LIVERPOOL ELECTRIC CABLE CO., LTD., wire & cable manufacturers, 292, Vauxhall-rd., Liverpool; 86, Charing Cross-rd., London, W.C. (Teleph. No. 3463, Gerrard); 73, Robertson-st., Glasgow (Teleph. Nos.: Nat. 626, Argyle; Corp. 4956); 125, Great Victoria-st., Belfast (Teleph. No. 884); 31, Albert-rd., Middlesbrough (Telephone No. 327); & Cawnpore, India. *See advt.*, CABLES—ELECTRIC LIGHT.

Liverpool Electric Supplies, Ltd., electrical contractors, 3, Redcross-st., Liverpool.

Liverpool Engineering Society (R. C. F. Annett, hon. secretary), Royal Institution, Colquitt-st., Liverpool.

Liverpool & London & Globe Insurance Co., 1, Cornhill, London, E.C. (Telegs.: "Globe Insurance, London." Teleph. No. 457, Avenue.)

Liverpool Municipal Technical School, Liverpool. *See* SCHOOLS.

Liverpool Overhead Railway Co., 24, North John-st., Liverpool. (Telegrams: "Harmood, Liverpool." Telephone Nos. 173 & 186.) Nominal capital: ordinary shares, £500,000; 5 per cent. preference shares, £180,000; mortgage debentures, £226,500. Issued: all the ordinary & £120,000 preference, fully paid, & £38,620 with £7 paid, & £206,500 debentures. Directors: Sir W. B. Forwood, J.P. (chairman); Harvey C. Woodward, Esq.; H. Brocklebank, Esq.; R. Hobson, Esq., J.P.; Sir E. Lawrence, J.P.; G. H. Robertson, Esq.; J. E. Anderson, Esq. Secretary, W. H. Alexander, A.C.A.; engineer & manager, S. B. Cottrell, M.I.MECH.E., M.I.C.E. Dividends on ordinary shares: June, 1903, 1¼ per cent.; Dec., 1903, 1½ per cent.; June, 1904, 1¼ per cent.; Dec., 1904, 1¼ per cent.; 1905 & first half of 1906, *nil*.

Liverpool Research Laboratory (Henry N. Warren, principal), 131, St. Domingo-rd., Liverpool.

Liverpool Silver & Copper Co., Ltd., sulphate of copper manufacturers & high conductivity copper bars, Widnes (Telegrams: "Silver, Widnes." Telephone No. 41); & 5, Fenwick-st., Liverpool. (Telegrams: "Lewisson, Liverpool." Telephone No. 5236.)

Liverpool University Physical Society, Liverpool. Hon. sec., T. Worswick, 13, Croxteth-rd., Liverpool.

Liversidge, E., electrical engineer, 4, King's Head-bldgs., Cloth Hall-st., Huddersfield.

Livesay, A. G., A.M.I.E.E., British Westinghouse Electric & Manufacturing Co., Ltd., Haworth-bldgs., Cross-st., Manchester; & 2, Lyme Grove, Altrincham, Cheshire.

Livingston, James, A.I.E.E., chief superintendent of Postal Telegraphs, Leeds.

Llandilo Urban District Council Electricity Works, Llandilo, Carmarthen. Engineer, T. Bowen.

Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester. Registered June 15, 1896. Nominal capital: £5000 in £5 shares, all issued, & £11,200 4 per cent. debentures. A debenture, dated July 10, 1905, to secure £4000, & as collateral security, a mortgage of even date, were filed on Sept. 13, 1905. Directors: E. Jones, Esq. (chairman); Rev. D. Lloyd Jones, M.A.; J. Grant, Esq.; D. Davies, Esq. Engineer, B. Thomas; secretary, J. Owens. Dividends: 1901, 1902 & 1904, 4 per cent.

Llandudno & District Electric Tramway Construction Co., Ltd. Registered July 25, 1906. Nominal capital: £100,000 in £100 shares.

Llandudno Urban District Council Electricity Works. (Teleph. No. 130.) Harold Morton, engineer.

Llanelly & District Electric Lighting & Traction Co., Ltd., 5, Great George-st., Westminster. (Teleph. No. 60, Westminster.) Registered Nov. 29, 1899. Nominal capital: £50,000 in £1 shares. Directors: H. Rüffer, Esq. (chairman); A. R. Holland, Esq. Secretary, F. G. Harris.

Llangollen & District Electric Light & Power Co., Ltd., Bridge-st., Llangollen. Registered Nov. 11, 1902. Directors: E. B. Smith, Esq.; A. Bremner, Esq.; E. M. Parry, Esq. Nominal capital: £6000 in £1 shares. A debenture, dated Feb. 4, 1905, & a mortgage of even date (by way of collateral security), to secure £1000, have been registered. An agreement for further charge, dated Feb. 23, 1906 (endorsed on debenture dated Feb. 4, 1905), to secure £600, has been registered.

Llanrwst Electricity Supply Co., Ltd., electrical & mechanical engineers, 13, Church-st., Llanrwst, Denbigh. Registered June 26, 1899. Capital: £5000 in £1 shares. Debentures: £4400. Directors: T. Marriott, Esq.; O. J. Jones, Esq. Engineer, C. F. M'Innes; secretary, R. E. Thomas.

Llewellin, W. M., C.E., patent & trade marks registration agent, 15, King-square, Bristol.

Llewellin's Machine Co., gear & wheel cutters, 15, King-sq., Bristol. (Telegs.: "Llewellins, Bristol.")

Llewellyn, C. L., director Ross Electric Light & Power Co., Ltd., Bank Offices, Ross.

Llewellyn, G. H., A.I.E.E., Westgate-chbrs., Newport, Mon. (Telegrams: "Elektron, Newport." Telephone Nos.: 339, Nat.; & 528, P.O. A.B.C. Code used.)

Llewellyn, Wm., Gwallia House, Ogmore Vale. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Lloyd, J., manager Southport Tramways Co., Southport.

Lloyd, R. S., M.I.E.E., c/o Hayward-Tyler & Co., 99, Queen Victoria-st., London, E.C.

Lloyd, T., 3, Trebovir-rd., Kensington, S.W. Director Telephone Co. of Egypt, Ltd.

Lloyd, W. J., A.M.I.E.E., Meter Department, British Thomson-Houston Co., Ltd., Rugby.

Lloyd, F. H., & Co., tramway points & crossings, James Bridge, Wednesbury.

Lloyd, R., & Co., American twist drills, lathes, chucks, &c, 135–139, Steelhouse-lane, Birmingham. (Telegrams: "Cogs, Birmingham." Telephone No. 106.)

Loach & Clarke, makers of electric light fittings, 20–25, Essington-st., Birmingham. (Telegrams: "Loach, Birmingham." Telephone No. 1518.)

Loam, E., A.M.I.E.E., electrical engineer, Callender's Cable & Construction Co., Ltd., Callender's Wharf, Browning-st., Birmingham.

Lobley, Joseph, M.I.C.E., borough engineer & surveyor, Hanley. (Teleph. No. 134, Potteries.)

Loch Leven Water & Electric Power Co., 9, Victoria-st., S.W. Issued & paid up capital: £500,000 in £1 shares. *The whole of the share capital is held by The British Aluminium Co., Ltd.* Directors: J. D. Bonner, Esq. (chairman); H. Wolfenden, Esq. (vice-chairman); R. Heath, Esq., J.P.; Lord Kelvin, G.C.V.O.; F. Robinow, Esq.; R. W. Wallace, Esq., K.C.; Wm. Murray Morrison, Esq. (engineer). Secretary, W. Farrell.

Lock, Chas., director Monte Video Telephone Co., Ltd., 340, Dashwood House, New Broad-st., E.C.; director Buenos Ayres Electric Tramways (1901), Ltd.

Lock, F. M., director Dulverton Electric Lighting Co., Ltd.

Lock, W. B., A.I.E.E., electrician, 15 & 16, Norfolk-st., King's Lynn. (Telegrams: "Lock, Electrician, King's Lynn.")

Locke, T. A., A.M.I.E.E., 25, Columbia-rd., Bolton.

Locke, Blackett & Co., Ltd., lead manufacturers, 47, Gallowgate, Newcastle-on-Tyne. (Telegrams: "Locke, Newcastle-on-Tyne." Nat. Telephone Nos. 258 & 280.)

Lockerbie & Wilkinson (Birmingham), Ltd., electrical fittings makers, Exeter-st., Birmingham.

Lockhart & Macnab, electrical engineers, 34–38, Craigs, Stirling. (Teleph. No. 80.)

Lockie, J. Russell, electrical contractor, 118, Mains-st., Glasgow.

Lockitt, W. H., earthenware manufacturer, Wellington Pottery, Commercial-rd., Hanley.

Lockwood (Crosby) & Son, publishers of electrical books, 7, Stationers' Hall-court, London, E.C. (Telegrams: "Crosby Lockwood, London." Teleph. No. 4421, Central.) *See advt., page* 23.

Lodge, Prof. Sir Oliver, D.SC., LL.D., F.R.S., M.I.E.E., principal of the University, Birmingham.

Lodge Bros. & Co., makers of patent electric ignition, 14, New-st., Birmingham. (Telegs.: "Igniter, Birmingham." Teleph. No. 4383.)

Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd., telegraph & electrical engineers & contractors, 12, Carteret-st., Queen Anne's Gate, London, S.W. (Telegs.: "Lodge, c/o Muirheads, London." Teleph. No. 779, Westminster.) Registered June 29, 1901. Nominal capital: £30,000 in £1 ordinary shares & £20,000 in £1 preference shares. Issued: 23,007 ordinary, 13,151 preference shares, all fully paid. Directors: Alex Muirhead, Esq., D.SC., F.R.S.; H. J. Muirhead, Esq.; F. Lauder Muirhead, Esq. Secretary, J. Stone Blomfield.

Loeffler, Ludwig, M.I.E.E., "The Abbey," Campden Hill-rd., Kensington, London, W.

Loewe, Isidor, 43 & 44, Dorotheenstr., Berlin. Director Marconi International Marine Communication Co., Ltd.

Loewe, Ludw., & Co., Ltd., machine tool & small tool makers, 30 & 32, Farringdon-rd., London, E.C. (Telegrams: "Loewe, London." Telephone No. 1707, Holborn.)

Loewi, O., manager & secretary to the Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C.

Login, Louis C., A.M.I.E.E., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Lomas, Jno., electrician, U.D.C. Electricity Works, Mirfield, Yorks.

Lomax, C. J., corporation electrical engineer, Gorton, Lancs.

Lomax, Ralph, chief electrical engineer, Corporation Electricity Works, Stockport.

London, W. J. A., A.I.E.E., Steam Turbine Dept., Westinghouse Electric & Manufacturing Co., Ltd., Trafford Park, Manchester.

London Chamber of Commerce (Electrical & Allied Trades Section), Oxford-ct., Cannon-st., E.C. (Telegrams: "Convention, London." Telephone No. 327, Bank.) Chairman, C. P. Sparks; deputy-chairmen, W. L. Madgen & C. H. W. Biggs.

London County Council Electric Lighting, Generating Station, Victoria Embankment, London, W.C. Chief engineer, Maurice Fitzmaurice, C.M.G.; chief electrician, Chas. A. Baker; resident engineer, R. Simpson.

London County Council Tramways, 62, Finsbury Pavement, London, E.C. Chief officer, A. L. C. Fell, electrical engineer, J. H. Rider.

London Electric Firm, electrical & mechanical engineers, George-st., Croydon. (Telegrams: "Electric, Croydon." A1, Telegraphic & Engineering Codes. Telephone No. 768, Croydon.)

London Electric Supply Corporation, Ltd., 25A, Cockspur-st., London, S.W. (Telegrams: "Generator, London." Telephone No. 3800, Gerrard); & Stowage Wharf, Deptford, S.E. (Telegrams: "Gigantia, London." Telephone No. 616, Deptford.) Registered Aug., 1887. Nominal capital: £600,000 in ordinary shares of £3 & £350,000 preference shares of £5 each, & debentures half nominal share capital. Issued: 111,000 ordinary & 69,840 preference shares, & the full amount has been called on each. The total received is £682,200. Debentures, £374,395. Directors: The Right Hon. The Earl of Crawford, K.T., F.R.S., LL.D.; Sir W. H. Preece, K.C.B., F.R.S.; R. H. Benson, Esq.; Sir Wm. Pollitt; R. D. Norton, Esq.; R. Stewart Bain, Esq., C.A. (managing). Engineer, G. W. Partridge; secretary, H. C. Carter. Dividends: on preference shares, 1903, 6 per cent.; 1904, 6 per cent., & 3 per cent. on ordinary shares; 1905, 6 per cent. on preference shares & 4 per cent. on ordinary shares.

LONDON ELECTRIC WIRE COMPANY, LTD., manufacturers of cables & covered wires of all descriptions for electrical instruments, dynamo machines, bells, telephones, &c.; contractors to the Government Departments & Principal Electric Light & Telephone Companies, Playhouse-yard, Golden-lane, E.C. (Telegs.: "Electric, London." Teleph. No. 3105, London Wall). Works at Leyton. W. H. Willey, secretary; John Willey, managing director. Nominal capital: £150,000 in 20,000 ordinary & 10,000 6 per cent. preference shares of £5 each. Issued: £79,035 ordinary shares & £29,780 preference shares, all fully paid. *See advt. facing* INSIDE BACK COVER.

LONDON ELECTRICAL FITTINGS CO., LTD. THE, manufacturers of electric fittings of all kinds in brass & wrought iron, Roberts Works, Hampstead-rd., London, N.W. (Telegrams: "Filosofone, London." Telephone No. 441, North.) Show-room: St. Andrews-mansions, 15, Newman-st., W. (Telephone No. 6621, Gerrard.) *See* FITTINGS—ELECTRIC; & GENERAL SUPPLIERS OF ELECTRICAL REQUISITES.

London Electro Plating & Refining Co., Ltd., nickel & silver platers, gilders, enamellers, &c., 23, St. John's-lane, Clerkenwell, London, E.C.

London Electrobus Co., Ltd., 17, Cockspur-st., Pall Mall, London, S.W. (Telegs.: "Electroel, London." Teleph. No. 10435, Central.) Registered April 11, 1906. Nominal capital: £305,000 in £1 shares.

London & General Power Supply Co., Ltd., 14, St. Helen's-pl., London, E.C. *In voluntary liquidation.* Liquidator, Geo. Collis, 105, Winchester House, Old Broad-st., E.C.

London Import Co., dealers in electrical apparatus, 10, South-st., Finsbury, London, E.C. (Telegs.: "Electrisez, London." Teleph. No. 37, London Wall.)

London Outer Circle Railway Syndicate, Ltd., 266 & 267, Salisbury House, London Wall, E.C. *In voluntary liquidation.* Liquidator, W. P. Morrison.

London Platino-Brazilian Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Amulet, London." Telephone No. 1118, London Wall.) Directors: Sir J. Wolfe Barry, K.C.B. (chairman); The Right Hon. Lord Balfour of Burleigh; Lord Richard H. Browne; J. Coppen, Esq.; D. H. Goodsall, Esq.; T. W. Stratford-Andrews, Esq.; Sir Albert J. Leppoc Cappel, K.C.I.E.; Sir J. Denison Pender, K.C.M.G. Secretary, E. Steer Hodson. Capital issued: £375,480 in fully paid shares of £10.

London & Provincial Electrical Co., 118, Hoxton-st., N. (Teleph. No. 267, Dalston.)

London & Provincial Patent Agency, 15, St. James'-row, Sheffield. R. Heber Radford, M.I.M.E., consulting engineer. (Telegrams: "Radford, Sheffield." Telephone No. 425.)

London & Provincial Telephone Co., telephone contractors, 11, Queen Victoria-st., London, E.C.

London United Tramways (1901), Ltd., 16, Great George-st., Westminster, S.W.; & 74, High-rd., Chiswick, W. (Telegs.: "Tubeways, London;" & "Tramways, Chiswick." Teleph. Nos.: 190, Westminster; & 30 & 19, Hammersmith.) Registered Nov. 11, 1901. Capital authorized: £1,250,000 in ordinary shares of £10 each, £1,250,000 in 5 per cent. cumulative preference shares of £10 each. Issued: 60,007 ordinary & all the preference, fully paid, & 39,993 ordinary have £6 per share paid. There is an issue of £1,331,000 4 per cent. first mortgage debenture stock secured by trust deed & redeemable Jan. 1, 1920, at 105 per cent. Directors: C. J. Cater Scott, Esq. (chairman); Sir Clifton Robinson (managing); W. H. Brown, Esq.; & W. Abbott, Esq. Secretary, W. G. Verdon Smith. Dividends on ordinary shares: 1902 & 1903, 8 per cent.; 1904, 6 per cent.; 1905, 3 per cent.; & first half of 1906, 3 per cent. (*interim*).

London Wire Cordage Co., copper & galvanized iron rope, lightning conductors & picture cords manufacturers, 10, Ascham-st., Kentish Town, London, N.W. (Telegrams: "Pampered, London.")

London, W. F., & Co., electrical & sanitary engineers, 51, Bishopsgate-street-within, London, E.C.

London Zinc Mills, Ltd., zinc rods & battery plates, &c., Wenlock-rd., London, N. (Telegrams: "Zinc Mills, London." Telephone No. 560, King's Cross.)

Londonderry Corporation Electricity Supply & Trams. Works: Strand-rd., Londonderry. (Teleph. No. 154.) Chairman, J. P. Thompson, Esq., J.P.; engineer, R. V. Macrory, A.I.E.E.; town clerk, Sir F. H. Miller.

Londonderry Municipal Technical School, Londonderry. *See* SCHOOLS.

Londonderry-Moville Electric Railway Syndicate, Ltd., 85, Gracechurch-st., London, E.C. Registered Nov. 18, 1902. Nominal capital: £10,000 in £1 shares. Issued: £6500. 5000 considered as paid & £1 per share has been called on the remainder. Secretary, F. B. Wilson.

Long, A. de Lande, jun., Crosby Cote, Northallerton. Director Northallerton Electric Light & Power Co., Ltd.

Long, Ernest, A.M.I.E.E., 6, Granville-ave., Manley Park, Whalley Range, Manchester.

Long, E. D., A.M.I.E.E., engineer, Electricity Works, Grays, Essex.

Long, Edward F., A.M.I.E.E., 32, Hartington-st., Barrow-in-Furness.

Long, F. M., A.M.I.E.E., city electrical engineer, Duke-st., Norwich. (Telephone No. 154.)

Long, Wm., J.P., Cleabarrow, Windermere. Chairman Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Light Co., Ltd.

Long, E., & Sons, electrical engineers, 13 & 14, Sydney-st., Brighton. (Nat. Teleph. No. 29 X. 1.)

Long Eaton Urban District Council Electricity Works, Long Eaton, Derby. Engineer, F. Worrall, A.M.I.C.E. (Telephone No. 22, Long Eaton.)

Longbotham, R. H., & Co., Ltd., electrical, mechanical & general engineers, Ings Foundry, Ings-rd., Wakefield.

Longbottom, B., A.M.I.E.E., electrical engineer, The Elms, Chapeltown-rd., Leeds. General manager Electromotors, Ltd., Openshaw, Manchester.

Longden, Arnold B., A.I.E.E., 33, Edridge-rd., Croydon.

Longford Wire Co., Ltd., wire drawers, mechanical & electrical engineers, Warrington.

Longmans, Green & Co., publishers of electrical books, &c., 39, Paternoster-row, London, E.C.; 91–93, 5th-ave., New York, U.S.A.; & 8, Hornby-rd., Bombay. (Telegrams: "Longmans, London.")

Longmuir, A., A.M.I.E.E., J. H. Holmes & Co., Examiner-bldgs., Strutt-st., Manchester.

Longstreth's, Ltd., electrical engineers & accumulator manufacturers, 190, Queen's-rd., Battersea, London, S.W. (Telegs.: "Lithanode, London." Teleph. No. 6060, Central.) Show-room: 427A, Strand, W.C.

Longton Corporation Electricity Works. W. Langford, engineer. (Telegs.: "Longton, Gas." Teleph. No. 13.)

Longwood Engineering Co., Ltd., wrought iron pulley makers, &c., Parkwood Foundry, Longwood, Yorks. (Telegs.: "Walsh, Longwood." Teleph. No. 0120, Milnsbridge.)

Lonsdale Bros., Ltd., boiler coverers, Pump-st., Blackburn. (Telegs.: "Plastic, Blackburn." Teleph. No. 625.)

Loos, A. E., A.I.E.E., engineer & manager, Derbyshire & Nottinghamshire Electric Power Co., Electric Power Station, Ilkeston.
Looser, R. F., A.M.I.E.E., 15, Wiltshire-rd., Brixton, London, S.W.
Lopdell, C., A.M.I.E.E., "Tacoma," Surbiton Hill, Surrey.
Lorain Steel Co., manufrs. of tramway rails, points & crossings, 71 & 72, King William-st., London, E.C.
Lord, Arthur F., A.M.I.E.E., 24, Lockyer-st., Plymouth.
Lord, F. A. B., A.I.E.E., 98, Darenth-rd., Stamford Hill, London, N. (Teleph. No. 1505, Dalston.)
Lord, James, M.SC., A.M.I.E.E., electrical engineer, 103, Malcolm-st., Heaton, Newcastle-on-Tyne.
Lord, Jas., A.M.I.E.E., "Aldwyn," Greenwood, Halifax, Yorks.
Lord, J. C. & W., turbine makers, 52, Leadenhall-st., London, E.C. (Telegrams: "Ironer, London." A1 & A.B.C. Codes used.)
Lord & Shand, Ltd., electrical engineers & contractors, 24, Lockyer-st., Plymouth. (Telegs.: "Ohm, Plymouth." Teleph. No. 588.)
Lord, William Turner, & Co., electric light contractors, 120, Mount-st., London, W.
Loree, F. L., director Underground Electric Railways Co. of London, Ltd.
Lorenz, Hugo (agent), paraffin wax manufacturer, 7–8, Idol-lane, E.C. (Telegs.: "Lorenz, London.")
Lorimer, Geo., 38, Tay-st., Perth. Director Tayside Electric & Gas Light Co., Ltd.
Loring, F. G., Lieut. R.N., M.I.E.E., Admiralty, 66, Victoria-st., London, S.W.
Loring, F. H., electrical engineer, Alsop Flour Process, Ltd., 21, Mincing-lane, London, E.C.
Lorkin, W. L., A.M.I.E.E., 31, Rhodesia-rd., Clapham, London, S.W.
Lorrain, J. G., M.I.E.E., M.I.MECH.E., Fellow of the Chartered Institute of Patent Agents, Norfolk House, Norfolk-st., London, W.C. (Telegs.: "Lorrain, London." Teleph. No. 2511, Gerrard.)
Lothians Electric Power Co., 34, North Bridge-st., Edinburgh. Capital authorised: £600,000 in £10 shares. Borrowing powers: £200,000. Directors: W. S. B. McLaren, Esq.; D. Russell, Esq.; J. A. Hood, Esq.; H. Ruffer, Esq.; N. D. Macdonald, Esq. General manager, E. C. Churchward; chief engineer, W. D. Morgan; secretary, James Walker, C.A.
Lotz, Abbott & Co., Ltd., electric incandescent lamps & fittings, 66, Queen-st., London, E.C. (Telegrams & Cables: "Ingbooth, London." Telephone No. 5979, Bank.)
Louch, C. S., director Edgware & Hampstead Railway Co., Hamilton House, Victoria Embankment, E.C.
Loudon Bros., tool makers, Johnstone, N.B.; & at 39, West Campbell-st., Glasgow.
Loughborough Corporation Electricity Works, Loughborough, Leicestershire. Engineer, W. H. Allen. (Teleph. No. 0505.)
Loughborough & District Electric Traction Syndicate, Ltd., Victoria Works, Belvedere-rd., S.E. Registered Nov. 9, 1899. Nominal capital: £1000 in £10 ordinary shares. All issued & fully paid. Directors: R. P. Sellon, Esq. (chairman); B. Broadhurst, Esq.; R. A. Dawbarn, Esq.; F. E. Andrews, Esq.
Lovatt, Henry, contractor, Electrical Dept., 140, North End-rd., London, W.; & Wolverhampton.
Love, C. J., electrical engineer, 5, Station-rd., Aldrington, Brighton.
Love, E. G., A.M.I.E.E., superintendent of mains & tramways overhead construction, Corporation Electricity Works, Halifax.
Love, H., engineer, Roundhay & District Electric Lighting Co., Ltd., nr. Leeds.
Lovelace, H. G., electro-plater & gilder, 7, Gerrard-st., Soho, London, W.
Lovell, R. P., A.M.I.E.E., electrician, c/o Vickers Sons & Maxim, Sheffield.
Lovelock, Seabourne & Lee, electrical engineers, 61, Leadenhall-st., London, E.C.
Loveridge, Ltd., electric bell fitters & contractors, Docks, Cardiff. (Telegrams: "Justice, Cardiff." Telephone Nos.: P.O., 85; Nat., 40 & 40 T.)
Lovey, A. Féri, A.I.E.E., 20, The Common, Woolwich, London, S.E.
Low, A. G., 8, Pembridge Villas, W. Director Cuba Submarine Telegraph Co., Ltd.
Low, D. A., WH.SC., M.I.M.E., professor of engineering, East London College, Mile End-rd., London, E.
Lowcock, G. W., M.I.E.E., 57, King-st., Manchester. (Teleph. No. 08590.)
Lowcock, S. R., M.I.C.E., consulting engineer, Temple Courts, Birmingham.
Lowcock, A., Ltd., fuel economiser makers, 69, Lombard-st., London, E.C.; & Shrewsbury.
Lowden Electric Lamp Co., Ltd., 57, Bridgman-rd., Acton Green, London, W. (P.O. Teleph. No. 624, Chiswick.)
Lowden, Jas., & Co., electric lighting contractors, Ann-st., Belfast.
Lowdon, D., electrical & marine engineer, Barry, Glamorgan.
Lowdon, E. J. B., A.I.E.E., electrical engineer, 13, Dudhope-ter., Dundee.
Lowdon, J. W., electric light engineer, 65, Reform-st., Dundee.
Lowdon, K., electrical engineer, Invermay, Wormit-on-Tay.
LOWDON BROS. & CO., manufacturing electricians, Temple Electric Works, Dundee (Telegrams: "Lowdons, Dundee." Telephone No. 618); 332, Argyle-st., Glasgow (Telegs.: "Lowdons, Glasgow." Teleph. No. 5736); 50, Frederick-st., Edinburgh (Telegs.: "Lowdon, Edinburgh." Teleph. No. 2287); Cults Electricity Station, Aberdeenshire; 2, Abbot-st., Dunfermline; & 132, Market-st., St. Andrews.
Lowe, E. S., Quay House, Newquay. Director Newquay Electric Light & Power Co., Ltd.

Lowe, Frederick James, A.M.I.E.E., 5, Pearson-ter., Queen's-rd., Leeds.

Lowe, J. W., charge engineer, Corporation Electricity Works, Wigan.

Lowestoft Corporation Electricity Works & Electric Tramways, Lowestoft. (Telegrams: "Bruce, Lowestoft." Telephone No. 87.) G. A. Bruce, M.I.E.E., engineer & general manager.

Lowndes, Chas. E., A.I.E.E., 162, Shaftesbury-ave., London, W.C. (Telephone No. 4313, Gerrard.)

Lowne Electric Clock & Appliances Co., Ltd., makers of Lowne's patent electric clock, Ravenscroft, 108, Bromley-rd., Catford, London, S.E. (Nat. Teleph. No. 412, Lee Green.)

Lowrance, M., & Son, manufacturing electricians, Peel-square & Market-st., Barnsley, Yorks. (Telephone No. 10.)

Lowson, James, A.M.I.E.E., electrician, 10, West Campbell-st., Glasgow. (Telegrams: "Motive, Glasgow." Telephone Nos.: 3736, Corp.; & 1044, Argyle, Nat.)

Lowther, P. Y., electrical bell fitter, 60, Queen's-rd., Bayswater, London, W.

Lubbock, H. L., director Mexborough & Rawmarsh Construction Synd., Ltd.

Lubbock, The Hon. John B., 15, Lombard-st., E.C. Director Metropolitan Electric Supply Co., Ltd.

Lucan & Leixlip Electric Railway Co., 25, Suffolk-st., Dublin. (Telegs.: "Lucan Tramway, Dublin." Teleph. No. 2282.)

Lucas, A. F., manager of Corporation Tramways, Leicester. (Nat. Teleph. No. 409.)

Lucas, F. R., A.I.E.E., managing director, Telegraph Construction & Maintenance Co., Ltd., Enderby's-wharf, Greenwich, London, S.E.; & Green-hall, Forest-row, Sussex.

Lucas, Leopold, A.I.E.E., 94, Lansdowne-rd., London, W.

Lucas, O. D., A.M.I.E.E., 49, Linden-gdns., London, W.

Lucas, Owen, consulting electrical & mechanical engineer, Albany-bldgs., 39, Victoria-st., S.W. (Telegrams: "Synchronize, London." Telephone No. 13, Westminster.)

Lucas, William, M.A., A.I.E.E., 25, Glasslyn-rd., Crouch End, London, N.

Lucas, Edward, & Son, malleable iron founders, Dronfield Foundry, near Sheffield. (Telegrams: "Lucas, Dronfield." Telephone No. 7.)

Lucas, J. E., & Son, electric elevators & cranes, Brockley, London, S.E.

Lucas, Owen, & Pyke, consulting electrical & mechanical engineers, 39, Victoria-st., London, S.W. (Telegrams: "Synchronize, London." Telephone No. 13, Westminster.)

Luck, J. M., electric bell fitter, Godalming.

Lucy, W., & Co., Ltd., electrical & mechanical engineers & founders, Eagle Iron Works, Oxford. (Telegrams: "Lucy, Oxford." Telephone No. 97, Oxford.)

Ludlow, H. W., electrical engineer, 161, Rolfe-st., Smethwick, nr. Birmingham.

Ludlow Electric Light Co., Ltd., 14, Corve-st., Ludlow, Salop. Registered March 17, 1906. Nominal capital: £8000 in £1 shares (4000 4 per cent. cumulative preference).

Ludlow & Knight, electrical engineers, 14, Grosvenor-bldgs., Steelhouse-lane, Birmingham.

Lugar, Capt. W. R., A.I.E.E., 11, Slubbington-ave., Portsmouth.

Lugard, C. E., A.M.I.E.E., consulting electrical engineer, Field's-bldgs., Middlesbrough; & Hazlehurst, Saltburn. (Telephone Nos.: 0607, Middlesbrough; & 34, Saltburn.)

Lukach, J. H., 2, Norfolk-st., Strand, W.C. (Telegs.: "Lukach, London." Teleph. No. 3261, Gerrard.) Managing director Traction & Power Securities Co., Ltd.; director Clyde Valley Electric Power Co.; director British Westinghouse Electric & Manufacturing Co., Ltd.

Luke, P. V., C.I.E., M.I.E.E., F.R.G.S., Albert Gate Mansions, 203, Knightsbridge, London, S.W. Director Calcutta Electric Supply Corp., Ltd.; director Telegraph Construction & Maintenance Co., Ltd.

Luke & Spencer, Ltd., emery wheel makers, Broadheath, nr. Manchester. (Telegrams: "Emery, Altrincham." Telephone No. 49, Altrincham.)

Lumly, C. M., & Co., electrical engineers & contractors, 6, Castle-st., Kingsland, London, N.

Lund, Edward, electric pumps or pumps driven by electricity, Harriett-st., Newbridge-lane, Stockport. (Telegrams: "Pulsating, Stockport.")

Lund, Richard, A.M.I.E.E., electrical engineer, 78, Queen Victoria-st., E.C. (Teleph. No. 1219, Central.)

Lund Bros. & Co., electric light & power engineers, 78, Queen Victoria-st., London, E.C. (Telephone No. 1219, Central.)

Lundberg, A. P., M.I.E.E., electrical engineer, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.)

Lundberg, Gus. C., M.I.E.E., electrical engineer, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.)

Lundberg, P. A., electrician, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegrams: "Lundberg, London." Telephone No. 1746, North.)

LUNDBERG, A. P., & SONS, manufacturers of electric light accessories. Inventors, patentees & manufacturers of "Universal," "Dot" & "Magnum" Wall Connections, "PIVOT" & "IMPROVED PIONEER" SWITCHES & other electric light accessories. Medals awarded, Inventions Exhibition, 1885; Crystal Palace, 1892; Antwerp, 1894; Pioneer Electrical Works, 477 to 487, Liverpool-rd. (entrance Sheringham-rd.), London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses. *See advts.*, SWITCH MAKERS—ELECTRIC, & *on lower outside edge.*

Lunken Valve Co., manufacturers of indicators, valves & lubricators, 35, Great Dover-st., London, S.E. (Telegs.: "Lunken, London." A.B.C. Code, 4th & 5th Editions, used.)

Lunn, E., senior engineer-in-charge, Electricity Works, Huddersfield.

Lunn, J. R. P., M.I.E.E., engineer & manager, Electricity & Tramways Department, Darlington.

Lunt, R. L., A.I.E.E., 444, Chester-rd., Old Trafford, Manchester.

Luntley, W. A., general manager, Corporation Tramways, Wolverhampton. (Teleph. No. 324.)

Lupton, Arnold, M.I.C.E., M.I.E.E., consulting engineer, 7, Victoria-st., London, S.W. Director Cumberland Power Syndicate, Ltd.

Lupton, A. G., J.P., 6, De Grey-rd., Leeds. Director Roundhay & District Electric Lighting Co., Ltd.; director Yorkshire Electric Power Co.; director Electrical Distribution of Yorkshire, Ltd.

Lurgan Technical School, Lurgan. *See* SCHOOLS.

Lusby, A. J., electrician, 11, Haye's-ave, Ella-st., Hull.

Lustgarten, J. L., M.SC., lecturer on electrical engineering, School of Technology, Manchester.

Luton Borough Council Electricity Works. W. H. Cooke, A.M.I.E.E., electrical engineer. (Telephone No. 3.)

Luttrell-Elward, H., A.M.I.E.E., Fleet-st. Electric Light Station, Dublin.

Lycett, J. A., district superintendent British Electric Traction Co., Ltd., Power Station, Downing-st., Smethwick, Staffs. Managing director Kidderminster & District Electric Lighting & Traction Co., Ltd.; managing director South Staffordshire Tramways (Lessee) Co., Ltd.; managing director Dudley, Stourbridge & District Electric Tramway Co., Ltd.; managing director Birmingham & Midland Tramway Co., Ltd.; director Worcester Electric Traction Co., Ltd.; director Leamington & Warwick Tramways Co., Ltd.; managing director City of Birmingham Tramways Co., Ltd.; managing director Wolverhampton District Electric Tramways, Ltd.; director South Staffordshire Tramways Co.

Lydall, C. H., district engineer, Cleveland & Durham County Electric Power Co., Ltd., Bishop Auckland, Durham.

Lydall, Francis, A.I.E.E., B.A., B.SC., electrical engineer, 16, Bedford-gdns., Kensington, London, W.

Lyell, J. C., A.M.I.E.E., electrical engineer, 11, Baskerville-rd., Wandsworth Common, S.W.; & 55, Victoria-st., London, S.W. (Telegs.: "Electrinus, London." Tel. Nos.: 1000, Battersea; & 2469, Gerrard.)

LYELL, J. C., & CO., LTD., electrical, mechanical & motor car engineers. Works: Westminster. Offices: 55, Victoria-st., London, S.W. (Telegrams & Cables: "Electrinus, London." Telephone No. 2469, Gerrard. A.B.C., A1 & Private Codes used.)

Lyle, James, manufacturing electrician & optician, 37, South Portland-st., Glasgow. (Nat. Telephone No. 217 X. 1, Gorbals.)

Lymington Electric Light & Power Co., Ltd., Electricity Works & Offices, Bath-rd., Lymington (Teleph. No. 17); & Broad Sanctuary-chbrs., Westminster. Registered June 29, 1898. Nominal capital: £23,000 in £5 ordinary shares, £7000 in £5 preference shares & £10,000 debentures. Issued: £8550 ordinary shares, £6420 preference shares, & all the debentures, all fully paid. A trust deed has been registered, dated Sept. 26, 1902, to secure the debentures. Directors: K. Pulteney, Esq. (chairman); F. E. Gripper, Esq.; Major Stuart Murray; J. C. Wigham, Esq. Engineer & secretary, Glynn Salter. Dividends: 1901, 1902, 1903 & 1904, 4 per cent. per ann. on ordinary shares.

Lynch, Sidney, A.M.I.E.E., Engineer's Office, Surrey Commercial Dock Co., Rotherhithe, S.E.

Lynch & Co., Ltd., surgical electrical apparatus manufacturers, Silver-st., Falcon-sq., London, E.C. (Telegrams: "Lynchgate, London." Telephone No. 5555, Bank.)

Lynd, Wm., principal British School of Telegraphy, 179, Clapham-rd., London, S.W.

Lynde, F., consulting & sanitary engineer, St. Ann's-passage, King-st., Manchester. (Telegrams: "Project, Manchester." Telephone No. 3599.)

Lyndhurst Electric Lighting & Traction Co., Ltd., Westminster, S.W. Registered Nov. 20, 1900. Nominal capital: £6000 in £1 shares. 1750 shares have been taken up & paid for. Directors: H. H. Montague Smith, Esq.; W. W. Thomson, Esq.; W. M. Bell, Esq. Secretary, J. E. Wood.

Lynex, W. T., Electricity Department, Stepney Council, London.

Lynton & Lynmouth Electric Light Co., Ltd., Lynmouth, N. Devon. Registered April, 1894. Nominal capital: £8000 in £1 ordinary shares, £1000 in £1 preference shares. Issued: 1000 preference & 3897 ordinary have been taken up & are fully paid. Directors: C. Geen, Esq. (chairman); H. H. Benn, Esq.; H. Cuthbert Hall, Esq. Electrical engineer & secretary, P. T. Kimmins.

Lyon, H. Thomson, M.I.E.E., 34, St. James's-st., London, S.W.

Lyon, J. L., & Co., manganese merchants, 75, Mark Lane; & 19 & 20, London-st., London, E.C. (Telegrams: "Noly, London." A.B.C. Code used.)

Lyons, H. M., A.I.E.E., 70, Wolverhampton-rd., Stafford.

Lyons, J., & Co., Ltd., electric light contractors, Cadby Hall Works, Kensington, London, W. (Telephone Nos. 232, 233, 1007 & 1008, Hammersmith.)

Lysaght, J., Ltd., galvanized iron manufacturers, St. Vincent's Iron Works, Bristol (Telegrams: "Lysaght, Bristol." Telephone No. 910. A.B.C. Code used); & 36, Gracechurch-st., London, E.C. (Telegrams: "Lysaght, London." Telephone No. 1464, Avenue.)

Lyster, Anthony G., engineer-in-chief, Mersey Dock Estate, Dock-yard, Liverpool. (Telegrams: "Dockyard, Liverpool." Telephone Nos. 1880 & 1881, Royal.)

Lyster, C. R. C., medical officer in charge of Electrical Department, Middlesex Hospital, London, W.
Lyth, F. W., electrician in charge, Central Station, C.L.C. Railway Co., Manchester.
Lyth, J. J., electrical engineer, R. Haworth & Co., Ltd., Ordsall-lane, Salford.
Lytham Electric Light & Power Co., Ltd. Registered Aug. 3, 1906. Nominal capital: £20,000 in £1 shares.

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Madden, W. M., M.A., M.I.E.E., 103, Ridgeway, Wimbledon, S.W.

Maddock, John, & Co., Ltd., malleable iron castings, Oakengates, Shropshire. (Telegrams: "Maddocks, Oakengates." Telephone No. 8, Oakengates.)

Madeira Electric Lighting Co., Ltd., 6, Harrison-rd., Halifax. Registered Dec. 23, 1895. Nominal capital: £20,000 in £1 shares, all issued & fully paid, & £15,000 debentures. Directors: J. E. Hartley, Esq. (chairman); G. Buckley, Esq.; Wm. Reid, Esq.; Señor Figueira. Consulting engineer, E. Blakey; secretary, E. Nicholl. A receiver & manager for debenture holders was appointed Jan. 17, 1902. Receiver & manager, J. E. Whitham, C.A., Halifax.

Madge, F., electric light, bell & telephone contractor, 42, Inverness-pl., Cardiff.

Madgen, Frederic James, A.M.I.E.E., W. Lucy & Co., Ltd., Eagle Ironworks, Oxford. (Telegrams: "Lucy, Oxford." Telephone No. 97.)

Madgen, William L., M.I.E.E., Donington House, Norfolk-st., London, W.C. (Telegs.: "Megameter, London.") Director County of Durham Electrical Power Distribution Co., Ltd.; director Mutual Electric Trust, Ltd.; chairman Kidderminster & District Electric Lighting & Traction Co., Ltd.; chairman Merthyr Electric Traction & Lighting Co., Ltd.; chairman County of Northampton Electric Power & Traction Co., Ltd.; director Metropolitan Electric Tramways Co., Ltd.; director North Metropolitan Electric Power Supply; managing director Brush Electrical Engineering Co., Ltd.; managing director British Electric Traction Co., Ltd.; chairman Tynemouth & District Electric Traction Co., Ltd.; chairman Sheerness & District Electric Power & Traction Co., Ltd.

Madras Electric Supply Corporation, Ltd., Salisbury House, London Wall, E.C. Registered Jan. 27, 1906. Nominal capital: £400,000 in £5 shares. Issued: 10,000 shares, 10s. per share paid, & £250,000 5 per cent. construction debenture stock secured by trust deed, dated Feb. 22, 1906. Directors: A. M. H. Walrond, Esq. (chairman); Sir Wm. J. Cuningham, K.C.S.I.; T. E. Ivens, A.M.I.C.E., Esq.; Sir R. D. R. Moor; J. G. B. Stone, Esq. Secretary, F. R. Reeves, M.I.E.E., F.C.I.S.

Madras Electric Tramways (1904), Ltd., Dashwood House, 9, New Broad-st., London, E.C. Registered March 16, 1904. Nominal capital: £100,000 in 75,000 ordinary & 25,000 6 per cent. preference shares of £1 each. Issued: £71,007 ordinary shares. Debentures: £54,900. A trust deed, dated July 20, 1906, securing £4900 debenture stock created by resolution of July 19, 1906 (supplemental to a trust deed, dated March 18, 1904, covering £50,000 5 per cent. mortgage debenture stock), has been registered. Directors: J. W. Barclay, Esq. (chairman); Sir H. C. Mance; J. Irving Courtenay, Esq.; J. Gray, Esq. Secretary, D. Willock.

Maginnis, J. P., A.M.I.C.E., M.I.M.E., consulting engineer, 11, Carteret-st., Westminster, London, S.W. (Telegrams: "Offset, London." A.B.C. Code & Unicode used. P.O. Telephone No. 192, Victoria.)

MAGNETA CO., THE, contractors to H.M. Office of Works, electric clock systems without batteries or contacts, Winchester House, Old Broad-st., London, E.C. (Telegs.: "Dial, London." Teleph. No. 11450, Central.)

Magnetic Separator, Ltd., ironfounders, electrical & mechanical engineers, 37, Tithebarn-st., Liverpool.

Magnolia Anti-Friction Metal Co. of Great Britain, Ltd., 49, Queen Victoria-st., London, E.C. (Telegrams: "Magnolier, London." Telephone No. 5925, Bank. A1 & Lieber's Codes.)

Magoris, J. F., A.M.I.E.E., chief assistant electrical engineer, Borough Electricity Works, Sculcoates-lane, Hull.

Maguire, F. Z., A.I.E.E., electric railway supplies, &c., 5, Warwick-ct., High Holborn, London, W.C. (Telegrams: "Specifying, London." Telephone No. 1713, Holborn.)

Maguire, J. R., 3, Cleveland-sq., London, S.W. Director African Transcontinental Telegraph Co., Ltd.

Maguire & Gatchell, Ltd., electric light engineers, 7, 10 & 15, Dawson-st., Dublin. (Telegs.: "Maguireson, Dublin." Telephone Nos. 107, 656 & 186.)

Mahony, M. F., Lota Beg, Co. Cork. Director Clontarf & Hill of Howth Tramroad Co.

Mahood, Ernest Robert, A.I.E.E., 12, Freshfield-pl., Kemp Town, Brighton.

Mahood, S. A., A.M.I.E.E., resident engineer, Birmingham & Midland Tramways, Ltd., Smethwick, Staffs.

Maidenhead Corporation Electricity Works, Maidenhead. (Teleph. No. 64A.) Engineer, C. O. Milton.

Maidstone Corporation Electricity Works. Engineer, E. E. Hoadley, M.I.E.E. (Teleph. No. 41.)

Mairs, J. B., local manager National Telephone Co., 28, Market-st., Aberdeen.

Makin, J., A.I.E.E., 107, Upper Hanover-st., Sheffield.

Makin & Co., Ltd., electrical engineers, 23 & 25, Division-st., Sheffield. (Teleph. No. 3522.)

Makinson, Warwick, A.M.I.E.E., electrical engineer, Roundthorn, Sale, nr. Manchester.

Makovski, A. W., A.M.I.E.E., electrical engineer, Tamplin & Makovski, Ltd., 66, Great Russell-st., London, W.C.; Brighton-rd., Redhill; & 10, Northgate-st., Ipswich.

Makower, Alfred J., B.A. (Cantab), A.M.I.E.E., head of Department of Electrical Engineering, South-Western Polytechnic, Chelsea, London, S.W.

Malaga Electricity Co., Ltd., formed to generate & supply electric light in Malaga & elsewhere in Spain, 39, Coleman-st., London, E.C. (Teleph. No. 1347, London Wall.) Registered May 23, 1896. Capital: £57,000 in 10,000 ordinary shares of £5 each, & 7000 deferred shares of £1 each. All the ordinary & all the deferred shares have been taken up. The latter have been considered as paid, & the ordinary are fully paid up. Mortgages & charges, £44,738. Directors: R. C. Wyatt, Esq. (chairman); F. Belcher, Esq.; R. W. Hammond, Esq. Electrical engineer, E. Crawshaw; secretary, E. A. Green. Dividends to 1902, *nil*.

Malan, E. de M., M.I.M.E., A.I.E.E., signal engineer, Westinghouse Brake Co., York-rd., King's Cross, London, N. (Telegs.: "Malan, c/o Westinghouse, London." Teleph. No. 620, North.)

Malatesta, E., electrical & general engineer, 112, High-st., Islington, London, N.

Malcolm & Allan, electrical engineers, 29, Lilybank-rd., Glasgow (Telephone No. 408, Gorbals); & 1, North St. David-st., Edinburgh. (Telephone No. 1370.)

Malden, George Fletcher, A.I.E.E., "Surreymere," 18, Moreton-rd., South Croydon, Surrey.

Male, Wm., & Son, Ltd., wiring contractors, 1A, Village-rd., Birkenhead.

Maley, A. W., assistant electrical engineer, City Tramways, Leeds.

Maling, Fredk. T., A.I.E.E., 14, Ellison-place, Newcastle-on-Tyne.

Maling, C. T., & Sons, manufacturers of earthenware for electrical purposes, Ford Potteries, Newcastle-on-Tyne (Telegrams: "Maling, Newcastle-on-Tyne." Telephone No. 599); & London. (G. G. MacWilliam, London agent, 20, Bartlett's-bldgs., E.C.)

Malley, John D., electrician, 12, Richardson-st., Smithdown-rd., Liverpool.

Mallins, Chas. W., A.I.E.E., 5, Strathmore-rd., Newsham Park, Liverpool.

Mallinson, Arthur B., A.M.I.E.E., electrical engineer, Swain Lea, Prestwich Park, nr. Manchester.

Mallmann, F., 30, Cheniston-gdns., Kensington, W. Director Buenos Ayres Electric Tramways Co. (1901), Ltd.

Malone, J., electrical engineer & contractor, Barnstaple.

Malton Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Malton, Yorks. (Teleph. No. 50.) Engineer, C. W. Fairweather, M.I.E.E.; resident engineer, J. Chandler.

Malvern Urban District Council Electricity Works. (Telegs.: "Light, Malvern." Nat. Teleph. No. 36.) Resident engineer, W. J. Rendell Baker.

Mamelsdorf, V., A.I.E.E., electrical engineer, 2, Tokenhouse-bldgs., London, E.C. (Teleph. No. 934, London Wall.)

Mance, Sir H. C., C.I.E., LL.D., M.I.C.E., M. & Past President I.E.E., Old Woodbury, Sandy, Beds. Chairman Oxford Electric Light Co.; director West African Telegraph Co., Ltd.; director Madras Electric Tramways (1904), Ltd.; chairman Davis & Timmins, Ltd.

Mancey, E. P., manager Immisch Electric Launch Co., Ltd., Platt's Eyot, Hampton-on-Thames (Telegrams: "Immisch, Hampton." Telephone No. 17, Molesey); & Riversdale, Riverside, Maidenhead.

Manchester, C., electric bell manufacturer, Eastthorpe-lane, Mirfield S.O., Yorks.

Manchester, S. C., A.I.E.E., 10, Queen's Gate, Chorley, New-rd., Bolton, Lancs.

Manchester Association of Engineers, 29, Brown-st., Manchester.

Manchester Corporation Electricity Department, Town Hall, Manchester (Telegs.: "Arcturus, Manchester." Teleph. Nos. 484 & 534, Nat.); & Dickinson-st. Works. (Telegs.: "Potential, Manchester." Teleph. Nos. 2301 & 4505, Nat.) Chairman of the Committee, Councillor G. Howarth, J.P.; engineer, S. L. Pearce, A.M.I.C.E., M.I.E.E., M.I.MECH.E.

Manchester Corporation Tramways, 55, Piccadilly, Manchester. (Telegrams: "Tramways, Manchester.") General manager, J. M. M'Elroy; engineer, J. J. MacMahon.

Manchester & Liverpool Electric Railway Syndicate, Ltd., 11, Cornhill, London, E.C. Registered Oct. 18, 1899. Nominal capital: £60,000 in £100 shares. Issued: £45,800. Directors: J. S. Bergheim, Esq.; Sir W. Mather; D. Cunningham, Esq.; J. H. McMillan, Esq.; The Hon. R. J. Strutt; E. Tootal Broadhurst, Esq. Electrical engineer, F. B. Behr; secretary, J. D. Pillans.

Manchester & Milford Engineering Co., Ltd., 22, Conduit-pl., Paddington, London, W.

Manchester Municipal School of Technology, Sackville-st., Manchester. (Telegrams: "Technology, Manchester." Telephone No. 397, Nat.) *See* SCHOOLS.

Manchester Section of the Institution of Electrical Engineers (president, S. L. Pearce; hon. secretary, H. W. Wilson, 19, Brasenose-st., Manchester).

Manchester Steam Users' Association, 9, Mount-st., Albert-sq., Manchester. (Telegrams: "Steamusers, Manchester.")

Manchester Steel Castings Co., Trafford Park, Manchester.

Mandelick, W. E., Hamilton House, Victoria Embankment, E.C. Director Union Construction Co., Ltd.

Mange & Co., manufacturers of enamelled iron reflectors & shades, 21, Finsbury-st., London, E.C.

Manley, J. W., A.M.I.E.E., Eldon-st. House, Eldon-st., London, E.C.

Manley, Wm., demonstrator in Electrical Engineering Laboratory, G.E.R. Mechanics' Institute, Stratford, London, E.

Manlove, Alliott & Co., Ltd., general engineers, boiler makers, &c., Bloomsgrove Works, Nottingham. (Telegrams: "Manloves, Nottingham." Telephone No. 274.) London office: 41 & 42, Parliament-st., Westminster, S.W. (Telegrams: "Manloves, London." Telephone No. 3405, Gerrard.)

Mann, J. W., 64, Emscote-rd., Warwick. Director Leamington & Warwick Electrical Co., Ltd.

Mann, Egerton & Co., Ltd., electric light engineers, Bank Plain, Norwich (Telegrams: "Installation, Norwich." Nat. Telephone No. 217); 5, Waveney-rd., Lowestoft; & 1, Arcade-st., Ipswich.

Mann & Sons, Ltd., wiring contractors, High-st., Worcester. (Telegrams: "Manns, Ltd., Worcester." Telephone No. 100.)

Manners, H., electrician, 80, New Kent-rd., London, S.E.

Mannheim, Dr. John, electrical engineer, A. Dickinson & Co., 210, Gresham House, Old Broad-st., London, E.C. (Telegs.: "Noitcart, London." Teleph. No. 2548, London Wall.)

Manning & Son, electrotypers, 26 & 28, Old-street, Goswell-rd., London, E.C.

Mansbridge, G. F., M.I.E.E., assistant superintendent, Postal Telegraph Factory, Mount Pleasant, London, E.C.

Mansfield, Alfred, A.I.E.E., 20, Redcross-st., Liverpool.

Mansfield Corporation Electricity Works & Tram Supply. Engineer & manager, E. Holcombe Hewlett, M.I.E.E., M.AM.I.E.E. (Nat. Teleph. No. 91.)

Mansfield & District Tramways, Ltd., Sutton-rd., Mansfield. (Telegs.: "Cars, Mansfield." Teleph. No. 118, Mansfield.) Registered Dec. 7, 1906. Nominal capital: £130,000 in £1 shares, 80,000 of which are 6 per cent. cumulative preference shares. Directors: A. R. Holland, Esq.: W. J. Cladburn, Esq.: A. H. Beatty, Esq.; Geo. Balfour, Esq. Engineer & manager, C. R. Walker.

Mansfield Engineering Co., electric light & power contractors, Mansfield.

Mansfield & Meldon, electrical engineers, 43, Dame-st., Dublin.

Manson, J. W., chief assistant, Ross Electric Light & Power Co., Ltd., Ross, Hereford.

Manson, W., assistant electrician, Great Northern Telegraph Co., Aberdeen.

Manthorpe, E., resident engineer, Northern Cos. Electricity Supply Co., Ltd., Hebburn, Durham.

Mantle, H., electrical engineer, 103, London-rd. South, Lowestoft. (Teleph. No. 0159.)

Manton, Arthur Woodroffe, B.SC., M.I.C.E., M.I.E.E., 10, Victoria-st., London, S.W.

Manual of Electrical Undertakings & Directory, 37 & 38, Strand; & 1, Buckingham-st., London, W.C.

Manuel, Constantine, A.M.I.E.E., A.M.I.MECH.E., 116, Chancery-lane, London, W.C.

Manville, E., M.I.E.E., electrical consulting engineer, 29, Great George-st., London, S.W. (Telegrams: "Kincaid, London." Telephone No. 11.)

Manx Electric Railway Co., Ltd., 78, Cornhill, London, E.C. (Telegrams: "Huniscorum, London." Telephone No. 10511, Central); & 1, Strathallan-cres., Douglas, Isle of Man. (Telegrams: "Electric, Douglas, Man." Teleph. No. 61.) Nominal capital: £275,000 in 30,000 5½ per cent. cumulative preference of £5 & 25,000 ordinary shares of £5 each. Issued: 25,500 preference & 20,000 ordinary shares. Directors: A. G. Boscawen, Esq. (chairman); W. H. Vaudrey, Esq.; B. E. Greenwell, Esq.; E. Schenk, Esq. Resident engineer, F. Edmondson, A.M.I.E.E.; general manager, Harold Brown; consulting engineers, Kincaid, Waller, Manville & Dawson; secretary, C. A. Huni, F.C.I.S.

Maple & Co., Ltd., electric light engineers, 141–149, Tottenham Court-rd., London, W. (Telegrams: "Maple, London." Telephone Nos.: 3605, Gerrard; & 56, Bank.)

Marchant, E. W., D.SC., M.I.E.E., professor of electrotechnics, The University, Liverpool. (Teleph. No. 621, Royal.)

Marchant, G. M., steam & water valves & propeller lubricators for steam engines, Rashcliff Brass & Iron Works, Albert-st., Huddersfield. (Telegs.: "Alarm, Huddersfield." Teleph. No. 210.)

Marco, C., & Co., manufacturers of wooden pedestals with hollow shafts for wiring, 6, New Zealand-ave., London, E.C. (Telegrams: "Pedestal, London." Telephone No. 746, Central.)

Marconi, Commendatore G., LL.D., D.SC., M.I.E.E., 18, Finch-lane, E.C. (Telegs.: "Expanse, London." Teleph. Nos.: 2748, Avenue; & 6757, Central.) Director Marconi International Marine Communication Co., Ltd.; director & electrical engineer, Marconi's Wireless Telegraph Co., Ltd.

Marconi International Marine Communication Co., Ltd., The, telegraph company, 18, Finch-lane, London, E.C. (Telegrams: "Expanse, London." Telephone Nos.: 2748, Avenue; 6757 & 5727, Central. Marconi, Western Union & A.B.C. Codes.) Registered April 25, 1900. Nominal capital: £350,000 in £1 shares, 204,056 of which have been taken up, 105,000 shares issued as fully paid, & the rest are fully paid, & £16,000 debentures. Directors: M. de Volder (president); M. Balser, Esq.; M. le Col. Thys; J. F. G. Bannatyne, Esq.; G. Marconi, Esq., LL.D., D.SC.; A. Ochs, Esq.; Major S. Flood Page; H. S. Saunders, Esq.; Col. Sir C. Euan-Smith, K.C.B.; Isidor Loewe, Esq.; H. Jameson Davis, Esq.; M. Renouard; M. Ch. Roux; M. E. de St. Paul de Sinçay; Ernesto Madeira Pinto, Esq.; & H. Cuthbert Hall, Esq. (managing). Secretary, H. W. Allen, F.C.I.S.

Marconi's Wireless Telegraph Co., Ltd., engineers & telegraph apparatus makers & telegraph contractors, 18, Finch-lane, Threadneedle-st., London, E.C. (Telegs.: "Expanse, London." Teleph. Nos.: 2748, Avenue; 6757 & 5727, Central. Marconi, Western Union & A.B.C. Codes); & Tyssen-st., Dalston, N.E. Registered July 20, 1897. Capital: £500,000 in £1 shares. 384,190 shares have been taken up, 60,000 of which have been issued as paid. Mortgages & charges: £25,000. Directors: Col. Sir Chas. Euan-Smith, K.C.B., C.S.I. (chairman); J. FitzGerald Bannatyne, Esq., J.P., D.L.; H. J. Davis, Esq.; W. Woodcock Goodbody, Esq.; G. Marconi, Esq., LL.D., D.SC. (electrical engineer); Major S. Flood-Page; H. S. Saunders, Esq.; A. L. Ochs, Esq.; H. Cuthbert Hall, Esq. (managing). Secretary, H. W. Allen, F.C.I.S.

Mardy Electric Light Co., Ltd., Mardy, Glamorgan. Registered June 3, 1897. Capital: £2000 in £1 shares. All taken up & paid. Mortgages & charges: £600. Directors: Ed. Griffiths, Esq. (chairman); Thos. Thomas, Esq.; Daniel Davies, Esq.; A. Evans, Esq. Electrical engineer, W. W. Ross; secretary, W. J. Jones.

MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilatore, Milan." Teleph. Nos. 809–3150.) Works in Sesto S. Giovanni. *See advts., pages* 997, 998, 1227, & ENGRS.—VENTILATING & FAN MOTORS—ELECTRIC.

Marine Engineer (*monthly*, price 6*d.*), 3, Amen-corner, Paternoster-row, London, E.C.

Marinier, A., A.I.E.E., 4, Park Mansions, Battersea, London, S.W.

Marinier, Geo., A.I.E.E., Dynamo Testing Department, Westinghouse Works, Manchester.

Marion & Co., Ltd., proprietors of Marion's ferro-prussiate process for draughtsmen, 22 & 23, Soho-sq., London, W. (Telegrams: "Noiram, London." Telephone No. 1693, Gerrard.)

Markby, W., A.M.I.C.E., M.I.E.E., resident engineer, Willesden Works, Acton-lane, London, N.W.

Märker, Alf. H., director Rand Central Electric Works, Ltd.

Market Drayton Electric Light & Power Co., Ltd., Queen-st., Market Drayton. (P.O. Teleph. No. 13.) Registered Feb. 4, 1902. Nominal capital: £15,000 in £10 shares. Issued: £12,910, fully paid. Directors: R. C. D. Hudson, Esq. (chairman); C. W. Clifford, Esq.; A. E. Wycherley, Esq. Secretary, T. H. Garside; res. engr., C. F. Bottomley. Dividends: 1904, 1905 & first half of 1906, *nil.*

Markham, F. R. (Bray, Markham & Reiss, Ltd,), Black Horse-lane, Walthamstow.

Markham, Admiral Sir A. H., K.C.B., 73, Cromwell-rd., S.W. Director Cape Electric Tramways, Ltd.; director Lisbon Electric Tramways, Ltd.; director Mexico Electric Tramways, Ltd.

Markham & Co., engines for electric lighting, Broad Oak Iron Works, Chesterfield.

Marks, A. E., electrician, Ogmore Valley Electric Light & Power Supply Co., Ogmore Vale, Glam.

Marks & Clerk, consulting engineers & chartered patent agents, 30, Cross-st., Manchester (Telegs.: "Anticipate, Manchester." Teleph. No. 4272); 18, Southampton-bldgs., Chancery-lane, London, W.C. (Telegs.: "Abececlary, London." Teleph. No. 836, Holborn); & 13, Temple-st., Birmingham. (Telegs.: "Pumps, Birmingham." Teleph. No. 666.)

Markt Bros. & Co., manufacturers, importers & exporters of electrical accessories, 38 & 39, Beech-st., Barbican, London, E.C. (Telegs.: "Extradotal, London." Teleph. No. 1668, Central.)

Marlborough Electric Supply Co., Ltd., 38, Parliament-st., S.W. Registered Dec. 8, 1904. Nominal capital: £1000 in £1 shares.

Marler, H. A., A.I.E.E., electrician, 51, Northolme-rd., Highbury, London, N.

Marler, H., & Co., electrical engineers, 9, Finsbury-sq., London, E.C. (Teleph. No. 9538, London Wall.)

Marling, W., J.P., Stanley Park, Stroud. Director Gloucestershire Electric Power Co.; director Gloucestershire Electric Power Syndicate, Ltd.

Marlor, L. H., assistant engineer, Corporation Electricity Department, Manchester.

Marlow, W., Milford Hall, Salisbury. Director Salisbury Electric Light & Supply Co., Ltd.

Marples, Ernest, A.M.I.E.E., Aviemore, Frederick-rd., Gravelly Hill, Birmingham.

Marples, Leach & Co., electrical engineers, 6, Victoria-ave., Bishopsgate-st. Without, London, E.C. (Telegs.: "Adnil, London." Teleph. Nos. 796 & 775, London Wall.); & at Swansea, Bristol, Manchester, & Glasgow.

Marr, Alexander, A.M.I.E.E., West Norwood, Brooklands, Manchester.

Marr, James B., electrical engineer (Nursey & Marr), 53, Victoria-st., Westminster, London, S.W. (Telegrams: "Nurmarrus, London." Telephone No. 1855, Victoria.)

Marr, J. L., A.I.E.E., Parkside, Roker, Sunderland.

Marr, J. J., & Co., electrical engineers & manufacturing electricians, 18, Moorfields, Liverpool. (Telegrams: "Marr, Moorfields, Liverpool." Telephone No. 1777.)

Marriage, T. S., & Co., electric light & bell fitters, Bell-st., Reigate; & Station-rd., Redhill, Surrey.

Marriott, T., director Llanrwst Electricity Supply Co., Ltd., 13, Church-st., Llanrwst, Denbighshire.

Marris, G., & Son, Ltd., makers of brass stampings for electric & other trades, &c., Browning-st., Birmingham. (Telegrams: "Stampers, Birmingham." Telephone No. 3544.)

Marryat, Howard, A.M.I.E.E., 28, Hatton Garden, London, E.C.

Marryat & Place, electrical engineers. Head office: 28, Hatton Garden, E.C. (Telegrams: "Annealable, London." Telephone No. 991, Holborn.) Factory: Askew Works, Shepherd's Bush, London, W.

Marsden, H., electrical engineer, Urban District Council, Honley.

Marsden, W. T., A.I.E.E., 18, Lawson-rd., Broomhill, Sheffield.

Marsden, John, & Co., electrical engineers, Market-place, Huddersfield. (Telephone No. 530.)

Marsden & Mawdsley, electric lighting contractors, Queen-st., Morecambe.

Marsh, E. J., A.I.E.E., Power House, Kelham Island, Sheffield.

Marsh, H. H. Stanley, A.M.I.E.E., electrical engineer, 15, Gerrard-st., Soho, W.; & 86, Lansdowne-rd., W.

Marsh, J., electrician & electric bell fitter, 58, Wharncliffe Silkstone Colliery, nr. Barnsley.

Marsh, T. E., A.M.I.E.E., 42, Reighton-rd., Upper Clapton, London, N.E.

Marsh, Wm., A.M.I.E.E., engineer & general manager, Corporation Tramways, Brighton.

MARSH, SON & CO., LTD., manufacturing electrical engineers, 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See* ACCESSORIES MANUFRS.—ELECTRIC.

Marshall, Arthur G., electrical engineer, c/o Reginald P. Wilson, 66, Victoria-st., London, S.W.

Marshall, Albert Henry, A.M.I.E.E., c/o C. H. Merz, Hinton-bldgs., Middlesbrough.

Marshall, A. H., A.M.I.E.E., 270, High-rd., Leytonstone.

Marshall, A. W., M.I.MECH.E., A.M.I.E.E., electrical consulting engineer, 28, New Bridge-st., Ludgate Circus, E.C. (Telephone No. 332, Central); & 180, Loughborough-rd., Brixton, London, S.W.

Marshall, C. F. B., A.I.E.E., c/o Smith, Parfrey & Co., Ltd., Fulham Palace-rd., Hammersmith, London, W.

Marshall, C. H., A.I.E.E., Bishop & Marshall, 58–61, Old Broad-st., London, E.C.

Marshall, Jenner G., A.M.I.C.E., M.I.M.E., consulting mechanical & civil engineer, Athenæum-chbrs., 71, Temple-row, Birmingham. (Telegrams: "Work, Birmingham." Telephone No. 547.)

Marshall, J. L., director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.

Marshall, Roland, A.M.I.E.E., burgh electrical & consulting engineer, Corporation Electricity Works, Ayr.

Marshall, S. B., A.I.E.E., manager of Electrical Fittings Co., 38, Conduit-st., New Bond-st., London, W.

Marshall, W. G., assistant engineer, Penarth Electric Lighting Co., Ltd., Penarth.

Marshall, Wm. H., A.M.I.E.E., electrical engineer, resident engineer for Preece & Cardew, H.M. Dockyard, Portsmouth.

Marshall, A. H., & Co., electrical contractors, 270, High-rd., Leytonstone.

Marshall, Fleming, & Jack, electric crane makers, Dellburn Works, Motherwell, N.B. (Telegrams: "Dellburn, Motherwell." Telephone No. 50.)

Marshall, R. E. & C., Ltd., installation contractors, 5, Clarence-st., Cheltenham. (Telegrams: "Marshall, Cheltenham." Telephone No. 351.)

Marshall, Sons & Co., Ltd., makers of high-speed engines, Britannia Iron Works, Gainsborough. (Telegrams: "Marshalls, Gainsborough." Telephone No. 10. A.B.C., A1, Engineering & Lieber's Codes.)

Marshall, W. & T., wiring contractors, 16, Dumbarton-rd., Stirling.

Marshall & Woods, electric light engineers, Avenue Works, Park-rd., Acton, London, W. (Telephone No. 444, Chiswick.)

Marsham, Hon. Hy., 28, Bury-st., St. James's, S.W. Extraordinary director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.

Marston, A., A.I.E.E., 24, Nethergreen-rd., Ranmoor, Sheffield.
Martin, C. H., electric bell fitter, contractor, & electrician, 11, Corporation-road, Middlesbrough.
Martin, C. P., M.I.E.E., representative of Messrs. C. A. Parsons & Co., 66, Victoria-st., London, S.W. (Telegrams: "Silently, London." Telephone No. 586, Westminster.)
Martin, David, A.M.I.E.E. (of Martin & McFie), 8, Wellington-st., Glasgow.
Martin, E. M., A.I.E.E., Tudor Accumulator Co., 119, Victoria-st., London, S.W.
Martin, H., Olive Mount, Grosvenor-rd., St. Helens. Director New St. Helen's & District Twys. Co., Ltd.
Martin, H. S., electrical & consulting engineer, 13, Cumberland-st., Liverpool. (Tel. No. 6039, Central.)
Martin, J., engineer, G.P.O., London, E.C.
Martin, J. E., 6, Clyde-rd., Dublin. Director Clontarf & Hill of Howth Tramroad Co.
Martin, M., electric lighting contractor, 1, Cornfield-ter., Eastbourne.
Martin, Sir R. B., Bart., 140, High-st., Notting Hill, W. Director Notting Hill Electric Light Co., Ltd.
Martin, S. G., A.I.E.E., Hareslade, Langland Bay, nr. Swansea.
Martin, Wm., M.D., A.I.E.E., West Villa, Akenside-ter., Newcastle-on-Tyne.
Martin, W. B., 64, Outer Temple, Strand, W.C. Director Shropshire & Worcestershire Elec. Power Co.
Martin, W. C., A.M.I.E.E., 10, West Campbell-st., Glasgow. (Telegrams: "Motive, Glasgow." Telephone Nos.: 3736, Corp.; & 1044, Argyle, Nat.)
Martin, W. G., electrician, 102, High-st., Stoke Newington, London, N.
Martin, W. W., electrical engineer, 70–71, Coventry-st., Kidderminster. (Teleph. No. 0198.)
Martin Bros., electric bell makers & fitters, 9 & 11, Corporation-road, Middlesbrough.
Martin & Co., manufacturers of dynamo castings, &c., Albion Works, East-rd., West Ham, London, E. (Telegrams: "Almartaga, London." Telephone No. 381, Stratford.)
Martin, Fitt, Thomas & Co., electric light engineers, 7, High-st., Grantham. (Telegs.: "Martins, Grantham." Teleph. No. 20.)
Martin & McFie, electrical engineers & contractors, 8, Wellington-st., Glasgow. (Telegs.: "Resistance, Glasgow." P.O. Teleph. No. 566.)
Martin & Newby, electric bell fitters & contractors, 2, Fore-st., Ipswich.
Martin & Sander, engineering photographers, 4, Manor-rd., Stoke Newington, London, N.
Martin, Thos. R. & Co., Ltd., electrical engineers & manufacturers' agents, 31, Albert-rd., Middlesbrough (Telegs.: "Appliances, Middlesbrough." Teleph. No. 327); & 77, High Bridge, Newcastle-on-Tyne.
Martin, W. C., & Co., electrical engineers, 10, West Campbell-st., Glasgow. (Telegrams: "Motive, Glasgow." Telephone Nos.: 3736, Corp.; & 1044, Argyle, Nat.)
Martin, W. C., & Co., electrical contractors, 116, Victoria Dock-rd., London, E.
Martindale, W. B. H., A.M.I.C.E., M.I.M.E., Haistwell House, Sunningdale, Berks. (Telegrams: "Martindale, Sunningdale.") Director Cork Electric Tramways & Lighting Co., Ltd.; director Chatham & District Light Railways Co.
Martineau, W., director Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st. E.C.
Martineau, Beames & Madeley, Ltd., brass founders & electric bell makers, Holloway Head, Birmingham. (Telegrams: "Martsmith, Birmingham." Telephone No. 258.)
Martyn, S. W., A.M.I.E.E., 27, Tamworth-st., West Brompton, London, S.W.
Marx, J., & Co., pumps & turbine makers, 133–139, Finsbury Pavement, London, E.C. (Telegrams: "Schuhstoff, London." Telephone No. 9014, London Wall.)
Marylebone Borough Council Electricity Works. Chief electrical engineer, F. A. Wilkinson, Town Hall, S. Marylebone, W.
Masaroon, R. G., A.I.E.E., P.O. Telegraphs, Temple Gate, Bristol.
Maschinenfabrik Oerlikon (Zürich), electrical engineers, Oswaldestre House, Norfolk-st., Strand, London, W.C. (Telegs.: "Oerlik, London." Teleph. No. 4167, Gerrard). G. Wüthrich, manager.
Maslin, J. C., 36A, Derby-rd., Long Eaton. Director Harrington Electric Light Co., Ltd.
Mason, Archibald V., A.I.E.E., Carbery Lodge, Ascot.
Mason, D. M., electrical superintendent, Electricity Works, Croydon.
Mason, G., Rottingdean, Sussex. Chairman New Rottingdean Electricity Co., Ltd.
Mason, J. E., electrical contractor, 43, Carrington-st., Nottingham. (Teleph. No. 3–52 Y.)
Mason, R. G., manufacturer of electrical instruments, 69, Park-rd., Clapham, London, S.W.
Mason & Brown, mfg. electricians, Volta Works, 82, Rutland-st., Leicester. (Nat. Teleph. No. 04413.)
Mason, Cash & Co., electrical contractors, Woodville, Burton-on-Trent.
Mason, J. F., & Co., electrical engineers, 136A, Woodhouse-lane, Leeds.
Mason, W. F., Ltd., civil, electrical & mechanical engineers, Mona Works, Levenshulme, Manchester. (Telegs.: "Mona, Levenshulme." Teleph. No. 216, Rusholme.)
Mason, W. H., & Co., electrical engineers, 12, Broad-st., Pendleton, Manchester.
Mason, Wilson & Co., electrical engineers, West-st., Gateshead.
Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. (Telegrams: "Windsail, London." Telephone No. 5063, Central.)
Massé, Francis, & Co., makers of engine grease & grease lubricators, 53, Union-rd., Rotherhithe, S.E.
Massey, J. D., A.M.I.C.E., consulting engineer, 139, Cannon-st., London, E.C. (Telegs.: "Howbeit, London." Teleph. No. 5812, Bank.)

Massey, Wm. H., M.I.C.E., M.I.E.E., consulting, mechanical & electrical engineer, 25, Queen Anne's-gate, London, S.W. (Telegrams: "Massive, London." Telephone No. 832, Westminster.)

Massey, B. & S., mechanical engineers, Openshaw, Manchester. (Telegrams: "Masseys, Openshaw." Telephone No. 300.)

Massingham, H. G., electric light & tramway engineer, Pinhoe-rd., Exeter.

Mathematical Gazette (six times a year, 1*s.* 6*d.* per number); editor, W. J. Greenstreet, Marling Endowed School, Stroud, Glos. Geo. Bell & Sons, York House, Portugal-st., London, W.C.

Mather, Sir W., LL.D., director Manchester & Liverpool Electric Railway Syndicate, Ltd.; chairman Mather & Platt, Ltd., Salford Iron Works, Manchester.

Mather, T., WH.SC., A.M.I.E.E., F.R.S., electrician, City & Guilds of London Central Technical College, Exhibition-rd., London, S.W.

Mather Bros., electric light installation contractors, 36, Farringdon-st., E.C.; & 278, Caledonian-rd., N., London. (Telephone Nos.: 1929, North; & 1509, Holborn.)

Mather, G. R., & Son, steam engine makers, Albion Foundry, Wellingborough. (Telegs.: "Mather, Wellingborough." Nat. Teleph. No. 14 Y.)

MATHER & PLATT, LD., manufacturing, electrical, mechanical, hydraulic & fire engineers, contractors for electric light & power plants, electric railways & tramways, gas & steam engines, Salford Iron Works & Park Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W.; also at Glasgow, Newcastle-on-Tyne & Cardiff. (Telegs.: "Mather, Manchester;" "Sprinkler, London." Nat. Teleph. Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.) Reconstructed & registered Jan. 21, 1899. Nominal capital: £500,000 in £10 ordinary shares & £500,000 in £10 preference shares. 40,000 ordinary are issued & fully paid & 40,000 preference shares, fully paid. Directors: Sir W. Mather (chairman); Dr. E. Hopkinson (deputy-chairman); H. A. Earle, Esq.; J. J. Holden, Esq.; C. Mather, Esq.; J. Platt, Esq.; J. Robinson, Esq.; J. Taylor, Esq.; A. Willett, Esq.; J. Wormald, Esq. Secretary, V. R. Milner, F.C.I.S. Dividends: 1899–1900, 1900–01, 1901–02 & 1902–03, 7 per cent. on ordinary shares, 5 per cent. on preference per annum; 1903–4, 1904–5 & 1905–6, 7 per cent. on ordinary shares & 3 per cent. bonus, 5 per cent. on preference.

Matheson, Ewing, M.I.C.E., consulting engineer, 13, Walbrook, London, E.C.

Matheson & Grant, consulting & electrical engineers, 13, Walbrook, London, E.C.

Mathews, Ernest G. D., A.I.E.E., G.W.R. Electric Station, Park Royal, London, N.W.

Mathews, Eugene, testing engineer, Hackney Borough Council's Electricity Works, Millfields-rd., Clapton, London, N.E.

Mathews, W. Lee, London manager of Thomas Bolton & Sons, Ltd., 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Wiredrawn, London." Teleph. No. 632, Central.)

Mathews, Ernest, & Co., manufacturers of slate slabs, bases, switchboards, &c., 61, St. Mary Axe, London, E.C. (Telegs.: "Timists, London." Teleph. No. 506, Avenue; Works, 764, Eastern.)

Mathias, F. V. L., A.M.I.E.E., borough electrical & tramways engineer, Warrington. (Teleph. No. 206.)

Mathias, N., A.M.I.E.E., electrical engineer, 199, Hyde Park-rd., Leeds.

Mathieson, Alex., & Sons, Ltd., Saracen Tool Works, Glasgow. (Telegrams & Cables: "Mathieson, Glasgow." Nat. Telephone Nos. 23 & 24, Tron.)

Mattei, A., LL.D., 4, Paper-bldgs., Temple, E.C. Director Hobart Electric Tramway Co., Ltd.

Matterson, Huxley & Nutson, Ltd., electric bell fitters, Cross Cheaping, Coventry.

Matthew, G. W., & Co., electric light contractors, Womanby-st., Cardiff. (Telegrams: "Instal, Cardiff." Telephone No. 01379, Nat.)

Matthews, Ernest R., A.I.E.E., borough engineer & surveyor, Bridlington.

Matthews, F. J. A., A.M.I.E.E., F.G.S., electrical engineer, Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester; & 73, Victoria-cres., Eccles.

Matthews, F. P., 9–27, Hearn-st., E.C. Director Milford-on-Sea Electric Supply Co., Ltd.

Matthews, H. B., A.M.I.E.E., Municipal Technical School, Suffolk-st., Birmingham. (Teleph. No. 1511, Central.)

Matthews, N. H., Broomy Hill, Hereford. Director Ross Electric Light & Power Co., Ltd.

Matthews, Robert, M.I.E.E., electrical engineer, Parrs House, Heaton-Mersey.

Matthews, Sydney Chas., A.I.E.E., Electricity Works, Rochdale-rd., Bury, Lancs.

Matthews, Thomas, M.I.C.E., engineer-in-chief, Trinity House, London, E.C. (Teleph. No. 2242, Avenue.)

Matthews, H., & Sons, makers of casings & cleats, Stockport-rd., Manchester. (Telephone No. 4382.)

Matthews' Improved Electricity Meter, Ltd., 35, Bucklersbury, London, E.C.

Matthews & Yates, Ltd., electrical & ventilating engineers, Cyclone Works, Swinton, Manchester (Telegrams: "Cyclone, Swinton, Manchester." Telephone No. 1871); 84, Gray's Inn-rd., London, W.C. (Telegrams: "Ventilo, London." Telephone No. 4823, Holborn); 144, St. Vincent-st., Glasgow (Telegrams: "Cyclone, Glasgow." Telephone No. 716, Argyle); & Standard-bldgs., City-sq., Leeds. (Telegs.: "Cyclone, Leeds." Teleph. No. 1926, Nat.)

Mattinson, M. W., K.C., 1, Garden-ct., Temple, E.C. Chairman River Plate Electricity Co., Ltd.

Mattos, Jonkheer H. Teixera de, director Underground Electric Railways Co. of London, Ltd.

Maud & Turner, engineers & machine tool manufacturers, Perseverance Works, Gibbet-street, Halifax, Yorks. (Telegrams: "Maud Turner, Halifax." Telephone No. 67.)

Maude & Co., arc lamp-post makers, Mansfield.

Maund, Albert, electric lighting & power engineer & contractor, 13, Corporation-st., Southport, Lancashire. (Teleph. No. 328.) Director North Wales & District Light Railway & Electric Power Syndicate, Ltd.

Maund & Co., electrical contractors, Corporation-st., Southport.

Maunder, E. W., first-class assistant, Royal Observatory, Greenwich, London, S.E.

Maunsell, Capt. M. C., A.I.E.E., The Croft, Eltham, Kent.

Maurice, W., A.M.I.E.E., manager Hucknall Torkard Collieries, Derbyshire.

Mavor, H. A., M.I.C.E., M.I.E.E., engineer & electrician, 47, Broad-st., Mile End, Glasgow.

Mavor, Sam., M.I.E.E., electrical engineer, 47, Broad-st., Mile End; & 39, Burnbank-gdns., Glasgow.

Mavor & Coulson, Ltd., engineers & electricians, 47, Broad-st., Mile End, Glasgow. (Telegrams: "Prodigious, Glasgow." Telephone Nos.: Nat. 2835, Bridgeton; Corp. Y 13. A.B.C. Code, 5th Edition, used.) Registered March 17, 1897. Capital: £100,000 in £5 shares (2200 ordinary & 17,800 preference). Directors: H. A. Mavor, Esq.; W. A. Coulson, Esq.; Sam. Mavor, Esq. A. F. Walker, secretary.

Mawbey, E. Geo., M.I.C.E., borough & chief tramways engineer, Leicester.

Mawby, Wm., & Son, wiring contractors, Cross-st., Birkenhead. (Telephone No. 262.)

Mawdesley, H. St. Hill, M.I.E.E., Dursley, Glos.

Mawle, J., & Sons, electric lighting, telephones & electric bells, &c., 22 & 65, High-st., Banbury.

Mawson, Clark & Co., oil & lubricant manufacturers, &c., Pandon-bldgs., City-rd., Newcastle. (Telegrams: "Lubricant, Newcastle-on-Tyne." Telephone Nos.: 1525, Nat.; & 84, P.O.)

Mawson & Swan, makers of scientific instruments, &c., 11–15, Mosley-street, Newcastle-on-Tyne. (Telegrams: "Mands, Newcastle-on-Tyne." Telephone No. 1470.)

Maxfield, W. Bestwick, registered patent agent & U.S. patent attorney, 30, Belvoir-st., Leicester.

Maxim, Sir Hiram S., M.I.E.E., Thurlow Park, Norwood-rd., West Norwood, London, S.E.

Maxim Electrical Co., Ltd., electrical engineers, makers of Maxim arc & incandescent lamps, Maxim Works, Gillingham-st., Victoria, S.W. (Telegs.: "Arconcello, London." Teleph. No. 744, Westminster (2 lines).)

Maxime & Co., Ltd., wood fittings for electrical purposes, 10 & 11, Featherstone-st., London, E.C. (Teleph. No. 1117, London Wall.)

Maxted, Knott & Coles, consulting engineers, Burnett-ave., Hull. (Telephone No. 459.)

Maxwell, H. B., M.I.E.E., burgh electrical engineer, Electricity Works, Mauldslie-st., Partick, Glasgow. (Teleph. Nos.: 1264, Office; & 1263, House.)

Maxwell, J. P., Wellington, N.Z. Wellington director City of Wellington Elec. Light & Power Co., Ltd.

Maxwell, Butcher & Co., electrical engineers, 146A, Queen Victoria-st., London, E.C. (Teleph. No. 6082, Central.

Maxwell, Son & Co., electrical & mechanical engineers & brassfounders, King's-rd., Dundee. (Teleph. No. 1213.)

Maxwell, Wm., & Co., manufacturing electrical engineers, 204, Goldhawk-rd., Shepherd's Bush, W.

May, Geo., Caversham, Reading. Director Reading Electric Supply Co., Ltd.

May, H. S., chief assistant tramway engineer, Corporation, Blackpool.

May, J. H., A.M.I.E.E., 21, Donovan-ave., Muswell Hill, London, N.

May, John, A.M.I.C.E., M.I.E.E., electrical engineer, c/o Robert Hammond & Son, 64, Victoria-st., Westminster, London, S.W. (Telegs.: "Hammond, London." Teleph. No. 394, Victoria.)

May, W., director South Metropolitan Electric Light & Power Co., Ltd., 37, Tranquil Vale, Blackheath, S.E.

May, W. R., station superintendent, Electricity Works, Lowestoft.

May & Baker, Ltd., chemical manufacturers, Garden Wharf, Battersea, London, S.W. (Telegrams: "Bismuth, London." Telephone No. 3, Battersea.)

May, Harry, & Co., electrical engineers & contractors, 25, Savile Row, Regent-st., London, W.

May-Oatway Fire Appliances, Ltd., automatic fire alarms, 92 & 94, Paul-st., Finsbury, London, E.C. (Telegs.: "Pyromancy, London." Teleph. No. 986, London Wall.)

Maybery, W. T., resident engineer, Pontypool Electric Light & Power Co., Ltd., Pontypool, Mon.

Maycock, W. Perren, M.I.E.E., consulting electrical engineer, The Residential Club, Trafford Park, Manchester.

Mayer, Arthur, electrician, Cathkin-rd., Langside, Glasgow.

Mayer, J. W., assistant electrical engineer, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Mayer, J. Wm., A.I.E.E., "Rose Bank," Romiley, Cheshire.

Mayer, A., & Son, makers of electric alarm clocks, 127, Aldersgate-st., London, E.C. (Telegrams: "Ascio, London." P.O. Telephone No. 427, Central.)

Mayer, H. G., & Co., electrical manufacturers' agents, 67, Aldersgate-st., London, E.C. (Telegrams: "Gloriole, London." P.O. Telephone No. 12367, Central.)

Mayes, A. E., A.M.I.E.E., engineer & manager Isle of Wight Electric Light & Power Co. Head office: Electricity Works, Ventnor.

Mayes, Alfred H., specialist in electric motor starting resistances, Hurstpierpoint, Sussex.

Mayfield, J. S., electrical engineer, Pier-ave., Clacton-on-Sea.

Mayfield, J. T., & Co., electrical engineers, 63 & 63A, Cannon-st., London, E.C. (Telegs.: "Maichamp, London." Teleph. No. 1440, Central); & Pier-ave., Clacton-on-Sea.

Mayne, Arthur J., A.M.I.E.E., electrical engineer-in-chief, W. D. Electric Light Station, Stanhope Lines, Aldershot.

Mayne, G. W., A.I.E.E., Mountfield, Miles-rd., Clifton, Bristol.

Mayne, R. N., A.I.E.E., Corporation Electricity Works, St. Helen's, Lancs.

Mayne, Sons & Co., electric light contractors, Glebe-st., Penarth, Cardiff (Telephone No. 0133); & 56, Holton-rd., Barry Dock.

Maypee, C. F., A.I.E.E., 19, Bedford-pl., Russell-sq., London, W.C.

Mayson, C. M., A.M.I.E.E., Charing Cross, West End & City Electricity Supply Co., Ltd., 60, St. Martin's-lane, W.C.

Mazarron Electric Light Co., Ltd., 103, Dashwood House, London, E.C. (Telegrams: "Barometer, London.") Registered Feb. 27, 1893. Directors: R. S. Bathe, Esq. (chairman); Dr. A. O. Grosvenor; A. M. Laredo, Esq. Electrical engineer, Luis Magne. Secretary, C. W. Butler. Nominal capital: 10,000 ordinary shares of £1; & 500 preference shares of £10. All the ordinary & 151 preference have been taken up, & are fully paid. Debentures authorized: £5000, of which £2780 are issued. In Sept., 1902, a receiver & manager on behalf of the debenture holders was appointed.

Meaby, Michael C., A.M.I.C.E., A.I.E.E., Jessel-chbrs., Chancery-lane, London, E.C.

Meacher, Wyatt, M.I.E.E., 24, Carleton-rd., Tufnell Park, London, N.

Mead, Wm., A.I.E.E., General Electric Co., Ltd., Witton, nr. Birmingham; & Harold Villa, Deykin's-ave., Witton, nr. Birmingham.

Meade, R. E., electrician, Corporation Electric Light Works, Stafford. (Telegs.: "Pooley, Stafford." Telephone No. 99.)

Meadows, W. A., electrical engineer, Free Trade-bldgs., Percy-st., Hanley.

Meadows, C., & Co., Ltd. (C. Meadows, managing director), steel manufacturers, forgers, filters, rollers, Sheffield. (Telegrams: "Meadows, Sheffield." Telephone No. 582.)

Meadows, Teeton & Minshall, Ltd., electrical engineers, 9, Albion-st., Hanley. (Teleph. No. 39 Y.)

Meakin, Robert, A.M.I.E.E., Derby-rd., Chellaston, nr. Derby.

Meakins, J. & G., Ltd., earthenware manufacturers, Lichfield-st., Hanley.

Mears, Arthur, A.M.I.E.E., Corporation Electricity Supply Department, Dewar-pl., Edinburgh.

Meares, J. L. D., C.E., consulting engineer to the Bessbrook & Newry Tramway Co., Bessbrook, co. Armagh.

Mechan & Sons, Ltd., electrical & general engineers, Scotstoun Iron Works, Glasgow. (Telegrams: "Nautical, Glasgow." Telephone No. 437, Hillhead.)

Mechanical Appliances Co., Ltd., 57, Chiswell-st., London, E.C. (Telegrams: "Appliances, London.")

Medhurst, F., 44-51, High-st., Bromley. Director Chislehurst Electric Supply Co., Ltd.

Medhurst, F. H., B.SC., M.I.E.E., consulting electrical engineer, Westminster-chambers, 13, Victoria-st., London, S.W. (Telegrams: "Synchronous, London." Telephone No. 257, Westminster.)

Medhurst, F. H., & Lloyd, consulting engineers, Westminster-chbrs., 13, Victoria-st., London, S.W. (Telegrams: "Synchronous, London." Telephone No. 257, Westminster.)

Medhurst, Page & Lloyd, consulting electrical engineers, Clarendon-chbrs., St. Ann's-sq., Manchester. (Telegrams: "Synchronous, Manchester." Telephone No. 08782.)

Medical Electro-Thermic Generator Co., Ltd., 31 & 32, Berkeley-st., Portman-sq., London, W. Registered office: 2, Staple Inn, Holborn, W.C.

Medical-Electro Vibration Institute, Ltd., 4, Spring Bank, Bradford.

Medland, J. B., electrician, 44, Lorrimore-rd., Kennington, London, S.E.

Medley, Chas. Powis, A.M.I.E.E., "Carfax," Surbiton Hill, Surrey.

Medlyn, W. J., telephone engineer, Engineer-in-Chief's Office, G.P.O., London, E.C.

Meek, John, jun., A.I.E.E., 5, Harrowden Villas, Fauconberg-rd., Chiswick, London, W.

Meek, Watson & Co., insulating material manufacturers, 10, Fore-st., London, E.C.

Meen, F., Hindhead, Surrey. Director Hindhead & District Electric Light Co., Ltd.

Meeres, S. H., electrical engineer, Electrical Department, L. & N.W. Railway, London-rd., Manchester.

Meggitt, B. Westgate, electric light & power contractors, Mansfield.

Meguin, Franz, & Co., makers of perforated metals, armature core stampings, &c., 110, Cannon-st., London, E.C. (Telegrams: "Browpost, London." Telephone No. 8168, Bank.)

Meik, P. W. & C. S., consulting engineers, 16, Victoria-st., London, S.W. (Telegrams: "Snowdon, London." Telephone No. 370, Victoria.)

Meik, Thomas, & Sons, consulting engineers, Edinburgh. (Telegrams: "Meik, Edinburgh.")

Meiklejohn, J. B., installation contractors, 115 & 115A, Bath-st., Glasgow.

Meirowsky & Co., mica merchants & manufacturers of mica insulating materials, 22, Laurence Pountney-lane, London, E.C. (Telegs.: "Steelhead, London." Teleph. No. 5931, Bank.)

Melchior, M., director Gt. Northern Telegraph Co., Ltd., of Copenhagen, 26, Kongens Nytorv, Copenhagen,

Meldola, Raphael, F.R.S., F.R.A.S., F.C.S., F.I.C. (professor of chemistry, City & Guilds of London Institute), 6, Brunswick-square, London, W.C.

Meldrum Bros., Ltd., engineers, Timperley, Manchester; & 66, Victoria-st., Westminster, London, S.W. (Telegs.: "Meldrum, Manchester;" "Meldrum, London;" & "Destroyer, London." Teleph. Nos.: 1674, Manchester; & 193, Westminster.)

Melhuish, W. F., M.I.E.E., 3, Denbigh-rd., Ealing, W.

Melhuish, Richard, Ltd., electricians, &c., 84, 85, 86 & 87, Fetter-lane, E.C.; & 143, Holborn, E.C. (Teleph. Nos. 1863 & 1863A, Holborn.)

Mellier, C., & Co., electrical engineers & contractors, 48, 49, & 50, Margaret-street, London, W. (Telegrams: "Wheelrace, London." Telephone No. 2823, Gerrard.)

Melling, J., maker of stampings, malleable castings & press tools, 9, New Broad-st., London, E.C. (Telegrams: "Melling, Dashwood House, London." Telephone No. 497, London Wall.)

Mellis, Wyllie, wholesale supplies, 47, Oswald-st., Glasgow.

Mellor, J. J., The Woodlands, Whitefield, nr. Manchester. Director Metropolitan Railway Co.

Mellor, John Edward, A.M.I.E.E., 44, Aberdeen Park, Highbury, London, N.

Mellor, S., A.M.I.E.E., Corporation Electricity Works, Burton-on-Trent; & 130, Scalpcliffe-rd., Burton-on-Trent.

Melly, Henry G., A.M.I.E.E., Aigburth, Liverpool.

Melrose Electricity Works (Electricity Supply Corporation, Ltd.), Melrose, Roxburgh, N.B.

Melsom, Sydney W., electrical engineer, National Physical Laboratory, Teddington.

Melton Mowbray Electric Light Co., Ltd., electricians, mechanical engineers, &c., 33, Regent-st., Melton Mowbray. (P.O. Teleph. No. 10 X.) Registered June 18, 1897. Nominal capital: £25,000 in ordinary £5 shares & £20,000 debentures; £16,050 in ordinary shares, issued & fully paid. Debentures issued: £15,000. Directors: W. J. New, Esq. (chairman); S. C. Hobson, Esq.; F. E. Gripper, Esq.; J. C. Wigham, Esq. Engineer & manager, H. Joseph, A.M.I.E.E.; secretary, W. C. Mountain. Dividends: 1902, 1903, 1904 & 1905, 2½ per cent.

Melville, O., electrical engineer, 310, High-st., Redburn Wynd, Kirkcaldy, Scotland. (Teleph. No. 192.)

Mendham, Wm. Phillips, consulting electrical engineer, 24, Tyndall-ave., Bristol.

Menmuir, J., A.M.I.E.E., manager, Electrical Department, Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow.

Mensing, L. C. H., electrical engineer, 9, Inverleith-gdns., Edinburgh.

Menzies, D. P., F.S.A. (Scot.), electrical engineer, electric lamp & post manufacturer, & ventilation contractor, Weem Works, 30, Bishop-st., Glasgow.

Mercer, R. G., A.M.I.E.E., British Westinghouse Electric & Manufacturing Co., Central House, New-st., Birmingham.

Mercer, Rance & Co., electrical engineers, 166, Iverson-rd., West Hampstead, London, N.W.

Merchant Venturers' Technical College, Bristol. (Telephone Nos. 407, 1190 & 630.) *See* SCHOOLS, &c.

Mercier, Maunsell, consulting electrical engineer, 83, Camp-st., Broughton, Manchester. (Telegs.: "Wenham, Manchester.")

Meredith, W. M., A.I.E.E., 13, Pembroke-gardens, London, S.W.

Meredith Bros., contractors for railways, tramways, docks, water & sanitary works, Gloucester. (Telegs.: "Gwent, Gloucester.")

Meredith & Co., electro-nickel & copper platers, polishers, stampers, piercers & tool makers, Dynamo Works, Woodcock-st., Birmingham.

Meredith, W. L., & Son, consulting railway & tramway engineers, 7, Midland-rd., Gloucester.

Merrett, W. H., A.I.E.E., Royal College of Science, South Kensington, London, S.W.

Merriman, Will H., A.I.E.E., Commonwood, East Looe, Cornwall, R.S.O.

Merritt, F. H., A.M.I.E.E., resident engineer & manager, Electricity Works, Frome. (Teleph. No. 26.)

Merry, T. W., chief assistant engineer, Kings-rd. Central Station, St. Pancras, London, N.W.

Merryweather & Sons, electric fire engine makers, 63, Long Acre, London, W.C. (Telephone No. 1795, Gerrard.)

Mersey Electric Supply Co., Ltd., 41, North John-st., Liverpool. *In voluntary liquidation.* Liquidator, J. G. Hodgson.

Mersey Railway Co., Worcester House, Walbrook, London, E.C. Incorporated June 28, 1866. Capital authorized & issued: £2,235,748 ordinary stock & £649,252 3 per cent. perpetual preference stock. Debentures issued: £249,276 4½ per cent. first debenture stock, £116,600 4 per cent. debenture stock, £373,394 4 per cent. new first perpetual debenture stock, £460,000 3 per cent. debenture stock & £282,354 3 per cent. "B" debenture stock. Directors: J. Falconer, Esq. (chairman); R. Cooper, Esq.; F. More, Esq.; S. G. Sheppard, Esq.; G. Waddell, Esq.; H. A. Wakeman-Newport, Esq. Resident engineer, J. Shaw; secretary, G. H. Langham.

Mertens, B. de M., A.I.E.E., assistant electrical engineer, Corporation Electricity Works, Londonderry.

Mertens, J. T., A.I.E.E., assistant engineer, Hove Electric Lighting Co., Ltd., Davigdor-rd., Hove Sussex.

Merthyr Electric Traction & Lighting Co., Ltd., electrical engineers & contractors, Donington House, Norfolk-st., Strand, W.C. (Telegs.: "Merthyr, c/o Tramway, London." Teleph. Nos. 6821 & 6822, Gerrard); & Merthyr Tydvil. (Teleph. Nos.: Nat., 0180; & P.O., 14.) Registered June 23, 1898. Nominal capital: £100,000 in £5 ordinary & £5 preference shares, & £50,000 debenture stock secured by trust deed of Oct. 23, 1901, & an acknowledgment of indebtedness dated Feb. 16, 1905. Issued: £30,000 ordinary shares & £30,000 preference shares, fully paid, & £48,400 debenture stock. Directors: W. L. Madgen, Esq. (chairman); C. G. Tegetmeier, Esq.; G. J. Somerville, Esq. Secretary, H. A. Stagg; managing engineer, G. Charlton. Dividends: 1903, 5 per cent. on preference & 2½ per cent. on ordinary; 1904, 1905, 5 per cent. on preference.

Merton, H. R., & Co., Ltd., metal merchants, &c., 2, Metal Exchange-bldgs., Whittington-ave., E.C. (Telegs.: "Merton, London." Teleph. Nos. 593 & 594, Avenue); & at Birmingham, Manchester & Glasgow.

Merz, Charles H., M.I.C.E., &c., consulting engineer, 28, Victoria-st., Westminster, London, S.W. (Telegs.: "Amberkraft, London." Nat. Teleph. No. 256, Westminster); & Collingwood-bldgs., Newcastle-on-Tyne. (Telegs.: "Amber, Newcastle-on-Tyne." Teleph. No. 2354.)

Merz, J. T., PH.D., D.C.L., The Quarries, Newcastle-on-Tyne. Chairman Newcastle-upon-Tyne Electric Supply Co., Ltd.; chairman County of Durham Electrical Power Distribution Co., Ltd.; director Tyneside Tramways & Tramroads Co.; director Priestman Power Co., Ltd.; director County of Durham Electric Power Supply Co.

Messenger & Sons, electroliers, 19, Broad-st., Birmingham.

Metal & General Agency (Weager & Funck), agents for patent welding composition, 5, Whittington-ave., London, E.C. (Telegs.: "Lysippus, London." Teleph. No. 2272, Central.)

Metallic Mirrors (of America), Ltd., metallic reflector manufacturers, 151, Winchester House, London, E.C. (Teleph. No. 2590, Central.)

Metallic Seamless Tube Co., Ltd., steel tube & steel conduit manufacturers, Wiggin-st., Birmingham. (Telegrams: "Flask, Birmingham." Telephone No. 2245.)

Metcalf, George, & Co., wire rollers & polishers, & lead foil rollers for cable makers, Virgil-st., Cornbrook, Manchester.

Metcalfe, Chas. C., A.M.I.E.E., electrical engineer to the Education Committee, Municipal School of Technology, Manchester; & 5, Urban-rd., Sale, Cheshire.

Metcalfe, Geo. A., works mgr., Thomas Smith & Sons, Steam & Electric Crane Works, Rodley, nr. Leeds.

Meters, Ltd., 6, Mawson-chbrs., Deansgate, Manchester. (Telephone No. 3927.) Registered Oct. 4, 1897. Nominal capital: £200,000 in ordinary shares of £1 each, £150,000 in preference shares of £1 each & £150,000 first mortgage debenture stock transferable in multiples of £1. Issued: 199,898 ordinary shares, 131,245 preference shares, all fully paid, & £137,370 debentures. Dividends: 1903 & 1904, 5½ per cent. on preference; 1903, 1904, 1905 & 1906, 6 per cent. on ordinary shares. Reserve fund, March 31, 1906: £52,000. Directors: Ald. J. Miles (chairman); G. H. Braddock, Esq.; F. H. Orme, Esq.; H. J. Davis, Esq.; Ald. Wm. Jackson; R. E. Braddock, Esq. Sec., Albert Manning.

Methuen & Co., publishers of electrical & scientific books, 36, Essex-st., Strand, London, W.C. (Telegrams: "Elegiacs, London.")

Metropolitan Amalgamated Railway Carriage & Waggon Co., Ltd., electric tramway makers, Britannia Works, Saltley, Birmingham. Head office: Oldbury, nr. Birmingham.

Metropolitan District Railway, St. James's Park Station, London, S.W. (Telegs.: "Diselec, London." Teleph. Nos. 880, 881 & 882, Westminster.) Nominal capital: £10,701,666 in stock or shares, £3,136,374 by loans. Issued: £3,235,000 ordinary stock, fully paid, £1,500,000 5 per cent. preference stock, fully paid, £1,250,000 4 per cent. guaranteed stock, fully paid, £2,116,666 3 per cent. consolidated rent charge stock fully paid, & £1,470,000 5 per cent. second preference stock, fully paid. Debenture stock: £2,835,825. Directors: Sir Geo. S. Gibb (chairman); R. W. Perks, Esq., M.P. (deputy-chairman); W. Abbot, Esq.; W. H. Brown, Esq.; The Right Hon. Lord Geo. Hamilton; The Right Hon. Sir Chas. Dalrymple, Bart., P.C.; E. Law, Esq.; M. Griffith, Esq.; A. L. Stride, Esq.; Sir J. Clifton Robinson. Secretary, J. Carter.

Metropolitan Electric Supply Co., Ltd. Engineer's office: 16, Stratford-pl., Oxford-st., London, W. (Telegs.: "Detachment, London;" Amberley-rd., "Kilowatt, London." Teleph. No. 3711, Gerrard.) Nominal capital: £1,500,000 in 200,000 ordinary shares & 100,000 preference shares of £5 each. All the ordinary & 76,121 preference have been taken up, £5 per share has been called on 195,936 ordinary shares & 76,121 preference, all of which has been paid, £220,000 in 4½ per cent. debentures & £250,000 in 3½ per cent. debentures. A memorandum of satisfaction in full of charges, dated July 30, 1901, Sept. 5, 1902, & Dec. 17, 1902, securing in all £235,000, has been filed. A mortgage by sub-demise, dated Aug. 5, 1904 (supplemental to trust deed, dated July 20, 1894, securing £250,000 first debenture stock), & a further mortgage by sub-demise of Sept. 9, 1904 (supplemental to trust deed, dated July 4, 1899, securing £250,000 second debenture stock), have been registered. E. Cunliffe Owen, Esq., C.M.G., secretary. Directors: W. Harrison Cripps, Esq. (chairman); Sir Eyre M. Shaw, K.C.B.; Admiral Lord John Hay; Sir Jas. Pender, Bart.; Frank Bailey, Esq.; The Hon. Jno. B. Lubbock; I. Carr Saunders, Esq.; F. Leverton Harris, Esq. Electrical engineer, J. S. Highfield. Dividends: 1901, 6½ per cent.; 1902, 7¼ per cent.; & first half of 1903, 8 per cent.

Metropolitan Electric Tramways, Ltd. (registered Nov. 21, 1894, under title of Metropolitan Tramways & Omnibus Co., Ltd.), Evelyn House, 101, Finsbury Pavement, E.C. (Telegs.: "Metrolito, London." Teleph. No. 2090, London Wall.) Engineers' Department: Spencer House, South-st., Finsbury. (Telegs.: "Lentiscus, London." Teleph. No. 17, London Wall.) Authorized share capital: £1,500,000 in 500,000 £1 ordinary shares, 500,000 £1 5 per cent. preference shares & 500,000 £1 deferred shares. Issued: 391,337 ordinary shares fully paid, all the preference fully paid & 314,016 deferred shares fully paid. £350,000 4½ per cent. & £76,200 3½ per cent. debenture stock, fully paid up. A trust deed, dated May 28, 1906 (supplemental to a trust deed of April 28, 1904), securing £250,000 debenture stock ranking *pari passu* with £350,000 stock already issued, has been registered. Directors: E. Garcke, Esq. (chairman); J. Devonshire, Esq. (managing); W. L. Madgen, Esq.; Sir Ernest Spencer (deputy chairman); G. Richardson, Esq.; C. G. Tegetmeier, Esq. Secretary, A. L. Barber; engineer, A. H. Pott, M.I.C.E., M.I.E.E. Dividends: 1902, 1903, 1904, 1905 & first half of 1906, 5 per cent. per annum on preference shares; & 3 per cent. per annum on ordinary shares for year 1905.

Metropolitan Engineering Association, Ltd., civil, electrical & mechanical engineers, 4, Queen Victoria-st., London, E.C. Registered March 31, 1903.

Metropolitan Railway Co., 32, Westbourne-ter., London, W. (Telegs.: Secretary, "Underground," General Manager, "Metlectric, London." Teleph. Nos. 678 & 1081, Paddington); & Power Station, Neasden, London, N.W. (Telegs.: "Jones, Met. Rly., Neasden Works." Teleph. No. 67B, Harlesden.) Capital authorized: £17,660,542. Directors: Sir C. B. B. McLaren, Bart., K.C., M.P. (chairman); Sir Wm. Birt (deputy-chairman); Sir C. Furness, M.P.; A. G. Kitching, Esq., J.P.; J. Light, Esq.; J. J. Mellor, Esq.; Lieut.-Col. C. Probyn, J.P. Engineer, W. Willox; electrical engineer, C. Jones; consulting electrical adviser, Thomas Parker; general manager, A. C. Ellis; secretary, R. H. Selbie.

Metz, Paul, screw plate, stocks & dies maker, 12, Bristol-rd., Birmingham.

Metzger, G. F., M.I.C.E., M.I.E.E., mechanical & electrical engineer, 17, Cooper-st., Manchester. (Telegs.: "Metzger, Manchester." Teleph. No. 5892.)

Mevagissey Electric Lighting Co., Ltd., London House, Mevagissey, Cornwall. Registered Nov. 26, 1895. Nominal capital: £1500 in £1 shares. 1134 have been taken up, & are fully paid. Directors: C. W. M. Grier, Esq., M.B. (chairman); J. K. Roberts, Esq.; J. Kemble, Esq. (secretary); W. Taylor, Esq. Electrical engineer, J. H. Hill.

Mewburn, J., district manager, National Telephone Co., Bank-chbrs., Little Park-st., Coventry. (Telephone No. 85.)

Mewburn, Ellis & Pryor, chartered patent agents, 70, Chancery-lane, London, W.C. (Telegrams: "Patent, London." Telephone No. 243, Holborn.)

Mexborough & Rawmarsh Construction Syndicate, Ltd., 2, Queen Anne's-chbrs., Westminster, London, S.W. Registered May 13, 1905. Nominal capital: £175,000 in £1 shares, all issued. Directors: L. B. Schlesinger, Esq.; W. H. Fowler, Esq.; B. Bernheim, Esq.; J. T. Jervis, Esq.; H. L. Lubbock, Esq. Secretary, L. D. H. Jacobs.

Mexborough Urban District Council Electricity Works. Engineer, J. Senior.

Mexborough, Swinton & Rawmarsh Tramways Co., Ltd., Rawmarsh, Yorks. Engineer, H. Johnson.

Mexican Power Development Syndicate, Ltd., Basildon House, Moorgate-st., London, E.C. Registered March 22, 1905. Nominal capital: £5025 in 5000 "A" shares of £1 each & 1000 "B" shares of 6*d.* each.

Mexico Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C. (Telegrams: "Traficante, London." Telephone No. 2827, London Wall.) Registered April 13, 1898. Nominal capital: £500,000 in £1 ordinary shares & £500,000 in £1 6 per cent. cumulative preference shares, 5 per cent. debentures, £400,000, & 5 per cent. "B" debentures, £500,000. Issued: all the ordinary & preference shares, fully paid, & £687,000 debentures. Directors: Dr. F. Rutherfoord Harris; Secretary, S. W. Jameson. Dividends 1900, 5 per cent.; 1901, 3 per cent.; 1902, 1903, 1904, 1905, *nil.*

Meyer, S. W., Park-st., York. Director Yorkshire District Light Railway Syndicate, Ltd.

Mica Lubricant Co., lubricant manufacturers, Albany-chbrs., 63, King-st., South Shields. (Telegrams: "Mica, South Shields." Telephone No. 256.)

MICANITE & INSULATORS CO., LTD., Empire Works, Blackhorse-lane, Walthamstow, London, E. (Telegs.: "Mytilite, London." Teleph. No. 38, Walthamstow.) *See advt.*, MICA MERCHANTS.

Michaelis, W. F. C., joint managing director Johnson Secret Wireless Telegraph & Telephone Testing Syndicate, Ltd., 40, King-st., Cheapside, E.C.

Mid Yorkshire Tramways Co., 22A, College Hill, Cannon-st., London, E.C.

Middlemiss, W., electrical cabinet work, Nesfield-st., Bradford.

Middlesbrough Corporation Electricity Works. Engineer & manager, H. M. Taylor. (Nat. Telephone No. 424, Middlesbrough.)

Middlesbro', Stockton & Thornaby Tramways, Middlesbro'. Engineer, R. F. Rogers. Imperial Tramways Co., Ltd., proprietors, *q.v.*

Middleton, R. H., chairman Railway Construction & General Development Co. (Tasmania), Ltd., 231–3, Dashwood House, London, E.C.

Middleton, V. G., electrical contractor, Broadway-chbrs., Westminster, London, S.W.

Middleton Corporation Electricity Works & Electric Tramways. Electrical engineer, S. Pauls, A.M.I.E.E. (Telephone No. 30, Middleton.)

Middleton Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C. (Telegrams: "Middleton, c/o Garcke, London.") Registered Dec. 29, 1900. Nominal capital: £100,000 in 10,000 ordinary shares of £5 each & 10,000 5 per cent. cumulative preference shares of £5 each & 4 per cent. debenture stock, £50,000. All issued. Directors: Lord Vaux of Harrowden (chairman); W. J. Greer, Esq.; J. V. Kitchener, Esq. Secretary, W. S. Wreathall.

Middleton & Townsend, electrical contractors, 21, Rutland-sq., Edinburgh.

Middleton, Winstanley & Co., electrical engineers & contractors, 19, Upper St. Martin's-lane, London, W.C. (Telegs.: "Battiwalla, London." Teleph. No. 8564, Gerrard); 52, Castle-st., Dover (Telegs.: "Battiwalla, Dover." Teleph. No. 20 Y.); & 39, Dover-st., Folkestone. (Telegs.: "Battiwala, Folkestone." Teleph. No. 47, Folkestone.)

Middletown Car Works, electric tramcar builders, 20, Copthall-ave., London, E.C. A. Ball, representative.

Midgley, H. E., M.A., A.M.I.C.E., assistant electrical engineer, Urban District Council's Electricity Works, Erith.

Midgley, T. S., assistant electrical engineer, Corporation Electricity Works, Oldham. (Teleph. No. 269.)

Midland Counties Institution of Engineers. W. G. Phillips, president; G. Alfred Lewis, M.A., secretary, Albert-st., Derby. (Telegs.: "Lewis, Derby." Teleph. No. 735 Y., Derby.)

Midland Electric Corporation (1900), Ltd., electrical & mechanical engineers, 12, St. John's-lane, Liverpool. (Telegrams: "Construct, Liverpool." Telephone No. 1736, Liverpool.) Registered May 15, 1900. Nominal capital: £200,000 in £1 shares. Issued: £150,507, fully paid. Directors: E. K. Muspratt, Esq. (chairman); J. Taylor, Esq.; G. Crosland Taylor, Esq.; J. S. Harmood Banner, M.P., Esq.; T. Parker, Esq. Secretary, G. Saies.

Midland Electric Corporation for Power Distribution, Ltd. Registered office: Colmore House, 21, Waterloo-st., Birmingham. (Telegs.: "Biphase, B'ham." Teleph. No. 5195, Central.) Generating station: Ocker Hill, Tipton. (Teleph. No. 49, Bilston.) Secretary's office: 12, St. John's-lane, Liverpool. (Telegs.: "Construct, Liverpool." Teleph. No. 1736, Royal.) Registered June 23, 1897. Nominal capital: £400,000 in 40,000 ordinary & 40,000 preference shares & £250,000 guaranteed debentures. Issued: 30,000 ordinary shares fully paid, & all the debentures fully paid. A trust deed, dated July 29, 1903, to secure £250,000 4½ per cent. debentures, created by resolution of April 27, 1903, has been registered. Directors: E. K. Muspratt, Esq. (chairman); T. Parker, Esq.; J. S. Harmood Banner, Esq., M.P.; J. Taylor, Esq.; G. Crosland Taylor, Esq.; J. F. Albright, Esq. General manager & chief engineer, J. Hardie McLean, M.I.E.E.; secretary, G. Saies, F.C.I.S.

Midland Electric Light & Power Co., Ltd., electric light contractors, Wise-st., Leamington. Nominal capital: £50,000 in £10 shares. Issued: £31,390, fully paid. Electrical engineer, F. W. E. Jones; secretary, John Fellows. Directors: A. Chamberlain, Esq., J.P. (chairman); G. Hookham, Esq., J.P.

MIDLAND ELECTRIC WIRE CO., wire coverers, Leicester. (Telegrams: "Conductors, Leicester." Nat. Telephone No. 151.) *See* DYNAMO MFRS.

Midland Engineering Co., Ltd., makers of condensing & cooling plants, 2, Victoria-sq., Birmingham. (Telegs.: "Plans, Birmingham." Teleph. No. 2996.)

Midland Lighting Corporation, Ltd., electric & gas lighting, Fitzwilliam-st., Sheffield. (Telegrams: "Midland, Fitzwilliam-st., Sheffield." Nat. Telephone No. 2520.)

Midland Manufacturing Co., Ltd., tramway tools, Sheffield.

Midland Railway Carriage & Wagon Co., Ltd., makers of tramcars, railway carriages & wagons of every description (J. H. B. Moss, London representative), Midland Works, Birmingham (Telegs.: "Wagon, Birmingham." Teleph. No. 397); Abbey Works, Shrewsbury (Telegs.: "Midland, Shrewsbury." Teleph. No. 41); & 5, Laurence Pountney Hill, London, E.C. (Telegs.: "Underframe, London.")

Midland Wire Cordage Co. (Davison's), wire rope & lightning conductor manufacturers, Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegs.: "Orchard, Birmingham.")

Miers, W., director Roundhay & District Electric Lighting Co., Ltd.

Milburn, Sir J. D., Bart., Acklington, Northumberland. Chairman Newcastle & District Electric Lighting Co., Ltd.; chairman Northern Counties Electricity Supply Co., Ltd.; director Cleveland & Durham Electric Power, Ltd.

Mildred, F., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Miles, A. C., Merchiston, Bedford. Chairman Dudley, Stourbridge & District Electric Traction Co., Ltd.; chairman Rothesay Tramways Co., Ltd.; chairman Hove & Worthing Electric Tramways, Ltd.; director Gravesend & Northfleet Electric Tramways, Ltd.; director Airdrie & Coatbridge Tramways Co.; director Greenock & Port Glasgow Tramways Co.; chairman Wolverhampton District Elec. Tramways, Ltd.

Miles, D., installation contractor, 17, Swiss-ter., Folkestone.

Miles, R. A., A.M.I.E.E., 5, King's College-rd., Hampstead, London, N.W.

Miles, Woodward & Co., mechanical engineers, Cardigan Engineering Foundry, Cardigan.

Milford-on-Sea Electric Supply Co., Ltd., Milford-on-Sea, Hants. Registered April 15, 1903. Nominal capital: £8000 in £1 shares & £2000 4 per cent. first mortgage debentures. Issued: 5000 shares & £1400 debentures. Directors: F. Christy, Esq.; V. D. Harris, Esq., M.D.; F. P. Matthews, Esq.; E. Neal, Esq.; W. S. Schultz, Esq. Engineer, L. Nicholson; secretary, W. R. Beesley.

Millar, C. H., A.I.E.E., Ervillagh, Foxrock, co. Dublin.

Millar & Stewart, wholesale electrical supplies agents, 7, Hanover-st., Edinburgh. (Telegs.: "Switches, Edinburgh." Teleph. No. 1914, Central.)

Millard, —., electrical engineer, 109, Colmore-row, Birmingham.

Millars Karri & Jarrah Co. (1902), Ltd., makers of telegraph arms & poles, 72, Bishopsgate-st. Within, London, E.C. (Telegrams: "Jarrah, London." Telephone No. 368, London Wall.)

Millen, J. H., A.M.I.E.E., Underground Electric Railways Co., Lots-rd., Chelsea, S.W.

Millennium, Ltd., electrical engineers, 15, Poultry-chbrs., London, E.C.

Miller, A. F., A.M.I.E.E., district superintendent of mains, St. Andrew's Cross Station, Glasgow.

Miller, E. H., A.I.E.E., Westminster Fire Office, 27, King-st., Covent Garden, London, W.C.

Miller, Francis Samuel, A.M.I.E.E., c/o H. P. Saunderson & Co., Ltd., Elstow Works, Bedford. (Telegs.: "c/o Saunderson, Elstow.")

Miller, H. W., M.I.C.E., M.I.E.E., Kensington & Knightsbridge Electric Lighting Co., Ltd., Kensington-ct., London, W. (Teleph. No. 527, Western.)

Miller, H. W., A.M.I.E.E., Fairfield, Ipswich.

Miller, John D., district manager, National Telephone Co., Ltd., 72, High-st., Galashiels.

Miller, Leslie, A.M.I.E.E., electrical engineer, 93, Hatton Garden, London, E.C. (Teleph. No. 7877, Central.)

Miller, R., 27, Austin Friars, E.C. Director River Plate Electricity Co., Ltd.; director Electric Traction Co. of Hong Kong, Ltd.; director British Eastern Electric Power Co., Ltd.

Miller, T. L., M.I.C.E., M.I.MECH.E., M.I.E.E., M.AM.I.E.E., T. L. Miller & Wilson, consulting mechanical & electrical engineers, 7, Tower-bldgs. N., Water-st., Liverpool (Telegrams: "Kinetic, Liverpool." Telephone No. 6216, Central); & 19, Brazennose-st., Manchester. (Telegrams: "Kinematic, Manchester." Telephone No. 5020.)

Miller, W. H., A.M.I.E.E., chief assistant, Corporation Electricity Works, Wakefield.

Miller, Wm. P., A.I.E.E., 46, Glenloch-rd., Haverstock Hill, London, N.W.

Miller & Collins, consulting mechanical & electrical engineers, 61, Old Broad-st., London, E.C.

Miller, I., & Co., engineer stores & furnishers, 112 & 114, Golden-lane, London, E.C. (Telephone No. 53, London Wall.)

Miller, J., Son & Co., manufacturing chemists, 79, West Nile-street, Glasgow. (Telegrams: "Decimal, Glasgow." Telephone Nos. 1058, Nat. & Corp.)

Miller & Sons, electric light engineers & contractors, Conduit-st., London, W.

Miller, T., & Co., electricians & engineers, 66, Victoria-st., London, S.W. (Teleph. No. 1755, Victoria.)

Miller, T. L., & Wilson, consulting engineers, 19, Brazennose-st., Manchester (Telegrams: "Kinematic, Manchester." Telephone No. 5020, Manchester); & 7, Tower-bldgs., Water-st., Liverpool. (Telegrams: "Kinetic, Liverpool." Telephone No. 6216.)

Millett, J. H. D., head of Electrical Department, Municipal Technical School, Devonport.

Milliken, John, light inspection & motor cars for railways & tramways, 3, Ocean-bldgs., Belfast. (Telegrams: "Guardian, Belfast." Telephone No. 781.)

Mills, A. E., M.A., M.I.E.E., F.PHYS.S., Halcyon, North Finchley, London, N.

Mills, Frank O., engineer, Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C. (Teleph. No. 5542, Avenue.)

Mills, H., electrician, 138, Newington Butts, London, S.E.

Mills, H. L., A.M.I.E.E., chief assistant, Corporation Electricity Works, Southampton.

Mills, J. E., director Keynsham Electric Light & Power Co., Ltd.

Mills, Rt. Hon. A. H., 67, Lombard-st., London, E.C. Director Central London Railway Co.

Mills, S. J. A., A.M.I.E.E., A.M.I.M.E., consulting engineer, Strawberry Bank, Blackburn. (Teleph. No. 151 X.)

Mills, Thomas, A.I.E.E., Longdown Lodge, Sandhurst, Berks.

Mills, W., assistant engineer, Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester.

Mills, W. H., engineer-in-chief, Hill of Howth Electric Railway, Amiens-st. Terminus, Dublin.

Mills, English & Co., Ltd., electrical & general engineers, 35 & 36, Wind-st., Swansea (Telegs.: "Mills English, Swansea." Teleph. Nos. 276, Corp. & Nat.); & Castle-bldgs., Llanelly. (Teleph. No. 361.)

Mills, John, & Sons, brass founders, Walker-gate Brass Works, Newcastle. (Telegs.: "Mills, Newcastle." Nat. Teleph. No. 550.)

Milne, L., 69, Overstrand Mansions, S.W. Director City of Ely Electric Light & Power Co., Ltd.

Milne, Leonard, consulting engineer, 66, Victoria-st., London, S.W.

Milne, Jas., & Son, Ltd., electric light fittings manufacturers, Milton House Works, & 133, George-st., Edinburgh; 59, Farringdon-rd., London, E.C.; 111, St. Vincent-st., Glasgow; & 34, Wellington-st., Leeds. (Telegs.: "Milne," Edinburgh, London & Leeds; & "Gaslights, Glasgow." Teleph. No. 792.) Registered May 3, 1899, to acquire former company of same name. Nominal capital: £100,000 in £10 ordinary shares & £100,000 in £10 5 per cent. preference shares. All are issued & fully paid. Directors: J. Milne, Esq. (chairman); T. T. M. Lumsden, Esq.; D. Macfie, Esq.; A. Macpherson, Esq.; J. M. Oliver, Esq.; H. Strathearn, Esq.; Wm. D. Helps, Esq.; A. F. Bainbridge, Esq. Secretary, J. R. McLaren, F.C.I.S.

Milner, William, assistant superintendent Postal Telegraph Factory, Bovey-pl., Holloway, London, N.

Milnes, J. R., A.I.E.E., 27, Southampton-st., Fitzroy-sq., London, W.

Milnes, W. M., assistant electrical engineer, Corporation, Burnley.

Milnes, G. F., & Co., Ltd., electric tramcar builders, Hadley, nr. Wellington, Salop.

Milns, W. E., commercial assistant, Birmingham Corporation Electric Supply, Birmingham.

Milton, A., electric lighting contractor, 18, High-st., Crewe.

Milton, C. O., A.I.E.E., resident engineer, Corporation Electricity Works, Maidenhead.

Mindo, Arnold W., M.I.MECH.E., A.M.I.E.E., M.I.N.A., 52, Serpentine-rd., Egremont, Cheshire.

Minehead Electric Supply Co., Ltd., Minehead, Somerset. (Telegrams: "Electricity, Minehead." P.O. Telephone No. 13.) Registered July, 1902. Nominal capital: £2000 in £1 ordinary shares, £2000 in £1 5 per cent. preference shares, £4000 in £10 5 per cent. preference shares & £2000 debentures. All the ordinary & £1 preference shares & £1450 in £10 preference shares have been issued & fully paid. A mortgage, dated Jan. 2, 1905, for same amount (as collateral security for debentures), has been registered. Directors: J. H. Leather, Esq. (chairman); R. H. Holman, Esq.; J. R. Davis, Esq.; I. T. Ollerhead, Esq., M.R.C.S.; E. Culverwell, Esq. Engineer & secretary, C. Mounsey. Dividends on ordinary: 1904, 4 per cent.; 1905, 5 per cent. To reserve, £220.

Mining & General Supplies Co., Ltd., electrical engineers, 6, Crosby-sq., London, E.C. (Telegrams: "Underdrain, London." Telephone No. 1904, Central.)

Minns, Sidney & Co., boiler fluid makers for steam boilers, Trafalgar-rd., Dalston, London, N.E. (Telegrams: "Minns, London.")

Minshall, J., Croeswylan, Oswestry. Director Oswestry Electric Lighting & Power Co., Ltd.

Minshall, T. H., M.I.E.E., A.M.I.C.E., consulting engineer, 28, Victoria-st., London, S.W. (Telegs.: "Mynshul, London." Teleph. No. 256, Westminster.)

Minton, R. R., & Co., makers of paint for insulating purposes, 39–71, Cheapside, Liverpool. (Teleph. Nos. 778 & 5493, Central.)

Mirfield Urban District Council Electricity Works, Mirfield, Yorks. Consulting engineer, A. B. Mountain; electrician, Jno. Lomas.

Miriam, W., electrical engineer, Cleveland Trust Electricity Works, Saltburn-by-the-Sea.

MIRRLEES WATSON CO., LTD., condensing plant & oil engine manufacturers. Head office & works: Scotland-st., Glasgow. London office: 139, Gresham House, Old Broad-st., E.C. (Telegs. "Mirrlees, Glasgow;" "Mirrlees, London." Teleph. Nos.: Nat., 1783 S. S.; Corp., X. 69.)

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Mitchell, H. E., A.M.I.C.E., M.I.E.E., 13, Victoria-st., Westminster, S.W. (Teleph. No. 257, Westminster.)

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Mitchell, S. W., A.M.I.E.E., Ivy Cottage, Apes Dale, Blackwell, Worcestershire.

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Mitchell, J. B., & Sons, electrical engineers, 4, Narrow Wine-st., Bristol.

Mitchell, J., & Co., engineers, makers of Voisey's Electric Light Cable Grip, Craven House, Kingsway, London, W.C. (Telegrams: "Chalcocite, London." Telephone No. 5390, Gerrard.)

Mitchell, J., & Sons, electrical & mechanical engineers, Brockholes, nr. Huddersfield.

Mitchell, L. C. & Co., installation contractors, 15, St. Aldgate-st., Gloucester.

Mitchell's Emery Wheel Co., Mill-st., Bradford, Manchester. (Telegrams: "Diameter, Manchester." Telephone No. 3575.)

Mitchell-Cocks, Jas., A.M.I.E.E., 29, Cowley Mansions, Cowley-rd., Brixton, London, S.W.

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Mitton & Son, art metal workers, 6½, George-street, Birmingham.

Mix & Genest, Ltd., telephone manufacturers, 55, Red Cross-st., Barbican, E.C. (Telegrams: "Genest, London." Telephone No. 129, Bank.)

Moat, William, M.A., A.M.I.E.E., electrical engineer, Johnson Hall, Eccleshall, Staffs.

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Model Engineer (weekly), 26–29, Poppins-ct., Fleet-st., London, E.C. (Price 2*d.*; ann. sub., 13*s.*)

Moeller & Condrup, Ltd., brazing lamps & furnaces, 78, Fore-st., E.C. (Telegrams: "Condrup, London." Telephone No. 2607, Central.)

Moenich, Oscar & Co., telegraph wire manufacturers, Billiter House, Billiter-st., London, E.C. (Telegrams: "Moenich, London." Telephone No. 2337, Avenue.)

Moesch & Schmidt, manufacturers' agents, 43, Basinghall-st., London, E.C. (Telegrams: "Moesch, London." Teleph. No. 12128, Central.)

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Moffat & Walker, makers of electrical fittings, 51, Buchanan-st., Glasgow. (Telephone No. 4119, Central.)

Moffatt & Co., electric wood casing makers, Midland Mills, Gloucester. (Telegrams: "Moffatt, Merchant, Gloucester." Telephone No. 17.)

Moffet, J. S. D., Corporation tramways manager, Rochdale.

Moffett, F. J., B.A., A.M.I.E.E., c/o Preece & Cardew, Queen Anne's Gate, S.W.; & 4, Mill-lane, West Hampstead, London, N.W.

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Monmouth Corporation Electricity Works, Monmouth. A. E. Wilkins, engineer.

Monobloc Accumulator Syndicate, Ltd., 66, Victoria-st., London, S.W.

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Monson, P., M.I.E.E., civil engineer & electrician, Town Hall, High-st., Kensington, London, W. (Teleph. Nos.: 746, Kensington; & 1227, Western.)

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Monté-Callow & Co., electrical engineers, Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.)

Monte Video Telephone Co., Ltd., 340, Dashwood House, New Broad-st., E.C. (Telegrams: "Monticle, London.") Registered July 31, 1888. Directors: F. W. Jones, Esq. (chairman & managing); J. G. le Marchant, Esq.; Chas. Lock, Esq. Secretary, David Smith. Nominal capital reduced in 1898 to £160,000, £73,000 in £1 ordinary shares & £87,000 in £1 preference shares. Issued: 86,492 preference shares & 72,680 ordinary shares, both fully paid. Dividends on ordinary shares: 1901 & 1902, 2½ per cent.; 1903 & 1904, 3 per cent.; 1905, 4 per cent.; & 1906, 5 per cent.

Montgomery Motor Co., electrical contractors, Lincoln-rd., Peterborough.

Montrose Electricity Works. North of Scotland Electric Light & Power Co., Ltd., proprietors. Engineer & manager, H. Hale, A.M.I.M.E., A.M.I.E.E. (Telephone No. 41, Montrose.)

Moody, Francis M., A.I.E.E., 359, Main-rd., Darnall, Sheffield.

Moody, Gerald T., D.SC.LOND., F.I.C., F.C.S., consulting chemist, Central Technical College, City Guilds Institute, Exhibition-rd., South Kensington, S.W.

Moody Bros., electrical engineers, 1, Carteret-st., Westminster, S.W. (Teleph. No. 591, Westminster.)

Moon, William, A.I.E.E., 12, Vicar's Hill, Lewisham, S.E.

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Moor, Sir R. D. R., 24, Sackville-st., Piccadilly, S.W. Director Madras Electric Supply Corp., Ltd.

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Moore, A. Nichols, A.I.E.E., superintendent Generating Stations, Belfast.

Moore, Chas. H., 22, Ryder-st., St. James's, S.W. Director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.; director Spanish National Submarine Telegraph Co., Ltd.

Moore, E. S. W., electrical engineer, c/o Electric Construction Co., Wolverhampton.

Moore, G. Arbuthnot, A.I.E.E., Engayne, Spital, Bromborough, Cheshire.

Moore, J., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Moore, J. F., A.M.I.E.E., mains superintendent, Corporation Electricity Works, Sunderland.

Moore, J. S., chemist & electrician, 56, Grange-road, London, S.E.

Moore, J. S., Dervock, co. Antrim. Director Giants' Causeway, Portrush & Bush Valley Railway & Tramway Co.

Moore, John G., insulating material manufacturer, 56, Beechdale-rd., Brixton Hill, London, S.W.

Moore, Joseph, electrical & general engineer (agent for Clarke, Chapman & Co.), 22, Arcade-chbrs., St. Marysgate, Manchester. (Telegs.: "Cyclops, Manchester." Teleph. No. 3430.)

Moore Bros., electrical cabinet makers, 8, Powell-st., Goswell-rd., London, E.C.

Moore, F. C., & Co., electrical engineers & contractors, 1, Windsor-ter., Penarth.

Moore & Haigh, motor manufacturers, Star Works, Kirkstall-rd., Leeds.

Moore, James, & Sons, Ltd., engineers & ironfounders, 114, Millfield, Belfast. (Telephone No. 466.)

Moore, M. & R., marble masons, 64, Pentonville-rd., London, W. (Telegrams: "Slattato, London." Telephone No. 494, King's Cross.)

Moores, Martin & Co., manufacturing & wholesale electrical supplies, 35 & 37, Blackfriars-st., Manchester. (Telegs.: "Voltage, Manchester." Teleph. No. 3113.)

Moorgate Foundry & Engineering Co., makers of sub-station covers, junction boxes, &c., 41, Featherstone-st., London, E.C.

Moorhouse, Albert, A.M.I.E.E., engineer-in-charge, Willesden Infirmary, London, N.W.; & 2, Park Royal Villas, Willesden, N.W.

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More, F., Worcester House, Walbrook, E.C. Director Mersey Railway Co.

Morecambe Corp. Electricity Works. W. H. Hall, A.M.I.E.E., engineer. *Electrification of tramways under consideration.*

Morcland, Richard, & Son, Ltd., mechanical engineers, 80, Goswell-rd., London, E.C. (Telegs.: "Expansion, London." Teleph. No. 7467, Central.)

Morcton & Foster, iron telegraph pole manufacturers, St. Leonard's Works, Bromley-by-Bow, London, E.

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Morgan, D. N., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 138, High-st., Tonyrefail.

Morgan, E. C., 20, Sussex Mansions, London, S.W. Chairman Calcutta Tramways Co., Ltd.; chairman Burmah Electric Tramways & Lighting Co., Ltd.; chairman Electric Traction Co. of Hong Kong, Ltd.; director Hastings & District Electric Tramways Co., Ltd.; director Burma Tramways Construction Co., Ltd.

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Morgan, Geo., assistant controller, Stores Department, General Post Office, 17–19, Bedford-st., London, W.C. (Telephone No. 58, Official, via 1007, Central.)

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Morgan, J. B., engineer, Urban District Council, Horsham.

Morgan, J., Charlotte-st., Aberdeen. Director Aberdeen Suburban Tramways Co.

Morgan, John, Tregib Arms, Brynamman, Carmarthenshire. Director Brynamman & District Electric Supply Co., Ltd.

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MORGAN CRUCIBLE CO., LTD., Battersea Works, London, S.W. (Telegs.: "Crucible, London." Teleph. Nos.: Nat., 2, Battersea; & P.O., 1034, Western. A.B.C., 5th edit., A1, Lieber's & Western Union Codes.) Sole manufacturers of "MORGANITE" Brushes, Dash-pot Plungers & Bearings, "BATTERSEA" Carbon Brushes, Morgan's & Salamander Crucibles, Morgan's Plumbago, Battersea Refractory Bricks, &c.

Morgan, Williams & Couzens, consulting engineers, 39, Victoria-st., London, S.W. (Telegs.: "Consonance, London." Nat. Teleph. No. 5029, Westminster.)

Morgan, W., & Son, plumbago importers, 9, Upper East Smithfield, E. (Telegrams: "Purseful, London.")

Morgan-Brown, W. (Wm. Brookes & Son), patent & design registration agent, 55 & 56, Chancery-lane, London, W.C. (Telegrams: "Aniline, London.")

Morley Corporation Electricity Supply Works, Morley, Yorks. (Telephone No. 89, Morley.) Engineer, J. E. Ellis, A.M.I.E.E.

MORLEY ELECTRICAL ENGINEERING CO., LTD., electrical engineers, Troy Works, Stanningley, nr. Leeds. Registered May 3, 1897. Nominal capital: £5000 in £1 shares. 1524 have been taken up & paid for in full. H. Fox & W. Summerscales, managing directors.

Morling & Cullum, electric bell fitters, High-st., Lowestoft.

Mornement & Ray, Ltd., electrical & general engineers, East Harling, Norfolk.

Morpeth Electricity Works, Morpeth, Northumberland. Northern Counties Electricity Supply Co., proprietors. Consulting engineers, C. S. Vesey Brown & C. W. Fairweather; engineer, W. H. Bibby.

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Morris, John Stuart, lightning conductor manufacturer, Wardrobe-chbrs., Queen Victoria-st., London, E.C. (Telegrams: "Acclivitas, London.")

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Morris Bros., acid manufacturers, 12, Priory-pl., Doncaster.

Morris & Co., electrical engineers, 8, Milk-st., Shrewsbury.

Morris, H. N., & Co., acid manufacturers, Gorton Brook Chemical Works, Manchester, S.E. (Telegrams: "Glauber, Manchester." Telephone No. 75, Openshaw.)

Morris Herbert & Bastert, Ltd., mechanical & electrical engineers, Loughborough.

Morris, John, & Son, electric light contractors, 87, Park-st., London, W.

Morris, Timothy, Ltd., electrical & general engineers, 173, Hockley Hill, Birmingham.

Morris Warden & Co., engineers, 68, Gordon-st., Glasgow. (Telegs.: "Morden, Glasgow." Teleph. Nos.: 1020, Royal, Nat.; & 1020, P.O.)

Morris-Hawkins Electrical Co., Ltd., speciality: electric motors, 17, Charing Cross-rd., London, W.C. Works: Dagenham, Essex. (Telegs.: "Interpole, London." Teleph. No. 5365, Central.)

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Morton, Francis & Co., Ltd., electric light & telegraph pole manufacturers, 17, Victoria-st., London, S.W. (Telegrams: "Dropper, London." Telephone No. 688, Victoria); & Hamilton Iron Works, Garston, Liverpool. (Telegrams: "Ironsides, Liverpool.")

Morton, G. H., & Son, Ltd., electrical engineers, 77 & 79, Bold-st., Liverpool, W.

Moseley, D., & Sons, Ltd., indiarubber manufacturers, Chapelfield Works, Ardwick, Manchester. (Telegrams: "Moseleys, Manchester." Telephone Nos. 79 & 257.)

Moseley & Son, lathe & tool makers, 63, New Oxford-st., London, W.C.

Moser Electrical Engineering Co., 128, Palace-chbrs., Bridge-st., London, S.W.

Moser, West & Bateman, Ltd., emery wheel makers, 98, Leadenhall-st., London, E.C.; & East Greenwich. (Telephone No. 396, Deptford.)

Mosers, Ltd., tools & requisites for electrical engineers, 178, 180, 182 & 192, Borough High-st., London, S.E.; & 4, Marshalsea-rd., London, S.E. (Telegs.: "Moserson, London." Teleph. Nos. 563 & 588, Hop.)

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MOSSES & MITCHELL, original vulcanized fibre manufacturers; the patent saddle staples, 68–71, Chiswell-st., E.C. (Telegrams: "Insulator, London." Telephone No. 437, London Wall.) *See advt. under* VULCANIZED FIBRE.

Mossop, Walter, & Co., electrical engineers & contractors, 52, Queen Victoria-st., London, E.C.

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Motherwell Corporation Electricity Supply Works. S. Williams, engineer. (Teleph. No. 59, Motherwell.)

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Moulsdale, W. E., & Co., electrical engineers, 24, Chapel-st., Liverpool. (Telegrams: "Moulin, Liverpool." Telephone No. 7882.)

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Mountain, A. B., M.I.E.E., consulting & borough electrical engineer, St. Andrews-rd., & Woodside, Grimscar, Huddersfield.

Mountain, M. B., M.I.E.E., electrical engineer, managing director of Mountain & Gibson, Ltd., Elton Fold Works, Bury, Lancs.

Mountain, W. C., M.I.E.E., M.I.M.E., electrical engineer, managing director Ernest Scott & Mountain, Ltd., Close Works, Gateshead; & Sun-bldgs., Newcastle-on-Tyne (Telegs.: "Esco, Newcastle-on-Tyne." Teleph. Nos.: 1259, Nat., Newcastle; & 311, 312 & 312A, Gateshead); & The Hermitage, Gateshead. (Teleph. No. 44.)

Mountain & Gibson, Ltd., electrical & mechanical engineers, tramway & light railway engineers, makers of electric locomotives, Elton Fold, Bury. (Telegrams: "Traction, Bury." Telephone No. 184, Bury.)

Mowatt, Sir Francis, P.C., G.C.B., 41, Sloane-gdns., S.W. Director Indo-European Telegraph Co., Ltd.

Mower, Geo. A., managing director Sturtevant Engineering Co., Ltd., 147, Queen Victoria-st., E.C. (Teleph. No. 7121, Central.)

Mower, R. E., & Co., electrical engineers, 30, Wrentham-ave., Willesden, London, N.W. (Teleph. No. 857, P.O., Hampstead.)

Moxon, W., director West Riding Tramways & Electricity Supply Co., Ltd., 28, Victoria-st., S.W.

MOY, ERNEST F., LTD., manufacturing electrical engineers, Greenland-pl., & 116, Bayham-st., Camden Town, London, N.W. (Telegs.: "Movedor, London." Teleph. Nos.: 1978, North; & 1600, P.O., Hampstead.) Registered March 30, 1896. Nominal capital: £10,000 in £1 shares. £10,000 issued & fully paid. Mortgages & charges: £1240. Ernest F. Moy, managing director; Chas. G. Fox, F.C.I.S., secretary. Dividends: 1901 & 1902, 7½ per cent.; 1903, 10 per cent.; 1904 & 1905, 7½ per cent. *See* SWITCH MANUFACTURERS—ELECTRIC.

Moyle, J. A., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Moysey, Frank L., A.I.E.E., 78, Wellmeadow-rd., Catford, London, S.E.

Moysey, Henry J., A.M.I.E.E., 17, Hawthorn-rd., Gosforth, Newcastle-on-Tyne.

Mozley, H., general manager Corporation Tramways, Burnley. (Teleph. Nos.: 46, Private; & 92, General.)

Muckley, W. H., works superintendent, Corporation Tramways Department, Liverpool.

Mudford, F. J., M.I.E.E., F.P.S., Arrow Electrical Works, Jackson-rd., Holloway, London, N. (Telegrams: "Mudford, Electrician, Holloway.")

Muir, Edward, electrical engineer, Glasgow Athenæum, St. George's-pl., Glasgow.

Muir, R. W., maker of high-speed engines for electric lighting, 97, St. James-road, Glasgow.

Muir, Wm., & Co., Ltd., machine tools, Sherbourne-st., Manchester. (Telegrams: "Britannia, Manchester." Telephone No. 529, Nat.)

Muirhead, Alex, D.SC., F.R.S., F.C.S., M.I.E.E., The Lodge, Shortlands, Kent. Chairman Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd.

Muirhead, F. Lauder, Downe Lodge, Downe, Kent. Director Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd.

Muirhead, H. J., director Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd., 12, Carteret-st., Queen Anne's Gate, S.W.

Muirhead, J., steel railway chairs, &c., Cart Forge, Glasgow (Telegs.: "Muirhead, Glasgow." Telephone No. 25, Clarkston); & 46, St. Mary Axe, London, E.C.

MUIRHEAD & CO., LTD., telegraph engineers & contractors, Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End." Telephone No. 50, Bromley.) *See* INSTRUMENT MAKERS—ELECTRICAL.

Mulholland, Maugham & Co., Ltd., engineers, Ferryhill Engine Works, West Cornforth R.S.O., co. Durham. (Telegs.: "Mulholland, West Cornforth." P.O. Teleph. No. 2.)

Müller, Chas. A., electrical accessories merchant, 6, Mornington Villas, Bradford, Yorks. (Telephone No. 2229, Bradford.)

Muller, E., manufacturers' agent, representing Ladiges, Greiner & Co. of Weisswasser O/L., manufacturers of glass accumulator boxes & trays, 58 & 59, Chiswell-st., E.C. *See illustrated entry* GLASS CELL (BATTERY) MANUFACTURERS.

Müller Bros., electrical instrument makers, 58, Dean-st., Soho, London, W.

Mulliner, Edward B., A.M.I.E.E., 17, Park Way, Liverpool.

Mullowney, J., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Mumford, A. G., Ltd., electrical & general engineers, Culver-st., Colchester.

Mundella, V. A., A.M.I.E.E., head of the Physics & Electrical Engineering Dept., Northern Polytechnic Institute, Holloway, London, N. (Telegrams: "Pyrenean, London.")

Mundy, George, electrical engineer, 191, King's-rd., Camden Town, London, N.W.

Mungall, H., 20, Royal-ter., Edinburgh. Director Fife Electric Power Co., Ltd.; director Fife Electric Power Co.

Municipal Appliances Co., pitch, tar & bitumen boilers, Bamber Bridge, Lancs.

Municipal & General Properties, Ltd., Finsbury Pavement, London, E.C.

Municipal Journal (weekly), 12, Salisbury-sq., Fleet-st., London. (Price 2*d.*)

Munro, A. R., A.I.E.E., Firgrove, Tidenham Chase, nr. Chepstow.

Munro, Donald S., A.M.I.E.E., Hawarden, Partickhill-rd., Glasgow.

Munro, Edward May, M.I.E.E., Thrissell-st. Works, Bristol.

Munro, H. D., M.I.E.E., city electrical engineer, Corporation Electricity Works, Exeter.

Munro, J., telegraph superintendent, Highland Railway, Inverness.

Munro, John, M.I.M.E., prof. of mechanical engineering, Merchant Venturers' Technical College, Bristol.

Munro, John M. M., F.R.S.E., M.I.E.E., A.M.I.C.E. (Messrs. Anderson & Munro), 136, Bothwell-st., Glasgow.

Munro, Robert W., mechanical engineer, 103–149, Cornwall-rd., South Tottenham, London, N. (Telegs.: "Robert Munro, London." Teleph. No. 1713, Tottenham.)

Munro Fire Detector Co., Ltd., 64, Victoria-st., London, S.W. (Teleph. No. 485, Westminster.)

Munro & Mackintosh, agents in Scotland for Richter's Carbons, 103, Bath-st., Glasgow.

Munsey, D., Beech House, Cambridge. Chairman Cambridge Electric Supply Co., Ltd.; director Cambridge Electric Tramways Syndicate.

Muntz Metal Co., metal merchants, 23, Rood-lane, London, E.C.; & Salmon's-lane-wharf, Limehouse, E. (Telegrams: "Doublage, London.")

Murch, Philip, borough engineer, Town Hall, Portsmouth.

Murdoch, Alex., A.M.I.E.E., chief assistant engineer, Borough Council Electricity Works, Fulham, S.W.

Murdoch, A. D., managing engineer, Corporation Electric Works, Deptford.

Murdoch, W. D., Bordage, Guernsey. Director Guernsey Railway Co., Ltd.

Murdoch, W. H. F., B.SC., A.M.I.E.E., head of the Electrical Engineering & Physics Department, Municipal Technical College, Halifax.

Murphy, W. L., Dartry, Upper Rathmines, Dublin. Director Clontarf & Hill of Howth Tramroad Co.

Murphy, W. M., J.P., Suffolk House, Laurence Pountney Hill, London, E.C. Director Cork Electric Tramways & Lighting Co., Ltd.; director Isle of Thanet Electric Tramways & Lighting Co., Ltd.; chairman Dublin United Tramways Co., Ltd.

Murray, E. T. Ruthven, M.I.E.E., M.I.MECH.E., consulting electrical engineer to the Willesden District Council, Electricity Office, Salusbury-rd., Kilburn, N.W. (Telephone No. 73, Hampstead); & engineer-in-chief North Metropolitan Electric Power Supply Co.; North Metropolitan Electrical Power Distribution Co., Ltd.; St. Albans & District Electric Supply Co., Ltd., Engineer's Office, Spencer House, & South-pl., Finsbury Pavement, London, E.C. (Telegs.: "Leustiscus, London." Teleph. No. 17, London Wall.)

Murray, I. J., agent for the Sunbeam Lamp Co., Victoria House, Sandymount, Dublin.

Murray, J. K., A.M.I.E.E., 99, Douglas-st., Glasgow.

Murray, Major Stuart, Hooper's Hill, New Milton, Hants. Director Lymington Electric Light & Power Co., Ltd.

Murray, P., Coatbridge, N.B. Director Coatbridge & Airdrie Electric Supply Co., Ltd.

Murray, T. Blackwood, B.SC., M.I.E.E., electrical engineer, Albion Motor Car Co., Ltd., South-st., Scotstoun, Glasgow. (Telegrams: "Automobile, Glasgow." Nat. Telephone No. 645, Partick.)

Murray, Angus, & Sons, enclosed high speed engines, air compressors & Pelton water wheels, Craigton Engineering Works, Glasgow. (Telegs.: "Effectual, Glasgow." Teleph. No. 195, Govan.)

Murray, R. C., & Co., electric, ship & street lamp makers, 7, Carlton-court, Glasgow. (Telegrams: "Lampads, Glasgow." Nat. Telephone No. 76, Gorbals; & No. 576, Corp.)

Murray & Sons, wiring contractors, Sheerness.

Murrell Bros., electrical engineers & contractors, Warham Works, Warham-rd., Harringay, London, N.

Murrin, Wm. Geo., A.M.I.E.E., electrical engineer, 22, Brackley-rd., Chiswick, London, W.

Murrin, W. G., electrical engineer & contractor, 18, Trefoil-rd., Wandsworth Common, London, S.W. (Telephone No. 450, Putney.)

Muse, J., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Muse, Thos., electrical apparatus maker, 1, South View, Newington, Hull.

Musgrave & Co., Ltd., electrical fans, Belfast. (Telegs.: "Musgrave, Limited, Belfast." Teleph. No. 68.)

Musgrave, J., & Sons, Ltd., engineers, boiler makers, &c., Globe Iron Works, Bolton, Lancashire. (Telegs.: "Musgrave, Bolton." Teleph. No. 590.)

Musker, C. & A. (1901), Ltd., mechanical, hydraulic & electrical engineers, Tue Brook, Liverpool.

Muspratt, E. K., J.P., Seaforth Hall, nr. Liverpool. Director Electric Supply Co. of West Australia, Ltd.; chairman Midland Electric Corporation (1900), Ltd.; chairman Electric Supply Co. of Victoria, Ltd.; director Midland Electric Corporation for Power Distribution, Ltd.

Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh, N.B. (Telegs.: "Tramways, Musselburgh." Teleph. No. 4.) Registered office: Queen Anne's-chbrs., Westminster, S.W. Registered July 6, 1905. Nominal capital: £60,000 in £1 ordinary shares & £60,000 in £1 preference shares, & £60,000 debentures, secured by trust deed, dated Nov. 13, 1905. Issued: £42,000 in ordinary shares, £44,000 in preference shares & £44,000 debentures, all fully paid. Directors: W. H. Fowler, Esq., J.P. (chairman); L. B. Schlesinger, Esq.; J. T. Jervis, Esq., M.I.C.E., F.R.G.S.; B. Bernheim, Esq.; W. B. Cownie, Esq., C.A. Resident manager & engineer, T. Hunter; secretary, R. Watson.

Mutual Electric Trust, Ltd., electricians, engineers, &c., Lewes-rd., Brighton.

Mutual Electricity Supply Co., Ltd., 39, Victoria-st., London, S.W. Registered Feb. 16, 1906. Nominal capital: £20,000 in £1 shares.

Myer & Co., electrical engineers, 33, Mount Pleasant, Liverpool. (Teleph. No. 0817, Royal.)

Myers, J. R., station superintendent, Electricity Works, Ilford, Essex.

Myerson, F. T., iron works, 215, St. John's-st., London, E.C.

Myring, J., & Co., sanitary & electrical engineers, 67 & 69, Abbey-rd., St. John's Wood. (Telegrams: "Unknown, London." Telephone No. 469, Paddington.)

Naftel, Percy H., A.I.E.E., inspector of installations, Corporation Electric Supply Works, Liverpool.

Nairn, Wm., M.I.E.E., A.M.I.C.E., London United Tramways Co., Ltd., 74, High-rd., Chiswick, London, W.

Nairobi Electric Power & Lighting Co., Ltd., 28, Martin's-lane, Cannon-st., London, E.C. Registered Feb. 23, 1906. Nominal capital: £30,000 in £1 shares (12,000 preference).

Nalder, F. H., M.I.E.E., mechanical & electrical engineer, Nalder Bros. & Thompson, Ltd., 34, Queen-st., London, E.C.; & 104, Gleneldon-rd., Streatham, S.W.

Nalder, Hubert H., A.I.E.E., engineer & manager, Cork Electric Tramways & Lighting Co., Ltd., Cork.

Nalder, N. Francis, electrical engineer, 94, St. George's-sq., S.W.

NALDER BROS. & CO., scientific & electrical instrument manufacturers, 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

NALDER BROS. & THOMPSON, LTD., makers of ammeters, voltmeters, gravity & moving coil permanent magnet type, electrostatic voltmeters, recording instruments & automatic cut-outs, & circuit breakers, ohmmeters, generators & testing sets, 34, Queen-st., Cheapside, London, E.C. (Telegrams: "Occlude, London." Telephone Nos. 124 & 161, Bank.) Registered May 19, 1899. Nominal capital: £12,500 in £1 ordinary shares & £10,000 in £1 preference shares. Issued: 11,125 ordinary & 8256 preference, all fully paid. Directors: F. H. Nalder, Esq (chairman & managing); E. D. Wilson, Esq.; A. F. Harris, Esq.; G. F. Pittar, Esq. Secretary, A. F. Harris. *See* MEASURING INSTRUMENT MFRS.—ELECTRIC.

Nance, Ralph, A.I.E.E., electrical engineer, 2, Dock-chbrs., Cardiff. (Telegrams: "Nance, Cardiff." Telephone No. 125.)

Napier, F. D., A.M.I.MECH.E., station engineer, North Metropolitan Electric Power Supply Co., Taylor's-lane, Willesden, N.W. (Teleph. No. 114, Harlesden.)

Napier, Wm. H. U., A.I.E.E., "Pendennis," King's-rd., Leytonstone, Essex.

Napier-Colson, G. B., A.I.E.E., 7, Coleherne-rd., Earl's Court, London, S.W.

Nash, E. D., general engraver, 40, St. John's-sq., Clerkenwell, London, E.C.

Nash, Herbert, A.M.I.E.E., electrical & general engineer, 1, High-st., Notting-hill-gate, London, W. (Telegrams: "Cellulique, London." Telephone No. 23, Western.)

Nash, Marcus, A.M.I.E.E., engineer, Electricity Works, Weston-super-Mare.

Nash, R. P., engineer, Electricity Works, Prescot.

Nash, R. W., C.E., Palace-chbrs., Westminster, S.W. Director Typewriting Telegraph Corporation, Ltd.

Nash, T., & Son, consulting engineers, Testing Works, Sheffield. (Telegrams: "Thomas Nash, Sheffield." Telephone Nos. 299 & 2594. A.B.C., A1 & Western Union Codes.)

Nathan, Cecil, A.I.E.E., 39, Victoria-st., Westminster, London, S.W. (Telephone No. 5133, Westminster.)

National Boiler & General Insurance Co., Ltd., 22, St. Ann's-sq., Manchester (Telegrams: "National, Manchester." Telephone No. 1409); & 60, Queen Victoria-st., London, E.C. (Telegrams: "Incrustation, London." Telephone No. 142, Bank.)

National Carbide Co., Ltd., carbide of calcium manufacturers, 11, Queen Victoria-st., London, E.C.

National Conduit & Cable Co., Ltd., electric cable & wire & conduit manufacturers, 1, 2 & 3, Oxford-ct., Cannon-st., London, E.C. (Telegrams: "Mummified, London." Telephone No. 5677, Bank.)

National Construction Co., Ltd., 52, Queen Victoria-st., London, E.C. Registered May 24, 1906. Nominal capital: £60,000 in £1 shares.

National Electric Co., makers of air compressors & complete air-brake equipments for electric tramways, 59, City-rd., London, E.C. (Telegrams: "Fanabitis, London." Telephone Nos. 1479 & 1480, London Wall.) Wm. A. Parker, European manager.

National Electric Construction Co., Ltd., 245, High-st., Bangor. D. O. Evans, A.M.I.E.E., manager.

National Electric Construction Co., Ltd., tramway contractors & electrical engineers, Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Overhauled, London." Teleph. Nos.: 5134, Gerrard; & 304, Westminster.) Registered July 16, 1897. Nominal capital: £250,000 in £1 ordinary shares. Issued: £170,000, fully paid. Directors: L. B. Schlesinger, Esq. (chairman); J. Carr Saunders, Esq.; Jas. T. Jervis, Esq., M.I.C.E., F.R.G.S.; B. Bernheim, Esq.; W. H. Fowler, Esq., J.P. General manager & secretary, W. B. Cownie; chief engineer, E. A. Mitchell, M.I.E.E. Dividends: 1901, 5 per cent.; 1902, 2½ per cent.; 1903, *nil*; 1904, 6 per cent. on ordinary & 1½ per cent. on vendors' shares; 1905, 7 per cent.

National Electric Supply Co., Ltd., 119A, Fishergate, Preston. (Telegrams: "Illuminate, Preston." Telephone Nos. 83 & 145.) Works: Crown-st. Nominal capital: £39,331 5*s.* in ordinary shares, £145,250 preference shares & £362 10*s.* founders' shares. Issued capital: £39,331 5*s.* ordinary shares, fully paid; & £81,715 preference shares of £5 each, fully paid; & 100 founders' fully paid £3 12*s.* 6*d.* shares. Loans, £40,120. Directors: J. Booth, Esq. (chairman); E. Pyke, Esq., J.P.; & Joseph Anderson, Esq. Electrical engineer, J. H. Tonge, M.I.E.E., A.M.I.C.E.; secretary, Thos. Cross, F.C.I.S. Dividends on ordinary shares: 1901, 7*s.* per share; 1902, 8*s.* per share; 1903, 8*s.* 6*d.* per share; 1904, 8*s.* per share; 1905, 7*s.* per share; & first half of 1906, 3*s.* per share. Preference shares 4 per cent.; loans 4 per cent.

National Electrical Co., electrical engineers, 60, Newhall-st., Birmingham.

National Electrical Manufacturers' Association, Incorp., 2, Queen Anne's Gate, Westminster, London, S.W. Walter Davenport, secretary. (Telegrams: "Unlatch, London.") Members of committee: H. H. Berry (Berry, Skinner & Co.), 78, Upper Thames-st., E.C.; Max Byng (General Electric Co., Ltd.), 71, Queen Victoria-st., E.C.; E. J. Clark (Hart Accumulator Co., Ltd.), Marshgate-lane, Stratford, E.; T. J. Grainger (Sunbeam Lamp Co.), Gateshead-on-Tyne; A. P. Lundberg, 477, Liverpool-rd., London, N.; F. H. Nalder (Nalder Bros. & Thompson, Ltd.), 34, Queen-st., E.C.; C. S. Northcote (Verity's, Ltd.), King-st., Covent Garden, W.C.; H. Oppenheimer (International Electric Co.), 55, Redcross-st., E.C.; S. Patersen (Johnson & Phillips, Ltd.), Old Charlton, Kent.

National Fan & Motor Co., Ltd., dynamo & motor manufacturers, East Bog, Bo'ness, N.B.

National Gas Engine Co., Ltd., makers of gas engines, Wellington Works, Ashton-under-Lyne (Telegs.: "National, Ashton-under-Lyne." Tel. Nos. 43 & 310); & 21, Bridge-st., Deansgate, Manchester.

National Motor Carriage Syndicate, Ltd., 37, Walbrook, London, E.C. Registered May 25, 1897. Nominal capital: £18,000 in £1 ordinary shares & £12,000 in £1 deferred shares. Issued: all the ordinary & 8000 deferred shares, both fully paid. Directors: G. de L. Duckworth, Esq.; H. F. Joel, Esq.; A. F. Mulliner, Esq.; T. Wm. Potter, Esq.; A. Maxwell Tod, Esq. Electrical engineers, H. F. Joel & H. A. Rosenthal; secretary, V. C. Doubleday.

National Provincial Electricity Corporation, Ltd., 118, Queen Victoria-st., London, E.C. Registered March 27, 1903. Nominal capital: £30,000 in £1 shares, all issued; £5000 debentures. Directors: G. D. Handley, Esq. (chairman); A. West, Esq.; W. T. Pressland, Esq.; C. J. Cooper, Esq.; W. L. Machell, Esq. Secretary, J. W. Cranfield.

National Rail & Tramway Appliances Co., Ltd., Taylor-st., Liverpool. (Telegs.: "Brakeblock, Liverpool." Teleph. No. 1198, Royal.)

NATIONAL TELEPHONE CO., LTD. Head office: Telephone House, Victoria Embankment, London, E.C. (Telegrams: "National Telephone, London." Telephone Nos.: General Manager's office, 34, Head office; Secretary's office, 19, Head office; Engineer-in-chief, 52, Head office.) Registered March 10, 1881. The share capital is £6,500,000, in 15,000 6 per cent. first preference shares of £10 each, 15,000 6 per cent. second preference shares of £10 each, 250,000 5 per cent. third preference shares of £5 each, 100,000 new shares of £5 each, £2,225,000 6 per cent. preferred stock & £2,225,000 deferred stock. Of which capital, £150,000 first preference, £150,000 second preference, £1,250,000 third preference, £2,225,000 preferred stock, & £2,225,000 deferred stock have been issued & fully paid, as well as £2,000,000 3½ per cent. debenture stock & £1,704,093 4 per cent. debenture stock. Directors: Geo. Franklin, Esq. (president); S. H. Sands, Esq. (vice-president); C. S. Agnew, Esq.; Rt. Hon. Sir J. Fergusson, Bart., G.C.S.I., M.P.; The Rt. Hon.

National Telephone Co., Ltd.—*continued.*
Lord Harris, G.C.S.I., G.C.I.E.; Sir Cuthbert Quilter, Bart.; G. H. Robertson, Esq.; Sir Albert Rollit, M.P.; W. A. Smith, Esq.; Sir Jas. T. Woodhouse, M.P. W. E. L. Gaine, general manager; Albert Anns, secretary; Frank Gill, engineer-in-chief. Dividends on ordinary shares: 1901, 5 per cent.; 1902, 6 per cent. on preferred stock & 4½ per cent. on deferred stock, being equivalent to 5 per cent. per annum on old ordinary shares; 1903, 1904 & 1905, 6 per cent. on preferred stock, 5 per cent. on deferred stock per annum. For other officials, *see* Classified Section. *See advt., facing title page.*

Nauheim, J. F., 56, Canfield-gdns. W., Hampstead, N.W. Director Chatham & District Light Railways Co.; director Lanarkshire Tramways Co.; director British Thomson-Houston Co., Ltd.

Nautilus Metal Co., anti-friction metal makers, Dock House, Billiter-st., London, E.C. (Telegs.: "Gramercy, London." Teleph. Nos.: 1414, Avenue, Nat.; & 1414, Central, P.O.); & 16, Deansgate, Manchester. (Telegs.: "Gramercy, Manchester.")

Naylor, G. F., chief assistant electrical engineer, Corporation, Nelson, Lancs.

Naylor, W. S., general manager, Chloride Electrical Storage Co., Ltd., Clifton Junction, nr. Manchester.

Naylor Bros., varnish manufacturers, 12 & 14, James-st., London, W. (Telegrams: "Glossiest, London." Telephone No. 926, Paddington.)

Naylor Bros., bracket arms, &c., Golborne, Lancs. (Telegrams: "Naylor Bros., Golborne." Telephone No. 22, Newton-le-Willows.)

Naylor, John, & Son, electric bell fitters, Cheapside, Halifax. (Telegrams: "Naylor, Cheapside, Halifax." Telephone No. 130.)

Naylor, J., & Sons, electrical contractors, Peter's-lane, York.

Neachell, E. J., M.I.E.E., c/o Overhead Railway Co., 31, James-st., Liverpool.

Neal, E., Heyhaven, Hants. Director Milford-on-Sea Electric Supply Co., Ltd.

Neal, Ralph, press tool maker, 49 & 50, Percival-st., London, E.C. (Telephone No. 4948, Central.)

Neal, W. W. & F., conduit manufacturers, 63, Finsbury Pavement, E.C. (Teleph. No. 9615, London Wall.)

Neale, Geo. A., M.I.E.E., signal & telegraph engineer, Hull & Barnsley Railway Co., Hull. (Telegrams: "Neale, Junction, Hull.")

Neale, G. Hall, director Blackpool Electric Tramways (South), Ltd., 43, Castle-st., Liverpool.

Neale, G. W., metal merchant, 83, Upper Thames-st., London, E.C. (Telephone No. 5819, Bank.)

Neale, H. A., electrical engineer, Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C.

Neale, Wm., The Cedars, Yardley-rd., Acock's Green, Birmingham. Director City of Birmingham Tramways Co., Ltd.

Needham, John, & Sons, tube manufacturers & makers of electrical steel, 16, Old Millgate, Manchester. (Telegs.: "Utility, Manchester." Teleph. Nos. 144 & 4990.)

Neele, C. W., A.I.E.E., electrical engineer, Great Central Railway, Guide Bridge, Lancs.

Neff, W. A., A.M.I.E.E., manager Forest City Electric Co., 13, Cornbrook-rd., Chester-rd., Manchester.

Negretti & Zambra, electrical instrument makers, 38, Holborn Viaduct, London, E.C. (Telegrams: "Negretti, London." Telephone No. 583, Holborn.)

Neil, R. O. B., assistant electrical engineer, G.W. Rly., Fishguard Harbour, Pembrokeshire.

Neild, Geo. A., A.M.I.E.E., c/o British Thomson-Houston Co., Ltd., Rugby.

Neild, J. F., resident engineer, Corporation Tramways, Ayr.

Neill, Geo., consulting civil & electrical engineer, 38, Fenchurch-st., London, E.C. (Telegrams: "Ideomotor, London." P.O. Telephone No. 4176, Central.)

Neill, D. T., & Co., electric lighting contractors, 166, Great Junction-st., Leith. (Teleph. No. 16 Y. 3.)

Nell, Frederic, The Victor turbine water wheel & turbine pumps, 46, Queen Victoria-st., London, E.C. (Telegrams: "Turbinatus, London." Telephone No. 903, Bank.)

Nelson, R., electrical engineer, 13, Orr-street, Bridgeton Cross, Glasgow.

Nelson Corporation Electric Supply & Tramways, Nelson, Lancs. D. Helme, engineer. (Nat. Teleph. No. 115, Nelson.)

Nener, E., electrical engineer, Dillwyn-st., Swansea.

Nettley, Charles N., A.I.E.E., electrical engineer, 82, Seaford-rd., West Ealing, London, W.

Neumann, S., Salisbury House, London Wall, E.C. Director African Transcontinental Telegraph Co., Ltd.

Nevile, R. H. C., electrician, Wellingore, Lincoln. (Telegrams: "Nevile, Wellingore, Navenby.")

Nevile Engineering Co., Ltd., St. Martin's Gate, Worcester. (Telegrams: "Nevile, Worcester." Telephone No. 196.)

Nevill, H. A., engineer, Corporation Electricity Works, Wakefield.

NEVILLE BROS., manufacturing electrical engineers, 7 & 9, James-st., Liverpool. (Telegrams: "Neville, Liverpool." Telephone No. 7159.)

Neville, Victor, & Co., electrical engineers & contractors, 20, Park Cross-st., Leeds.

Neville, Williams & Co., insulation specialists, 11 & 13, Southwark-st., London, S.E. (Telegs.: "Sinecure, London." Teleph. No. 3356, Hop.) Sole manufacturers of "Varsulat" registered varnishes.

Nevin, John, J.P., Littlemoor, Mirfield. Director Electrical Distribution of Yorkshire, Ltd.

New, E. Sanford, London manager D.P. Battery Co., Ltd., 11, Victoria-st., Westminster, S.W. (Telegrams: "Cumulose, London." Telephone No. 291, Westminster.)

New, W. J., Parke House, Melton Mowbray. Chairman Melton Mowbray Electric Light Co., Ltd.

New British Electric Supply Co., Ltd., electrical engineers, Rochester Works, 43, Stoke Newington-rd., London, N. (Telegs.: "Arcazon, London." Teleph. No. 388, Dalston.)

New Brotherton Tube Co., Ltd., Commercial-rd., Wolverhampton (Telegs.: "Weldless, Wolverhampton." A.B.C., 5th edit., Code. Teleph. No. 212); 24A, High-st., Manchester; 66, Victoria-st., Westminster, S.W.; 198A, St. Vincent-st., Glasgow; 30–34, Paradise-st., Liverpool; 2, Collingwood-st., Newcastle-on-Tyne; 57, Middle Abbey-st., Dublin; 43A, High-st., Belfast; & 3, Arcade-chbrs., St. John's-sq., Cardiff.

New Century Co., electrical mechanical & automobile engineers, 235, High Holborn, London, W.C.

New Century Electric Co., installation contractors, 354, Caledonian-rd., London, N. (Teleph. No. 7674, P.O., Central.)

New Century (Foreign) Arc Light Co., Ltd., Billiter-sq.-bldgs., London, E.C.

New Conveyor Co., Ltd., Smethwick, Birmingham. (Telegs.: "Aptitude, Birmingham." Teleph. No. 50.)

New General Traction Co., Ltd., 20, Bishopsgate-st. Within, London, E.C. (Telegs.: "Carwheel, London.") Registered March 26, 1896. Nominal capital: £120,000 in £5 ordinary shares & £250,000 in £5 preference shares; all are issued & are fully paid. Also £200,000 of £5 per cent. mortgage debentures of £100 each, all issued & fully paid up. A memorandum of satisfaction, to the extent of £18,700, of debentures, dated July 8, 1901, securing £200,000, has been filed. £80,000 4 per cent. prior lien debentures have been issued. Directors: Baron E. B. d'Erlanger; Hon. A. G. Brand; Francis FitzGerald, Esq.; R. J. West, Esq.; E. A. Hopkins, Esq. (managing). Electrical engineer, E. I. Winslow; secretary, J. G. Mills. Dividends: 1900–01, 6 per cent. on preference & 4 per cent. on ordinary; 1901–02, 1902–03, 1903–04, 1904–05, 1905–06, *nil.*

New Gutta Percha Co., Ltd., Dashwood House, New Broad-st., London, E.C.

New Phonopore Telephone Co., Ltd. Offices: 31, Budge-row, Cannon-st., E.C. (Telegs.: "Orthite, London." Teleph. No. 5998, Bank.) Works: Southall, Middlesex. Registered July 19, 1895. Nominal capital: £10,000 in £1 shares. 5211 ordinary & 1000 founders' have been taken up. 20*s.* per share has been called on the ordinary, & the founders' shares are considered as fully paid. A mortgage, dated Sept. 10, 1906, to secure an unspecified amount, but stamped to cover £2500, has been registered. Directors: A. Haes, Esq.; F. C. Liddell, Esq.; A. F. Liddell, Esq.; C. Isaac, Esq. (managing & secretary). Electrical engineer, A. H. Nicholson. Dividends: 1903, 1904, 1905, 10 per cent. on ordinary, 12½ per cent. on founders'; & 1906, 10 per cent. on ordinary, 20 per cent. on founders'.

New Rottingdean Electricity Co., Ltd., suppliers of electricity, The Electric Station, Rottingdean, Sussex. Registered Feb. 16, 1899, with a capital of £3000 in £1 shares. Directors: G. Mason, Esq. (chairman); C. Reed, Esq.; S. Reed, Esq.; F. Thomas, Esq.; W. Hilder, Esq. Engineer, A. Jupp; secretary, S. Reed.

New St. Helens & District Tramways Co., Ltd., Imperial-bldgs., Ormskirk-st., St. Helens, Lancs. Registered Nov. 14, 1898. Nominal capital: £150,000 in 16,000 preference & 10,000 ordinary £5 shares. Issued: 9000 ordinary & 15,980 preference shares, fully paid. Directors: Hon. Arthur Stanley, M.P. (chairman); H. Martin, Esq., J.P.; J. Hunter, Esq., J.P.; J. S. Austin, Esq.; J. M. Henderson, Esq., M.P. Secretary, W. Hutchings.

New System Private Telephone Co., Ltd., The, 37, King William-st., London Bridge, E.C. (Telegrams: "Lamblike, London." Nat. Telephone No. 168, Bank.) Registered May 15, 1902. Nominal capital: £10,000 in £1 shares. Issued: £8000, fully paid. Ernest H. Lamb, M.P., A.I.E.E., managing director; F. T. Jackson, secretary. Dividends: 1904 & 1905, 5 per cent.

New York Hamburg Indiarubber Co., ebonite manufacturers, 34, Moorfields, London, E.C. (Telegrams: "Centuplico, London.")

Newall Engineering Co., Ltd., mechanical engineers, Atherton's Quay, Warrington. (Telegrams: "Homebrewed, Warrington." Telephone No. 256.)

Newall, R. S., & Son, Ltd., telegraph cable manufacturers, Linacre, Liverpool.

Newbald, E., & Co., electrical engineers, Court-rd., High-st., Sutton, Surrey.

Newbold, Walter, & Co., Ltd., lathe & tool makers, Pearl-bldgs., 107, Upper Thames-st., E.C. (Telegrams: "Newbold, London." Telephone No. 8307, Bank.)

Newburn Electricity Works, Newburn, Northumberland. Newcastle & District Electric Lighting Co., proprietors. Engineer, W. D. Hunter.

Newbury Electricity Works, Newbury, Berks. (Nat. Telephone No. 115 X., Newbury.) The Urban Electric Supply Co., Ltd., proprietors. Engineer, H. W. Bush.

Newby, Geo., A.I.E.E., electrical engineer, Imperial-chbrs., James-st., Harrogate. (Telephone No. 0254.)

Newby, Geo., electrical engineer, 51, Tyrell-st., Bradford.

Newcastle & District Electric Lighting Co., Ltd., 38, Grainger-st.-west, Newcastle-on-Tyne. (Telegs.: "Electricity, Newcastle-on-Tyne." Teleph. Nos. 761 & 762.) Registered Jan. 14, 1889. Nominal capital: £300,000 in £10 shares. Issued capital: £300,000 & £150,000 debenture stock, secured by trust deed of Aug. 8, 1905. £9 per share has been called on 30,000. A memorandum of satisfaction in full of mortgage debentures, dated Sept. 9, 1903, securing £11,085, has been filed. J. Patterson, secretary. Directors: Sir J. D. Milburn, Bart. (chairman); W. D. Hunter, M.I.E.E., Esq. (electrical engineer & managing); The Hon. C. A. Parsons; Sir B. C. Browne; Col. W. M. Angus; J. B. Simpson, Esq.; A. Scholefield, Esq.; J. W. Spencer, Esq.; H. I. Brackenbury, Esq. Dividends: 1903, 8½ per cent.; 1904, 7½ per cent.; 1905, 5 per cent.; first half of 1906, at rate of 5 per cent. per annum.

Newcastle Section of the Inst. of Electrical Engineers, Newcastle-on-Tyne. H. L. Riseley, chairman; hon. sec., C. Faraday Proctor, c/o Edison & Swan United Electric Light Co., Ltd., Benwell, Newcastle-on-Tyne.

Newcastle-under-Lyme Corporation Electricity Works, Newcastle-under-Lyme, Staffs. Electrician, G. Holding.

Newcastle-upon-Tyne Corporation Electricity Works & Electric Tramways, Newcastle-upon-Tyne. Tramways engineer & manager, E. Hatton; assistant electrical engineer, W. Dalton, A.I.E.E., A.M.I.M.E. (Telegs.: "Traction, Newcastle-on-Tyne." Teleph. Nos.: Nat., 206 & 2689; & P.O., 241.)

Newcastle-upon-Tyne Electric Supply Co., Ltd. Registered office: Royal Exchange-bldgs., Newcastle-upon-Tyne. Works: Carville, Wallsend. (Telegs.: "Supply, Newcastle-upon-Tyne;" "Supply, Wallsend." Teleph. Nos.: Nat., 882, 883, 884, 885 & 886; P.O., 530.) Registered Jan. 8, 1889. Capital: £1,000,000, divided into 100,000 preference shares of £5 each & 100,000 ordinary shares of £5 each, & £250,000 first mortgage debentures (fully paid up), & £187,500 second mortgage debentures, 10 per cent. called & paid up. Issued: £437,500 ordinary shares, 75,000 fully paid & 12,500 with £2 per share paid; £437,500 preference shares, 75,000 fully paid & 12,500 with £2 per share paid. Temporary loans: £61,089. M. Short, secretary; C. H. Merz, consulting electrical engineer. Directors: J. T. Merz, Esq., PH.D. (chairman); J. H. Armstrong, Esq.; F. W. Dendy, Esq.; T. G. Gibson, Esq., J.P.; G. B. Hunter, Esq.; J. H. B. Noble, Esq.; Jas. Tennant, Esq., J.P.; R. S. Watson, Esq., LL.D.; Sir Lindsay Wood, Bart. Dividends: 1901, 1902, 1903, 1904 & 1905, 8 per cent. on ordinary & 5 per cent. on preference; 1906, *interim*, 2½ per cent. per annum on ordinary & preference.

Newington, Frank A., M.I.E.E., city electrical engineer, 5, Dewar-pl., Edinburgh. (Telegrams: "Generation, Edinburgh." Telephone No. 2105.)

Newington, Reginald, electrical & mechanical engineer, 8, Lee-ter., Blackheath.

Newington, S. Wilmott, borough electrical engineer, Corporation Electricity Works, Oldham. (Telegrams: "Greenhill Electricity Works, Oldham." Telephone No. 269.)

Newitt, L., M.I.E.E., electrical engineer, H.M. Dockyard, Chatham, Kent.

Newlands, J., deputy controller, Central Telegraph Office, General Post Office, St. Martin's-le-Grand, London, E.C.

Newman, B., electrical engineer, Ward & Newman, 49, Empress-rd., Cranbrook Park, Ilford, London, E.

Newman, John Ernest, A.I.E.E., Sutton House, Gloucester.

Newman, F., & Co., Ltd., engineers & iron casters, Victoria Foundry, Lever-st., Wolverhampton. (Teleph. No. 45 Y. 4.)

Newman & Guardia, Ltd., electrical & galvanic instrument manufacturers, 90 & 92, Shaftesbury-avenue, W. (Telegrams: "Goniometer, London.")

Newmarket Electric Light Co., Ltd., High-st., Newmarket, Suffolk. Registered 1897. Nominal capital: £30,000 in £10 ordinary shares & £15,000 debentures. Issued: £25,160, fully paid, & £14,200 debentures. Directors: G. H. Verrall, Esq. (chairman); F. E. Gripper, Esq.; W. T. Pressland, Esq.; B. Chennell, Esq.; H. J. Garrod, Esq.; E. H. Leach, Esq. Electrical engineer, F. A. Simpson; secretary, A. H. Ruston. Dividends: 1901, 2½ per cent.; 1902, 3½ per cent.; 1903, 1904 & 1905, 4½ per cent.

Newport Borough Technical Institute, Newport, Mon. *See* SCHOOLS.

Newport Corporation Electricity Supply Works & Electric Tramways, Newport, Mon. (Nat. Telephone No. 295.) H. Collings Bishop, M.I.E.E., engineer & general manager.

Newport Electricity Works (Isle of Wight Electric Light & Power Co.), Newport, Isle of Wight. (Teleph. No. 45, Newport.) Engineer, A. E. Mayes; assistant, A. Crawford.

Newport Enamelled Slate Co., Ltd., Old Dock-rd., Newport, Mon.

Newquay Electric Light & Power Co., Ltd., Newquay, Cornwall; & 66, Victoria-st., S.W. Registered July 31, 1905. Nominal capital: £15,000 in £1 shares & £4000 debentures. Issued: 10,530 ordinary shares, 9000 fully paid & 153 with 15*s.* paid. Debentures issued: £2500. Directors: J. Rogers, Esq., J.P. (chairman); E. S. Lowe, Esq. Resident engineer, A. S. Hawkins; secretary, E. Ernest Smith.

Newry Municipal Technical School, Newry, co. Down.

Newstead, T. B. L., A.M.I.E.E., electrical engineer (Mountain & Gibson, Ltd.), Elton Fold Works, Bury, Lancs.

Newsum, H., Sons & Co., Ltd., timber merchants & manufacturers of electric wire casings, Gainsborough. (Telegrams: "Newsums, Gainsborough." Telephone No. 5.)

Newton, Chas. A., A.M.I.E.E., Market-pl., Derby.

Newton, C. E., A.M.I.E.E., electrical engineer, c/o Neville, Williams & Co., 11 & 13, Southwark-st., London, S.E. (Teleph. No. 3356, Hop.)

Newton, F., resident engineer, G.W. Railway Electricity Works, Tyndall-st., Cardiff.

Newton, M. F., A.M.I.E.E., mains engineer, Tramway Power House, Kelham Island, Sheffield.

Newton, R. S., A.M.I.E.E., c/o Lancashire Electric Power Co., 196, Deansgate, Manchester.

Newton, Wm., electrical engineer, 117, The Chase, Clapham, London, S.W. (Telephone No. 687, Battersea.)

Newton Abbot Electricity Works (Urban Electric Supply Co.), Newton Abbot. Engineer, F. C. Pay, A.M.I.E.E.

Newton, Bean & Mitchell, electric light apparatus makers, Dudley Hill, Bradford. (Telegrams: "Adroit, Dudley Hill." National Telephone No. 2, Dudley Hill.)

Newton Bros., dynamo & motor manufacturers, Market-pl., Derby. Works address: Alfreton-rd., Derby. (Telegrams: "Dynamo, Derby." Telephone No. 413.)

Newton & Co., scientific & electrical apparatus makers, 3, Fleet-st., London, E.C.; & Newton Works, 471, Hornsey-rd., London, N.

Newton, S., & Co., electrical, mechanical & motor engineers, 210, Brixton Hill, London, S.W.

Newton & Son, patent agents, 6, Bream's-buildings, Chancery-lane, London, E.C. (Telegrams: "Newton, London." Telephone No. 67, Holborn.)

NEWTONS, LTD., MANUFACTURING ELECTRICAL ENGINEERS, "ZOUR" PATENT DYNAMOS & MOTORS, &c., TAUNTON. (TELEGRAMS: "ARC, TAUNTON." NAT. TELEPHONE NO. 9.) Nominal capital: £40,000 in £10 shares, fully paid up. Mortgages & charges, £10,000.

Niblett, J. T., M.I.E.E., consulting engineer, "Norman Norris," Vines Cross, Heathfield, Sussex. (Telegs.: "Niblett, Vines Cross.")

Nichol, George, A.I.E.E., Electrical Department, Midland Railway, Derby.

Nicholl, C. W., A.M.I.E.E., 10, Compton-rd., Winchmore Hill, London, N.

Nicholls & Clarke, Ltd., electric fittings dealers, High-st., Shoreditch, London, E. (Telegrams: "Glass, London." Telephone Nos. 1534 & 1538, London Wall.)

Nicholls, T., & Son, dealers in electrical apparatus, 258, Kingsland-rd., London, N.E. (Telegrams: "Celluloid, London.")

Nicholson, F. B., M.I.E.E., electrical engineer, Nicholson & Co., 53, Victoria-st., London, S.W.

Nicholson, F. H., A.I.E.E., 25, Cleveden-pl., Eaton-sq., London, S.W.

Nicholson, Geo., director Blackpool, St. Anne's & Lytham Tramways Co., Ltd., 30, Birley-st., Blackpool.

Nicholson, H. G., A.M.I.E.E., 22, Savoy-ct., London, W.C.

Nicholson, H. J., electrical engineer, Queen's-rd., Weybridge.

Nicholson, J. H., electrical engineer & wiring contractor, 59, Beverley-rd., Hull.

Nicholson, John S., B.SC., WH.SC., A.M.I.E.E., lecturer in electrical engineering & senior demonstrator in the James Watt Laboratories, University, Glasgow.

Nicholson, L., engineer, Milford-on-Sea Electric Supply Co., Milford-on-Sea, Hants.

Nicholson, R. J., A.I.E.E., electrical engineer, Macdonald's-lane, Corporation-st., Manchester (Telegs.: "Reference, Manchester." Teleph. No. 5432). Managing director Hemsworth Electricity Supply Co., Ltd.

Nicholson & Ade, electric light engineers, 31–35, South-st., Eastbourne.

Nicholson, John, & Sons, Ltd., sulphuric acid for accumulators, Chemical Works, Hunslet, Leeds. (Telegs.: "Nicholson, Leeds." Teleph. Nos. 2420 & 2421.)

Nicholson, R. J., & Co., electrical & general engineers, Macdonald's-lane, Corporation-st., Manchester. (Telegs.: "Reference, Manchester." Teleph. No. 5432, Central. A.B.C., 4th Edition, Moreing & Neal Codes.)

Nicholson, W. N., & Sons, Ltd., general engineers, Newark-on-Trent. (Telegrams: "Nicholsons, Newark.")

Nicholson, Wadley & Co., electrical contractors, 14, Neville-st., Newcastle-on-Tyne.

Nickel Plating Co. (The), nickel platers, 13, Greek-street, Soho, London, W.

Nicol, E. W. L., A.I.E.E., 12, Therapia-rd., Honor Oak, London, S.E.

Nicoll, Henry, A.I.E.E., 8, Walton-st., London, S.W.

Nicoll, W. E., A.I.E.E., manager, Scarborough Tramways Co., Scarborough.

Nicoll, G. H., & Co., electrical engineers & contractors, 18, Bank-st., Dundee. (Telegs.: "Mangles, Dundee." Teleph. No. 710.)

Nicolson, Dr. J. T., M.I.C.E., professor of engineering, Municipal School of Technology, Manchester.

Nielsen, F. C. C., representative in England & manager in London of the Great Northern Telegraph Co., Ltd., 3, St. Helen's-pl., Bishopsgate-st. Within, London, E.C. (Telegs.: "Nordiske, London.")

Nielson, J. Fred., A.M.I.E.E., electrical engineer, John Brown & Co., Ltd., Clydebank, Glasgow.

Nightingale, G. P., manganese merchant, 24 & 25, Great Tower-st., London, E.C. (Telegs.: "Philomela, London." A.B.C. Code, 4th edit., used.)

Niles-Bement-Pond Co., machine tool & crane manufacturers, 23 & 25, Victoria-st., London, S.W. (Telegrams: "Niliacus, London." Telephone No. 486, Westminster.)

Nisbett, G. H., M.I.E.E., engineer & manager British Insulated & Helsby Cables, Ltd., Prescot, Lancs.

Nisbett, H. J., A.I.E.E., Brush Electrical Engineering Co., Ltd., Victoria Works, Belvedere-rd., London, S.E.

Niven, Andrew Mackie, A.I.E.E., Mill House, Baddow-rd., Chelmsford.

Niven, Chas., M.A., D.SC., F.R.S., professor of natural philosophy, University, Aberdeen.

Nixon, A. T., engineer-in-charge, Corporation Electricity Works, Sheffield.

Nixon, C. B., A.I.E.E., Lancashire Steam Motor Co., Leyland, nr. Preston.

Nixon, F. A., A.M.I.C.E., A.I.E.E., chief electrical engineer, Electric Lighting Station, Handsworth, Birmingham. (Teleph. No. 39, Handsworth.)

Noad, J., electrical engineer, Hawthorne Cottage, East Ham, London, E.

Noakes, Thos., & Sons, Ltd., manufacturers of engine & boiler fittings for high pressure steam, 4 & 5, Osborn-pl., Brick-lane (late 35 & 37, Brick-lane), Whitechapel, London, E. (Telegs.: "Cockbrass, London." Teleph. No. 4339, Avenue.)

Nobbs, Cornelius George, A.M.I.E.E., 87–89, Cleveland-st., Fitzroy-sq., W.

Nobel's Explosives Co., Ltd., manufacturers of electric fuses & blasting apparatus, 195, West George-st., Glasgow. (Telegrams: "Nobel, Glasgow." Telephone No. 1229, Glasgow.) London Agency: 220, Winchester House, Old Broad-st., London, E.C.

Noble, J. H. B., The Manor House, Jesmond, Newcastle-on-Tyne. Director Priestman Power Co., Ltd.; director Newcastle-on-Tyne Electric Supply Co., Ltd.; director Tyneside Tramways & Tramroad Co.

Noble, William, A.M.I.E.E., Engineer-in-Chief's Office, G.P.O. West, London, E.C.

Noble, J., & Sons, electricians, Peterborough.

Noble & Lund, Ltd., machine tool makers, Felling-on-Tyne. (Telegs.: "Lathes, Felling." Teleph. No. 23.)

Noble & Rogers, electric bell fitters, Wellingborough.

Noblet, T., & Co., electrical engineers, contractors & analytical chemists, Totnes, Devon.

Nokes, C. S., electrical engineer, 58, Braunstongate, Leicester.

Nolan, Wm., director Dundalk Electric Tramway Co., Ltd., 118, Grafton-st., Dublin.

Nolan & Rowell, electrical sundries manufacturers, 503, Cambridge-road, Hackney, London, E.

Noles, Thomas H., station engineer, Electricity Works, Cathall-rd., Leytonstone.

Nonpareil Electric Syndicate, Ltd., 2, Victoria-mansions, Victoria-street, London, S.W.

Norballe, Hans J. P., A.I.E.E., 34, Walham Grove, Fulham, S.W.

Norie, J. R. D., electrical engineer & manager, H. Fellowes & Co., Seamoor-rd., Westbourne, Bournemouth. (Telephone No. 202.)

Norman, John T., F.C.S., analytical & consulting chemist, City Central Laboratory, 23, Leadenhall-st., London, E.C. (Telegrams: "Unremitting, London." Telephone No. 580, Avenue.)

Norman & Beard, Ltd., organ builders & manufacturers of apparatus for the application of electric action to organs, &c., 19, Ferdinand-st., Chalk Farm-rd., London, N.W. (Telegrams: "Vibrating, London." Telephone No. 805, North); Norwich & Glasgow.

Norman Engineering Co., elec. engrs. & contractors, 513, Lordship-lane, S.E. (Tel. No. 367, Sydenham.)

Norman & Young, Ltd., castings for electrical purposes, 83, Bishopsgate-st. Without, London, E.C. (Telegs.: "Cothias, London." Teleph. No. 7383, Central.)

Norrie, Wm., distribution engineer, Corporation Electricity Works, Liverpool.

Norris, E. A., A.M.I.E.E., electrical engineer, Hatfield-st. Works, Stamford-st., London, S.E.

Norris, George, ivory & wood (push) turner, 33, Kirby-st., Hatton Garden, London, E.C.

Norris, J. D. A., director Larne Electric Light Works, Ltd., Suffolk House, Laurence Pountney Hill, E.C.

Norris, J. R., electrical engineer, Manchester-st., Oldham.

Norris & Henty, makers of gas, oil & hot air engines, 87, Queen Victoria-st., London, E.C. (Telegrams: "Nornodeste, London." Telephone No. 836, Bank.)

Norris, J. R., & Co., wiring contractors, Wood-st., St. Anne's-on-Sea.

Norris, S. E., & Co., manufacturers of leather belting, Juniper-st., Shadwell, London, E. (Telegrams: "Vigilos, London." Telephone No. 196, East.)

Norrish, G., electrical engineer, 27, London-rd., Brighton.

North, Wilmot, gears, &c., St. Mary's-rd. & Rodley-lane, Sheffield.

North British Rubber Co., Ltd., 2, 4 & 6, East-rd., City-rd., London, E.C. Works: Castle Mills, Edinburgh. (Telegrams: "Ebwa, London." Telephone No. 370, Bank.)

NORTH BRITISH WIRE MANUFACTURING CO., copper & brass wire drawers, dynamo brush makers, &c., 71, West Nile-st., Glasgow; & 70 & 71, Bishopsgate-st. Within, London, E.C. (Telegs.: "Weaving, Glasgow.") *See* DYNAMO BRUSHES.

North-East Coast Institution of Engineers & Shipbuilders (W. H. Dugdale, M.I.C.E., president; John Duckitt, secretary), 4, St. Nicholas'-bldgs. West, Newcastle-upon-Tyne. (Telegs.: "Duckitt, Newcastle-on-Tyne." Nat. Teleph. No. 689.)

North-Eastern Novelty Co., hardwood turners, bell push & model makers, 20, Victoria-st., Goole, Yorks. (Telegrams: "Novelty Co., Goole.")

North-Eastern Railway Co. (Tynemouth & Ponteland Electric Lines), York. C. H. Merz, consulting electrical engineer; G. T. Glover, resident engineer.

North of England Institute of Mining & Mechanical Engineers (John Hermann Merivale, president; M. Walton Brown, secretary), Neville Hall, Newcastle-on-Tyne. (Telegs.: "Moneo, Newcastle-upon-Tyne." Nat. Teleph. No. 2201, Central.)

North Melbourne Electric Tramways & Lighting Co., Ltd., Worcester House, Walbrook, London, E.C. Registered Aug. 1, 1905. Nominal capital: £200,000 in 100,000 ordinary £1 shares & 100,000 £1 cumulative preference shares & £200,000 debentures, secured by trust deed, dated Dec. 15, 1905. Issued: all the ordinary & 65,000 preference & £160,000 debentures, all fully paid. Directors: W. R. Davies, Esq. (chairman); A. F. Farish, Esq.; Chas. Wren, Esq.; H. Blunt, Esq. Engineer in Melbourne, W. G. Gordon; secretary, E. Jackson.

North Metropolitan Electric Power Supply, Evelyn House, 101, Finsbury Pavement, London, E.C. (Telegs.: "Metrolito, London." Teleph. No. 2090, London Wall.) Incorporated 1900. Nominal capital: £500,000 in £10 ordinary shares & £166,000 debentures. Issued: 4262 shares fully paid & 25,740 with £7 paid. Directors: E. Garcke, Esq.; Sir Ernest Spencer; J. Devonshire, Esq.; W. L. Madgen, Esq.; G. Richardson, Esq.; C. G. Tegetmeier, Esq. Engineer-in-chief, E. T. Ruthven-Murray; assistant secretary, E. Boys.

North Metropolitan Electrical Power Distribution Co., Ltd., Evelyn House, 101, Finsbury Pavement, London, E.C. (Telegs.: "Metrolito, London." Teleph. No. 2090, London Wall.) Registered April 19, 1899. Capital: £75,000 in £50,000 ordinary shares & £25,000 debentures. Issued: £25,070 in ordinary shares fully paid. Directors: J. Devonshire, Esq. (chairman); W. L. Madgen, Esq.; G. Offor, Esq. Chief engineer, E. T. Ruthven-Murray; resident engineers, J. M. Bowman, Hertford; H. B. Sale, Barnet; A. H. Bennett, Enfield; secretary, E. Boys. Dividends: 1902, *nil*; 1903, 2½ per cent.; 1904, 3 per cent.; 1905, *nil*.

North Metropolitan Tramways Co., 101, Finsbury Pavement, London, E.C. *Part of the undertaking transferred to the L.C.C.*

North of Scotland Electric Light & Power Co., Ltd., Electricity Works, Montrose. Incorporated March 24, 1899. Ordinary share capital: £100,000 in £5 ordinary shares & £25,000 debentures. Issued: £50,000, fully paid, & £9990 debentures. Directors: Geo. A. Scott, Esq.; V. Stone, Esq.; F. E. Gripper, Esq.; D. S. Campbell, Esq.; J. C. Wigham, Esq. Secretary & manager, Harold Hale, A.M.I.M.E., A.M.I.E.E. Dividends: 1903, 1904 & 1905, 2½ per cent.

North Staffordshire Tramways Co., Ltd., Donington House, Norfolk-st., London, W.C. (Telegrams: "Potteries, c/o Tramways, London.") Nominal capital: £72,000 in ordinary shares, £20,000 in 6 per cent. preference shares, £100,000 in 5 per cent. debentures, & second debentures £40,000. Issued: all the ordinary & preference shares, the latter fully paid, & £6 per share on the ordinary, £100,000 debentures, & second debentures £40,000. First mortgage debenture, dated Dec. 30, 1902, to secure £6700, & second mortgage debenture of even date, to secure £9900, have been registered. Directors: J. S. Raworth, Esq.; S. A. Sillem, Esq.; W. G. Bond, Esq. Secretary, B. Kingsford. Dividends: 1896, 1897 & 1898, 3 per cent.; 1899, 4 per cent.; 1900–1902, 5 per cent.

North Wales & District Light Railway & Electric Power Syndicate, Ltd., 6, Booth-st., Manchester. Registered May 2, 1900. Nominal capital: £1200 in £100 shares, 11 of which have been taken up. Directors: W. T. Pressland, Esq.; E. R. Davies, Esq.; J. M. Hewitt, Esq.; J. W. Donaldson, Esq.; W. H. Robson, Esq.; A. Maund, Esq.; E. Hewitt, Esq.; J. Morris, Esq.; J. P. Bedson, Esq. Engineers, Bennet & Ward-Thomas; secretary, J. H. Stagg.

North Wales Power & Traction Co., Ltd., 1, Leadenhall-st., London, E.C. Registered July 30, 1903. Nominal capital: £270,000 in £5 shares. £150,000 5 per cent. debentures secured by trust deed, dated Aug. 15, 1905. Issued: £253,000, the balance, 3400 shares, allotted as fully paid. An indenture of charge, dated Oct. 16, 1905, to secure £30,000, has been registered. Directors: J. E. Rawlins, Esq.; J. Beecham, Esq.; J. Tompkinson, Esq., M.P.; Colonel H. Platt, C.B.; A. Deedes, Esq.; H. R. Hogg, Esq. Consulting engineers, Sir Douglas Fox & Partners; secretary, F. B. Fuller.

North-West London Railway Co., 12, New-ct., Lincoln's Inn, W.C. Nominal capital: £2,250,000 in £10 shares & £750,000 debentures. Directors: Sir R. Head, Bart.; Hon. C. M. Knatchbull-Hugessen; N. Scott Russell, Esq.; J. S. Brookfield, Esq. Secretary, W. A. Sparke.

North-Western Electricity & Power Gas Co., 37, Cross-st., Manchester. (Teleph. No. 1084.) Incorporated 1903 & 1904. Proposed capital: £1,500,000 in shares, £500,000 in loans. Directors: T. W. Twyford, Esq. (chairman); J. Harding, Esq., J.P.; R. Heath, Esq., J.P.; F. Rigby, Esq.; J. H. Gartside, Esq.; A. Seymour-Jones, Esq.; W. C. Houston, Esq.

North-Western Electricity & Power-Gas Syndicate, Ltd., 37, Cross-st., Manchester. (Teleph. No. 1084, Manchester.) Registered Jan. 21, 1903. Nominal capital: £10,000 in £100 shares, all issued. Directors: T. W. Twyford, Esq.; A. F. Wenger, Esq.; T. O. Callender, Esq.; R. Heath, Esq.; F. Rigby, Esq.; E. S. Mond, Esq.; A. Seymour-Jones, Esq.; Wallace C. Houstoun, Esq.; Jno. Harding, Esq. Consulting engineers, Lacey, Sillar & Leigh, H. A. Humphrey; secretary, R. Fleming.

Northallerton Electric Light & Power Co., Ltd., High-st., Northallerton, Yorks. (Telegrams: "Electricity Works, Northallerton.") Registered Oct. 27, 1898. Capital: £10,000 in 5000 ordinary & 5000 preference £1 shares, of which 4561 ordinary & 1151 preference have been taken up. Debentures issued: £5140. Directors: J. Hutton, Esq. (chairman); C. E. L. Ringrose, Esq.; J. A. Hutchinson, Esq., M.D.; A. de Laude Long, Esq., jun.; J. Ernest Hutton, Esq., J.P.; F. Fairbank, Esq.; J. Thomas, Esq. Electrical engineer & secretary, F. R. Batty, A.M.I.E.E.

Northampton Corporation Electric Tramways. Manager, — Gottschalk.

Northampton & County Modern & Technical School, Northampton. *See* SCHOOLS.

Northampton Electric Light & Power Co., Ltd. Office & works: 25, Bridge-st., Northampton. (Telegs.: "Electricity, Northampton." Teleph. No. 183.) Directors: F. H. Thornton, Esq., J.P. (chairman); R. Cleaver, Esq., J.P.; & W. Tomes, Esq., J.P. Engineer, G. H. Jackson, M.I.E.E., M.I.M.E.; secretary, E. M. Browne, 2, St. Giles's-sq. Nominal capital: £100,000 in "A" & "B" shares. Issued: 10 "A," 36,044 ordinary "B" shares & 25,040 5 per cent. preference "B" shares, all fully paid, & £35,750 4 per cent. 1st debentures, £3600 4 per cent. 2nd debentures & £5000 5 per cent. 2nd debentures. Dividends: 1902, 4½ per cent. on ordinary; 1903, 4 per cent.; 1904 & 1905, 5 per cent.; & first half of 1906, 4½ per cent. (*interim*).

Northampton Institute, Clerkenwell, London, E.C. (Teleph. No. 3072, Holborn.) Dr. R. Mullineux Walmsley, principal. *See* SCHOOLS, CLASSIFIED SECTION.

Northampton Institute Engineering Society, Northampton Institute, St. John-st., Clerkenwell, London, E.C. Hon. secretary, S. M. Hills. (Teleph. No. 3072, Holborn.)

Northcote, Chas. S., M.I.E.E., 2, Queen Anne's Gate, Westminster, London, S.W. (Teleph. No. 601, Westminster.)

Northern Accessories Co., wholesale electrical supplies, Carr-st., Blackfriars-st., Manchester. (Telegs.: "Tubings, Manchester." Teleph. No. 3790.)

Northern Counties Electricity Supply Co., Ltd., Milburn House, Dean-st., Newcastle-on-Tyne. Registered Nov. 26, 1900. Nominal capital: £200,000 in £1 ordinary shares. Issued: £150,000. £1 per share has been called up on 146,000 & 4000 are considered as paid. Debentures: £100,000, secured by trust deed, dated July 14, 1905. Directors: Sir J. D. Milburn, Bart. (chairman); Admiral Cleveland; Capt. H. P. Pulleine; C. Emmott, Esq. Secretary, Andrew Gemmell; general manager, C. W. Fairweather. Dividends: 1904, 3 per cent.; 1905, 3 per cent.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See* WIRE COVERERS—SILK.

Northern Electrical Co., electric light & power contractors, 117, Cleethorpe-rd., Grimsby (Telephone No. 19 X., Grimsby); & 5, Printing Office-st., Doncaster.

Northern Electrical Engineering & Plating Co., Ltd., electrical & general engineers, Borough-rd., North Shields. (Telegrams: "Northern, North Shields." Nat. Telephone No. 31.) Registered Aug. 24, 1896, with a capital of £1000 in £1 shares, all issued & fully paid. Directors: A. Frazer, Esq. (chairman); G. A. Smith, Esq. Electrical engineer, T. Harrison.

Northern Electrical Supply Stores, Ltd., 92, Northumberland-st., Newcastle-on-Tyne.

Northern Electrical & Ventilating Co., contractors & manufacturers, Granite-bldgs., Stanley-st. Works: Manisty's-lane, Liverpool.

Northern Engineering Co., Ltd., machine tool & engine makers, King's Cross, Halifax.

Northern Polytechnic Institute, Holloway-rd., London, N. (Telegrams: "Pyrenean, London." Telephone No. 154, North.) Principal, R. S. Clay, D.SC., B.A. (Cantab.).

Northern Steel & Hardware Co., Ltd., H.C. wire makers, Bloom-st., Salford, Manchester.

Northey, P. W., M.I.M.E., A.I.E.E., 162, Birkbeck Bank-chbrs., Chancery-lane. (Teleph. No. 500, Holborn.)

Northgate Ironworks Co., manufacturers of castings, Bury St. Edmunds.

Northwich Electric Supply Co., Ltd., Northwich. (Teleph. No. 88.) Registered 1896. Nominal capital: £25,000 in £5 shares & £11,000 debentures, secured by trust deed, dated Jan. 12, 1905. 3629 shares have been taken up & the full amount called, & all the debentures have been issued & are fully paid. Directors: J. A. Saner, Esq. (chairman); R. J. Browne, Esq., M.D.; J. Burgess, Esq.; W. M. Beckett, Esq.; F. W. Brock, Esq.; H. B. Brunner, Esq.; E. T. Ward, Esq. Consulting engineer, A. W. Sclater, A.M.I.C.E., M.I.E.E.; engineer & secretary, Wm. Boyd, A.M.I.E.E., A.M.I.M.E. Dividends: 1901, 4½ per cent.; 1902, 1903, 3 per cent.; 1904, 2 per cent.; 1905, 2½ per cent.

Northwood Electric Light & Power Co., Ltd., 7 & 8, Idol-lane, Eastcheap, London, E.C. (Telegs.: "Confute, London." Teleph. No. 11375, Central); & Northwood, Middlesex. Registered June 23, 1900. Nominal capital: £15,000 in £1 ordinary shares & £15,000 preference shares. Issued: 10,167 ordinary & 2210 preference shares, all fully paid. Directors: A. L. Radford, Esq. (chairman); Col. W. G. Renton; W. S. B. McLaren, Esq.; Max Byng, Esq.; H. W. Couzens, Esq., M.I.E.E. (engineer). Secretary, R. H. F. Hitchens, F.C.P.A.

Northwood, J. & J., electrical shades, globes, &c., Glass Works, Wordsley, near Stourbridge.

Norton, C. R., engineer, Corporation Pier Electric Railway, Southend-on-Sea.

Norton, G. P., Station-st.-bldgs., Huddersfield. Director British Columbia Electric Railway Co., Ltd.

Norton, R. D., 211, King's-rd., Chelsea, S.W. Director London Electric Supply Corporation, Ltd.

Norton, W. P., director British Eastern Electric Power Co., Ltd., 57½, Old Broad-st., E.C.

Norton & Gregory, Ltd., mathematical instrument makers, engineering photographers & draughtsmen, Castle-lane, Buckingham Gate, Westminster, London, S.W. (Telegs.: "Nortazo, London." Teleph. Nos.: 2029, Gerrard: & 716, Westminster.)

Norwich Corporation Electricity Works, Duke-st., Norwich. (Telephone No. 154.) F. M. Long, city electrical engineer.

Norwich Electric Tramways Co., 20, Bishopsgate-st. Within, London, E.C. (Telegs.: "Tramways, Norwich." Teleph. No. 475.) Nominal capital: £264,000 in £10 shares, all issued & fully paid, & £66,000 4 per cent. mortgage debentures. Directors: Baron E. B. d'Erlanger; Francis Fitz-Gerald, Esq.; E. A. Hopkins, Esq.; Geo. M. Chamberlin, Esq.; Hon. A. G. Brand. Secretary, J. G. Mills, F.C.I.S.; engineer & manager, Alan N. Banister. Dividends: 1901, 4½ per cent.; 1902, 2 per cent.; 1903, 2½ per cent.; 1904, 3 per cent.; 1905 & 1906, 2½ per cent.

Norwich Municipal Technical School, Norwich. *See* SCHOOLS, CLASSIFIED SECTION.

Nosworthy, F. E., A.M.I.E.E., general manager & engineer, Amazon Telegraph Co., Ltd., 42, Old Broad-st., London, E.C.

Notcutt, S. A., B.A., LL.M., B.SC., consulting electrician, Constitution Hill, Ipswich.

Nott, C. H., engineer & electrician, Exe Bridge Iron Works, Tiverton, Devon. (Telephone No. 050.)

Nott, J. E., & Co., Ltd., engineers, High-st., Brecon (P.O. Telephone No. 10); & Middleton-ter., Llandrindod Wells. (Telegs.: "Nott, Brecon;" "Nott, Llandrindod Wells." P.O. Teleph. No. 10x.)

Notting Hill Electric Lighting Co., Ltd. Registered Office, Central Station & Works: 140, High-street, Notting Hill-gate, London, W. (Telegrams: "Vulpecula, London." Telephone No. 345, Kensington.) Nominal capital: £200,000 in 16,452 ordinary, 550 founders', & 2998 ordinary cumulative 6 per cent. preference shares, all of £10 each. 10,852 ordinary & the whole of the other shares have been taken up, & the full amount has been called & paid. £64,000 of 4 per cent. 1st mortgage debentures issued. The total sum received equals £208,000. A trust deed, dated Nov. 2, 1904, issued jointly by this company & the Kensington & Knightsbridge Electric Lighting Co., Ltd. (supplemental to two trust deeds dated July 12, 1900, & Nov. 18, 1902, covering debenture stock issued jointly with Kensington & Knightsbridge Electric Lighting Co., £150,000, jointly to secure a further £50,000 debenture stock, ranking *pari passu* with the two former joint issues), has been registered. R. G. Rawkins, secretary; George Schultz, engineer & manager. Directors: Sir W. Crookes, F.R.S. (chairman); A. E. Franklin, Esq., J.P.; J. T. Jervis, Esq.; Sir J. W. Swan, F.R.S.: Sir R. B. Martin, Bart. Dividends: 1901 to 1903, 6 per cent. per annum; 1904, 7 per cent.; 1905, 7½ per cent.: 1906, *interim* at rate of 6 per cent. per annum on ordinary.

Nottingham Camera Co., cabinet work, Bridlesmith Gate, Nottingham.

Nottingham Corporation Electricity Supply & Electric Tramways. Works: Talbot-st. (Telegrams: "Current, Nottingham." Nat. Telephone No. 627.) Chairman, Sir John Turney, Kt.; electrical engineer, Herbert Talbot, M.I.E.E.

Nottingham Electrical Co., Ltd., manufacturers of & dealers in electrical apparatus, 13, Farmer's Factory, Sherwood-st., Nottingham. (Telephone No. 68 X.)

Nottingham Gas & Electric Fittings Co., Ltd., 17, Dilk's Yard, Long Row West, Nottingham.

Nottingham Guild of Mechanical & Electrical Engineers. Secretary, F. A. W. Taylor, 2, Ashforth-st., Nottingham.

Nottinghamshire & Derbyshire Tramways Development Co., Ltd., 5, Great George-st., Westminster, S.W. Registered Nov. 29, 1902. Nominal capital: £30,000. Issued: £22,620 with £10 per share called up. Directors: W. S. B. McLaren, Esq. (chairman); G. Wigley, Esq.; Duke Fox, Esq.; A. R. Holland, Esq. Engineers, Bramwell & Harris; secretary, G. D. Prince.

Nowlan, G. K., A.I.E.E., Newcastle Electric Supply Co., Ltd., Wallsend, Newcastle-on-Tyne.

Nugent, M., director Dundalk Electric Tramway Co., Ltd., 118, Grafton-st., Dublin.

Nuneaton & District Light Railway Co., Ltd., 80-89, Glover-st., Birmingham. Nominal capital: £2000 in £1 shares, 507 of which are issued. Directors: A. Wiseman, Esq. (engineer); G. Law, jun., Esq. Secretary, A. Roberts.

Nuneaton Urban District Council Electricity Works. (Telegs.: "Electricity Works, Nuneaton." Nat. Telephone No. 65.) Engineer, S. Cameron Gibson, A.M.I.E.E.

Nunn, Watts & Co., electrical engineers, 82, Mark-lane, London, E.C. (Telephone No. 6078, Avenue.)

Nunwick, T. A., representative for the northern & midland counties of Dorman & Smith, Ordsal Station Works, Salford.

Nurse, C., & Co., tool manufacturers & importers, 181 & 183, Walworth-rd., London, S.E. (Tel. No. 11521, Central); 144, Bishopsgate-st. Without, London, E.C. (Tel. No. 13198, Central); 100, Fleet-st., Ludgate Circus, London, E.C. (Tel. No. 9675, Central); 48, Finsbury Pavement, London, E.C. (Tel. No. 9185, Central); & 36, Angel-st., Sheffield. (Tel. No. 29 X. 3.)

Nursey, Perry F., consulting engineer, 17, Victoria-st., London, S.W.

Nussbaum, G. A., C.E., A.I.E.E., telephones, cables, wire, &c., contractor to the War Office, Woolwich. Nat. Telephone Co., Ltd., &c.; agent for the Société Industrielle des Téléphones, 29, Ludgate Hill, London, E.C. (Telegrams: "Etincelle, London." Telephone No. 8177, Bank.)

Nuthall, B., electrician, Ivy Side, King's-road, Kingston-on-Thames.

Nuttall, H., C.E., engineer to Kearsley Urban District Council, 20, Market-st., Bury.

Nuttall, H. A., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Nutter, T., chief assistant engineer, Electricity Works, Burnley.

Nyborg, T. G., A.M.I.E.E., Ordnance D.O., Sir W. G. Armstrong, Whitworth & Co., Elswick, Newcastle-on-Tyne.

Nye Bros. & Milledge, installation contractors, 42, Dyke-rd., Brighton. Works: Port Hall-rd., Brighton. (Corp. Teleph. No. 88.)

Oakey, J., & Sons, Ltd., emery & emery cloth & glass paper & cloth manufacturers, Wellington Mills, Westminster Bridge-rd., London, S.E. (Telegrams: "Oakey, London.")

Oakley, E. W., 118, Queen Victoria-st., London, E.C. Director Ashford & District Electric Supply Co., Ltd.; director St. Austell & District Electric Lighting & Power Co., Ltd.

Oakley, Sir H., 37, Chester-ter., Regent's Park, N.W. Chairman Central London Railway Co.

Oakley, W. H., & Co., electrical instrument & optical lantern manufacturers, 202 & 203, Grange-rd., London, S.E. (Telegrams: "Oakley, Grange, London.")

Oaks & Sons, electrical engineers & contractors, telephones, electric bells, &c. Accumulators charged, 74, Royal Arcades, Weston-super-Mare.

Oates, T., wiring contractor, Charlotte-ter., South Shields.

Oatway, Geo. H., M.I.E.E., fire & automatic signalling engineer, 94, Paul-st., E.C. (Telegs.: "Pyromancy, London." Teleph. No. 986, London Wall); & 82, Milton Park, Highgate, London, N.

Oban Town Council Electricity Works. Engineer, M. P. Plunkett.

Oborn, Thomas, electrical engineer & contractor, 42, John-st. West, Edgware-rd., London, W. (Teleph. No. 4115, Paddington.)

O'Brien, A. P., A.M.I.E.E., 34, Woodfield-rd., Ealing, W.

O'Brien, Edmond L., A.I.E.E., electrical engineer & contractor, 66, Victoria-st., Westminster, S.W.

O'Brien, Henry E., A.M.I.E.E., A.M.I.C.E., Power House, Formby, Lancs & Yorks Railway, Liverpool.

O'Brien, J. Owden, M.I.M.E., F.I.P.A. (late W. P. Thompson & Co. of Manchester), patent agent, 6, Bank-st., Manchester. (Telegs.: "Owden, Manchester." Teleph. No. 6192.)

O'Brien, R., & Co., electrical engineers & contractors, 5, Brazennose-st., Manchester. (Telephone No. 2273, Central.)

O'Bryen, A. C., M.I.E.E., "Worth," 2, Conyers-rd., Streatham, S.W.

Ochs, A. L., 34, Clement's-lane, E.C. Director Marconi International Marine Communication Co., Ltd.; director Marconi's Wireless Telegraph Co., Ltd.; director International Ethiopian Railway Trust & Construction Co., Ltd.

O'Connor, J., electrical engineer, Park-st., Ashton-under-Lyne.

O'Connor, P. J., director Dublin & Slane Co., Ltd.

Odhams, J. & G., electric light & power contractors, 206, 207, Upper Thames-st., London, E.C. (Telegs.: "Odhams, London." Teleph. No. 5853, Central.)

Odling, W., M.A., F.R.S., Waynflete professor of chemistry, University of Oxford.

O'Donnell, John P., consulting engineer, Palace-chbrs., Bridge-st., Westminster, London, S.W. (Telegrams: "Odonnell, London." Telephone No. 3118, Gerrard.)

Oetzmann & Co., electric light contractors, &c., 62–79, Hampstead-rd., London. (Telegrams: "Oetzmann, London." Telephone Nos.: 650, King's Cross; & 6951, Central.)

Offen, G. C., electrical engineer, 363, Seven Sisters-rd., South Tottenham, London, N.

Offer & Sons, electricians, Church-st., Kingston-on-Thames. (P.O. Telephone No. 38.)

Offor, George, A.I.E.E., director of Associated Cos. of The British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.; & Evelyn House, Finsbury Pavement, E.C.

Offord & Co., manufacturing electrical engineers, 97 & 98, Woodcock-st., Birmingham. (Telegrams: "Offord, Woodcock-st., Birmingham." Nat. Telephone No. 2229.)

Ogden, F. L., chief assistant electrical engineer, Corporation Electricity Works, Oldham. (Teleph. No. 269.)

Ogilvie, A. M., A.I.E.E., principal clerk in charge of the Post Office Telephone Department, London, E.C.

Ogilvie, Alexander, B.SC., electrical engineer, Leith Electric Works, Leith.

Ogilvie, R. C. F., Waveney, Ditton Hill, Surrey. Director Perth Electric Tramways, Ltd.; director Kalgoorlie Electric Tramways, Ltd.

Ogilvie, William, electrical engineer, 19, Woodbine-rd., Gosforth, Newcastle-upon-Tyne.

Ogilvy, F. M., 12, Prince Edward's Mansions, W. Director Charing Cross, Euston & Hampstead Railway Co.

Ogle, Percy John, & Co., consulting engineers, 4, Bishopsgate-st. Within, London, E.C. (Telegrams: "Oglio, London." Telephone No. 956, Avenue.)

Ogmore Valley Electric Light & Power Supply Co., Ltd., Ash-grove, Dunraven-pl., Ogmore Vale. (Telegs.: "G. Adams, Ogmore Vale." P.O. Teleph. No. 13.) Registered June 10, 1891. Nominal capital: £10,000 in £5 shares, & debentures. Issued: £3835 in fully paid ordinary shares, & £2636 with £4 per share paid, & £1700 debentures. Directors: John Williams, Esq. (chairman); R. A. Williams, Esq.; D. J. Thomas, Esq., M.R.C.S.; D. H. Evans, Esq.; W. Llewellyn, Esq.; John Adams, Esq.; G. M. Griffiths, Esq.; W. Jones, Esq.; & E. Davies, Esq. Secretary, George Adams; electrician, A. E. Marks. Dividends: 1899, 6¼ per cent.; first half of 1900, 7½ per cent.; 7½ per cent. continued to date.

O'Gorman, Mervyn J. P., M.I.E.E., A.M.I.M.E., consulting engineer, c/o O'Gorman & Cozens-Hardy, 82, Victoria-st., Westminster, S.W. (Telegs.: "Cosmogony, London." Teleph. No. 734, Westminster.)

O'Gorman & Cozens-Hardy, consulting electrical engineers, 82, Victoria-st., Westminster, S.W. (Telegrams: "Cosmogony, London." Telephone No. 734, Westminster.)

O'Hanlon, F. B., A.M.I.E.E., assistant electrical engineer, Hampstead Municipal Electric Lighting Station, London, N.W.

O'Hara, F., electrical engineer, National Electric Construction Co., Torquay.

O'Hara, Patrick G., A.M.I.E.E., electrical engineer, 103, Upper Dorset-st., Dublin.

Ohl, G. E., maker of incandescent lamps & electric light apparatus, fittings, &c., Hamburg, Germany. London office: 9 & 10, St. Mary-at-Hill, London, E.C. (Telegrams: "Clapboard, London.")

Ohlson, Harold, electrician, Hooper's Telegraph & Indiarubber Works, Ltd., 31, Lombard-st., London, E.C. (Telephone No. 1169, Avenue.)

O'Keeffe, Edward A., B.E., M.I.E.E., head science master & organizing secretary, Crawford Municipal Technical Institute, Cork. (Telegrams: "Technical, Cork." Telephone No. 575.)

Okell, E. G., M.I.E.E., borough electrical engineer, Corp. Electricity Dept., Prince Rock, Plymouth.

Okell, Geo. H., & Co., Ltd., electrical engineers, &c., 31 & 33, Blackfriars-st., Manchester. (Telegrams: "Blackfriar, Manchester." Telephone No. 3816, Manchester.)

Okonite Co., Ltd., manufacturers of & dealers in insulating materials, Finsbury Pavement House, London, E.C.

Oldaker, W., electric light fittings maker, Phœnix Art Metal Works, Trinity-st., Smethwick.

Oldbury Steel Conduits, Ltd., conduit tubes & fittings, Birchfield-lane, Oldbury. (Telegs.: "Conduits, Oldbury." Teleph. No. 91A, Oldbury.)

Oldfield, J., & Sons, Ltd., ordinary leather & link belting, 8 & 20, Dixon-st. & Fox-st., Glasgow. (Telegs.: "Oldfield, Glasgow.")

Oldham, Ashton & Hyde Electric Tramway, Ltd., Donington House, Norfolk-st., Strand, W.C. (Telegrams: "Ashton, c/o Garcke, London." Telephone Nos. 6821 & 6822, Gerrard.) Registered Dec. 18, 1897. Nominal capital: £50,000 in £10 ordinary shares, £50,000 in £10 preference shares & £47,000 4 per cent. first mortgage debentures. Issued: £50,000 ordinary, £50,000 preference shares, fully paid, & £47,000 debentures. Directors: E. Garcke, Esq. (chairman); L. A. Atherley-Jones, Esq., K.C., M.P.; T. Heginbottom, Esq.; J. V. Kitchener, Esq.; R. Whittaker, Esq. Secretary, W. S. Wreathall. Dividends: 1900, 5 per cent. on preference shares, 6 per cent. on ordinary; 1901 & 1902, 8 per cent. per annum: 1903, 7 per cent.

Oldham Corporation Electricity Works, Oldham, Lancs. (Telegrams: "Greenhill Electricity Works, Oldham." Telephone No. 269, Greenhill.) S. Wilmott Newington, engineer.

Oldham, F., & Co., engineers & electricians, 22, Archway-rd., Highgate, London, N.

Oliver, Charles, A.I.E.E., electrical engineer, Cambridge-pl., Burrage-rd., Woolwich. (Telegrams: "Oliver, c/o Light, Woolwich." Telephone No. 76.)

Oliver, Clark & Co., installation contractors, St. Mark's-rd., North Kensington, London, W.; & 48, Sydney-rd., Ealing, W. (Telephone No. 1453, Western.)

OLIVER ARC LAMP, LTD., arc lamp manufacturers, Cambridge-pl., Burrage-rd., Woolwich, S.E. (Telegs.: "Light, Woolwich." Teleph. No. 76, Woolwich.)

Ollerhead, I. T., M.R.C.S., Hillbury, Minehead. Director Minehead Electric Supply Co., Ltd.

Ollivant, Sir E. C. K., K.C.I.E., Gailsborough, Northampton. Director Bombay Electric Supply & Tramways Co., Ltd.

Olrick, L., & Co., boiler makers & mechanical engineers, Palmerston House, Bishopsgate-st., London, E.C. (Telegrams: "Olrick, London.")

Olsson, M. C., A.M.I.E.E., Seamore, Pollard-rd., Mitcham.

Olver, Percy, A.M.I.E.E., electrical engineer, Harrow Electric Light & Power Co., Ltd., West-st., Harrow.

O'Meara, Major W. A. J., C.M.G., late R.E., M.I.E.E., assistant engineer-in-chief, General Post Office, London.

Omnium Wholesale Supply Co., motor cars, electric & engineering company, Pinner, Middlesex. Managing director, H. Inglis, A.M.I.M.E. (Telegs.: "Inglis, Eastcote.")

Oppenheim, William, maker of china electroliers, brackets, &c., Dresden China Depôt, 43, Farringdon-st., London, E.C. (Telephone No. 4130, Central.)

Oppenheimer, H., A.I.E.E., electrical engineer, manager of the International Electric Co. (sole depôt of Mix & Genest, Ltd., Berlin), 55, Red Cross-st., Barbican, London, E.C. (Telegs.: "Genest, London." Teleph. Nos.: 129, Bank; & 11818, Central.)

Oppermann, Carl, maker of the Oppermann "Excelsior" Dynamos, 5, Underhill-st., Arlington-rd., Camden Town, N.W. (Telegrams: "Oppidulum, London." Telephone No.: Works, 2019, North.) *See advt. under* MOTOR MANUFACTURERS—ELECTRIC.

Oram, George, & Son, scientific instrument makers, 19, Wilmington-square, London, W.C.

Orchard & Co., electrical engineers & contractors, Market House, Mary-st., Weymouth.

Ord, Godfrey C., electrical engineer, The Esplanade, Sunderland.

Ordnance College, Woolwich. *See* SCHOOLS.

Organ, R., installation contractor, Winchcombe-st., Cheltenham. (Telephone No. 6 X. 2.)

Orient Electric Power Syndicate, Ltd., Parliament-chbrs., Great Smith-st., Westminster, London, S.W. Debentures issued: £2500.

Oriental Telephone & Electric Co., Ltd. Offices: Alderman's House, Alderman's Walk, Bishopsgate, London, E.C. (Telegrams: "Oakenpin, London." Telephone No. 2188, London Wall.) Registered March 12, 1894. Nominal capital: £300,000 in 200,000 ordinary shares & 100,000 6 per cent. cumulative preference shares. Issued: 179,313 ordinary & 50,000 preference shares, fully paid, & £100,000 4 per cent. debenture stock secured by a trust deed, dated June 28, 1905. Alex. B. Chalmers, secretary. Directors: Sir Auckland Colvin, K.C.S.I.; B. St. John Ackers, Esq.; H. Grëwing, Esq.; T. Lloyd, Esq.; H. J. Grewing, Esq. The above is a reconstructed company with same name as original company. Dividends: 1904, 6 per cent. on preference shares, 6½ per cent. on ordinary shares; 1905, 6 per cent. on preference & 7 per cent. on ordinary shares.

Oriental Tube Co., Ltd., steel conduit tube manufacturers, West Bromwich, Staffs. (Telegrams: "Tubes, West Bromwich." Telephone No. 45.)

Orling, A., director General International Wireless Telegraph & Telephone Co., Ltd., 110, Cannon-st., E.C.

Orme, Evans & Co., Ltd., enamellers, Elgin Works, Wolverhampton. (Telegrams: "Orme, Wolverhampton." Telephone No. 228.)

Ormerod, J., & Sons, Ltd., leather driving band makers, Castleton, nr. Manchester. (Telegrams: "Ormerods, Castleton, Manchester." Telephone No. 95, Rochdale.)

ORMISTON, P., & SONS, wire manufacturers, drawers & coverers, 79, Clerkenwell-rd., London, E.C. (Telegs.: "Ormiston, London." P.O. Teleph. No. 13259, Central.) *See* FUSE WIRE MANUFACTURERS.

Ormrod, A. L., 10, Half Moon-st., Manchester. Chairman Trafford Power & Light Supply (1902), Ltd.

Ormrod, Wilson, electrical engineer, Corlett Electrical Engineering Co., Ltd., Union-bldgs., St. John-st., Newcastle-on-Tyne.

Orr Ewing, The Right Hon. Lady Augusta, director Portpatrick Electric Supply Co., Ltd., Portpatrick, Wigtonshire.

Orr, R. A. N., electrician, Corporation Electricity Works, Faversham, Kent.

Orsettich, Robert, A.I.E.E., chief engineer, General Electric Co., Ltd., Witton Works, Birmingham.

Orton, K. J. P., M.A., PH.D., F.I.C., professor of chemistry, University College of North Wales, Bangor, North Wales.

Orton, Wilfrid J. P., A.I.E.E., 3, Cecil-ave., Harboro-rd., Ashton-on-Mersey, Manchester.

Orton, John, & Co., electric bell fitters, 43, Butter Market, Ipswich.

Osborn, S., & Co., Ltd., steel castings for all purposes, Clyde Steel Works, Sheffield. (Telegs.: "Osborn, Sheffield." Teleph. Nos. 409 & 2039.)

Osborne, Capt. C. A., director Durham Collieries Electric Power Co., Ltd.; director Houghton-le-Spring & District Electric Lighting Co., Ltd.

Osborne, Hugh, electrical engineer, 108A, West Regent-st., Glasgow.

Osborne, Marshall, A.M.I.E.E., Handley & Shanks, 40, Great Charles-st., Birmingham.

Osborne & Hunter, elec. contractors & engineers, 108A, West Regent-st., Glasgow. (Telephone No. 779, Douglas.)

Oschwald, A., B.A., lecturer in electrical engineering, South Western Polytechnic, Manresa-rd., Chelsea, S.W.

OSLER, F. & C., LTD., makers of electric light fittings, 230, Broad-st., Birmingham; & 100, Oxford-st., London, W. (Telegs.: "Osler, Birmingham;" "Osler, London." Birmingham Teleph. No. 3753; London Teleph. No. 3826, Gerrard.)

Osmers, Dettmer, manufacturers' agent, 23 & 25, Billiter-st., London, E.C. (Telegrams: "Habilidad, London." Telephone No. 4063, Avenue.)

Ostermann, F. W., insulators, electrical accessories & ebonite (speciality: perforated sheets & boxes), 57 & 58, Leadenhall-st., London, E.C. (Telegrams: "Gaysome, London." Telephone No. 2492, Central.)

O'Sullivan, M., LL.D., A.I.E.E., 1, Crown Office Row, Temple, London, E.C.

O'Sullivan, P. F., M.I.C.E.I., engineer, Dublin United Tramway Co., 9, Upper Sackville-st., Dublin. (Telegs.: "Tramways, Dublin." Teleph. No. 58B, Dublin.)

Oswald, Jno., Duninkier, Kirkcaldy. Director Wemyss & District Tramways Co., Ltd.

Oswestry Electric Lighting & Power Co., Ltd., 6, Salop-rd., Oswestry, Salop. Directors: A. Wynne Corrie, Esq. (chairman); E. Bremner Smith, Esq. (managing & electrical engineer); G. Perks, Esq.; J. Minshall, Esq.; R. Taylor, Esq. Secretary, W. W. Coulson, F.C.A. Nominal capital: £10,000 in £1 shares. 8026 shares have been taken up & are fully paid. Dividends: 1902, 1903, 3 per cent.; 1904 & 1905, 4½ per cent.

Oulton Broad Electricity Co., Ltd., Oulton, Lowestoft, Suffolk (Teleph. No. 013, Oulton.) Registered April 30, 1904. Nominal capital: £5000 in £1 shares. Directors: R. S. Stranack, Esq.; H. S. Johnson, Esq.; B. Barber, Esq. (engineer). Secretary, S. Whitaker.

Outram, F. D., consulting engineer, 28, Victoria-st., London, S.W. (Telegrams: "Eyebolts, London." Telephone No. 128, Westminster.)

Overend, Joseph, & Sons, Ltd., dynamo & motor makers, Trafalgar-st., Bradford.

Owen, D., B.A., A.I.E.E., lecturer in experimental physics, Birkbeck College, Breams-bldgs., Chancery-lane, London, E.C.

Owen, E. J., 52, Shaftesbury-ave., S.W. Director City of Ely Electric Light & Power Co., Ltd.

Owen, Halsall, engineer, Monks, Hall & Co., Ltd., Iron Works, Warrington & Wigan.

Owen, J. L., 24, Kenilworth-rd., Ealing, W. Director Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd.

Owen, J., & Sons, Ltd., manufacturers of accumulator boxes, Stanley Mills, Liverpool. (Telegrams: "Owen, Liverpool.")

Owens, Felix J. A., A.M.I.E.E., electrical engineer, 68 & 70, Wood-st., Liverpool.

Owens, Sir C. J., general manager Waterloo & City Railway, Waterloo Station, London, S.E.

Owensmith, Walter, electrical engineer, 15, Davies-st., London, W. (Telephone No. 4739, Gerrard.)

Oxford Electric Co., Ltd., 45, Broad-st., Oxford. (Telegrams: "Energy, Oxford." Local Telephone No. 39.) Works: Cannon Wharf, Oxford. Registered Aug. 24, 1891. Nominal capital: £100,000 in £5 ordinary shares, £50,000 in 5 per cent. cumulative preference shares of £5 each, & £50,000 in 4 per cent. debenture stock. Issued: £100,000 ordinary shares, fully paid, £15,000 in preference shares fully paid, & £50,000 debenture stock secured by trust deed. H. Eeles, F.C.I.S., secretary; F. H. Francis, A.M.I.E.E., chief engineer. Directors: Sir Henry C. Mance, C.I.E., M.I.E.E. (chairman); J. Irving Courtenay, Esq.; Alderman Robert Buckell; J. W. Barclay, Esq. Dividends: 1902, 5½ per cent.; 1903, 6½ per cent.; 1904 & 1905, 7 per cent. free of income tax; first half of 1906, at rate of 5 per cent. per annum.

Oxychlorides, Ltd., electro-chemists, &c., Winchester House, Old Broad-st., London, S.E. (Telegs.: "Oxychlorid, London." Teleph. No. 68, London Wall.)

Ozonair, Ltd., patentees & manufacturers of apparatus for the commercial production of ozone, for ventilating, medical & manufacturing purposes, 27, Chancery-lane, London, W.C. (Teleph. No. 9507, Central.)

Ozonic Ventilating Co., Ltd., ventilating, hydraulic, electrical & mechanical engineers, Central-chbrs., 40, Brazennose-st., Manchester. Registered Dec. 18, 1900. Nominal capital: £3000 in £1 shares.

P. & H. Syndicate, Ltd., College Hill-chbrs., London, S.E.

P. & O. Batti-Wallahs' Society, 20, Bucklersbury, London, E.C. (Telegs.: "Audiphone, London." Teleph. No. 6052, Bank.) Hon. secretary, J. F. Avila.

P. Q. Cable Co., 24, Royal Exchange, London, E.C. (Telegs.: "Telepany, London." Tel. No. 2237, Avenue); 2, Mincing-lane, E.C. (Tel. No. 2208, Avenue); 5, New Bridge-st., E.C. (Tel. No. 5952, Central); The Baltic & Shipping Exchange, E.C. (Teleph. No. 7335, Central); & 24, Hop Exchange, S.E. (Teleph. No. 12007, Central.)

Pacific Cable Board, Queen Anne's-chbrs., London, S.W. (Telegrams: "Pacifieth, London." Telephone No. 363, Westminster.)

Pacific & European Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Amulet, London.") Registered June 24, 1892. The share capital is £100,000 in £10 shares, fully subscribed for, & £4 per share called up. There are also 4 per cent. guaranteed debentures £100,000. Directors: Sir Albert J. Leppoc Cappel, K.C.I.E. (chairman); the Hon. A. G. Brodrick; Sir J. Denison-Pender, K.C.M.G.; D. H. Goodsall, Esq.; F. Walters, Esq. Secretary, F. L. Robinson.

Packer, John Lewis, A.M.I.E.E., Mayfield, Huyton, Lancs.

Packham & Son, electric light & bell fitters, 144, Western-rd., Brighton. (Teleph. Nos.: 539, Corp.; & 238, Nat.)

Padgett, G. H., Ingleton, Yorks. Chairman Ingleton Electric Lighting & Power Co., Ltd.

Page, Archibald, station superintendent, Corporation Electricity Department, 75, Waterloo-st., Glasgow. (Telephone Nos.: 834 & 835, P.O.; & 936 & 1304, Argyle, Nat.)

Page, A. Flood, A.I.E.E., 35, St. George's-sq., S.W.

Page, Davidge, F.C.S., F.G.S., M.I.M.E., A.I.E.E., 17, Surrey-st., Strand, London, W.C. (Telegs.: "Sinewy, London." Nat. Teleph. No. 3349, Gerrard.)

Page, F. W., A.M.I.C.E., A.I.E.E., electrical engineer, Clarendon-chbrs., St. Ann's-sq., Manchester. (Telegrams: "Synchronous, Manchester." Telephone No. 08782.)

Page, H., electrical engineer (Messrs. Smeeton & Page), 63, Queen Victoria-st., London, E.C. (Telegrams: "Iolanthe, London." Telephone No. 5848, Bank); & Glenholme, Marlborough-rd., Gunnersbury, W. (Telephone No. 123, Chiswick.)

Page, Major S. Flood, M.I.E.E., 35, St. George's-sq., London, S.W. Director Marconi's Wireless Telegraph Co., Ltd.; director Marconi International Marine Communication Co., Ltd.

Page, Wm., Park-ave., Watford, Herts. Director Chelsea Electricity Supply Co., Ltd.; director Brompton & Kensington Electricity Supply Co., Ltd.; director Urban Electric Supply Co., Ltd.; director Camborne Electricity Supply Co., Ltd.

Page & Miles, Ltd., electrical engineers & contractors, 60, Western-rd., Brighton; 79, Western-rd., Hove; & 42, South-st., Worthing. (Telegs.: "Electric, Brighton." A.B.C. Code, 5th edit. Teleph. Nos.: 288, Brighton; 2629, Hove; & 14, Worthing.)

Page & Rowlingson, patent agents, 28, New Bridge-st., London, E.C. (Telegs.: "Pagensis, London." Teleph. No. 332, Central); & Manchester.

Paye's Weekly (weekly, 6*d.*), Clun House, Surrey-st., W.C. (Telegrams: "Sinewy, London." Telephone No. 3349, Gerrard.)

Paget, C. G., A.M.I.E.E., electrical engineer, 47, Chatsworth-rd., Croydon.

Paget, H. P., electrician, Lister Electric Manufacturing Co., Dursley, Glos.

Paget, Percy W., A.I.E.E., 201, Richmond-rd., Hackney.

Pailthorpe, H. Noel, patent-drawings draughtsman, 46, Southampton-bldgs., Chancery-lane, London, W.C.

Pain, R., & Son, electricians, Woking. (Telegrams: "Pain, Woking." Telephone No. 46, Woking.)

Paine, Ernest, electrical engineer, 15, St. George's-rd., Westcombe Park, Blackheath.

Paisley Corporation Electricity Works & Tramways, Paisley. C. F. Parkinson, M.I.E.E., A.M.I.M.E., consulting & resident electrical engineer.

Paisley District Tramways Co., 83, Cannon-st., London, E.C.; & Paisley, N.B. (Telephone No. 218.) Fred Coutts, general manager & engineer.

Paisley Technical College, Paisley. *See* SCHOOLS, CLASSIFIED SECTION.

Pakenham, W. L., electrical engineer, Brush Electrical Engineering Co., Ltd., 112, Belvedere-rd, S.E.

Pal, Michael, & Co., engineers, Parliament Mansions, Victoria-st., London, S.W. (Telegs.: "Palinda, London." Teleph. No. 919, Victoria.)

Palairet, C. R., A.M.I.E.E., electrical & mechanical engineer, Siemens Bros., York Mansions, York-st., London, S.W.

Palatine Engineering Co., Ltd., overhead equipment for electric tramways, 10, Blackstock-st., Liverpool. (Telegrams: "Waste, Liverpool." Telephone No. 5936, Central.)

Palgrave, Austin G., A.I.E.E., 27, Swinbourne Grove, Withington, Manchester.

Palmer, C., electrical engineer, Cheam-rd., Sutton, Surrey.

Palmer, H., chief inspector, Corporation Tramways, Bournemouth.

Palmer, T., electrical instrument case maker, 15, Acanthus-rd., London, S.W.

Palmer, W., electrical engineer, 138, Burdett-rd., Bow, London, E.

Palmer, Wm. D., A.M.I.E.E., electrical engineer, 50, Wellington-st., Glasgow.

Palmer, W. H., director Railway Construction & General Development Co. (Tasmania), Ltd., 231-3, Dashwood House, E.C.

Palmer & Co., electrical engineers & contractors, 7, Great Castle-st., Oxford Circus, London, W. (Teleph. No. 2342, Gerrard.)

Palmer & Co., electrical engineers, 18, Castle-st., Bristol.

Palmer & Co., electrical engineers, 25, Motcomb-st., London, S.W.

Palmer, Howe, & Co., telegraph code experts, publishers, &c., Princess-st., Manchester. (Telephone No. 1222.)

Palmer & Taylor, electrical & mechanical engineers, 50, Wellington-st., Glasgow.

Palmers Shipbuilding & Iron Co., Ltd., mechanical engineers, steel makers & blast furnace owners, 7, Fenchurch-ave., London, E.C.; & Jarrow. (Telegrams: "Palmers, Jarrow.")

Pank, A., wiring contractor, Howard-st., Yarmouth.

Pank, A., & Son, engineers, Bedford-st., Norwich. (Telephone No. 100.)

Panton, Joseph A., A.M.I.E.E., Liverpool Overhead Railway, 31, James-st., Liverpool.

Panzetta & Co., dealers in electrical appliances, 72, Charing Cross-rd., London, W.C.

Paper Cutting & Toilet Requisite Co., Ltd., telegraph paper makers, 26, Grove Park, Camberwell, London, S.E. (Telegrams: "Toilet, London." Telephone No. 206, Brixton.)

Papworth, John W., A.M.I.E.E., A.M.I.MECH.E., chief assistant engineer, Corporation, Kilmarnock.

Para Electric Railways & Lighting Co., Ltd., 20, Birchin-lane, London, E.C. Registered July 25, 1905. Nominal capital: £700,000 in 70,000 ordinary & 70,000 6 per cent. cumulative preference shares of £5 each, & £700,000 debentures secured by trust deed, dated April 11, 1906. Issued: 70,000 ordinary shares, fully paid, & 45,000 preference shares. Directors: Major Sir Wm. Evans Gordon, M.P. (chairman); E. C. Cheston, Esq.; H. Ansell, Esq.; W. K. Whigham, Esq.; E. S. Baring-Gould, Esq.; Dr. José Paes de Carvalho. Secretary, G. H. H. Chambers.

Paragon Motor Works, Ltd., motor car engineers & manufacturers, London-rd., King's Lynn. (Telegs.: "Lymotor, King's Lynn." Nat. Teleph. No. 74.)

Parfitt, G. J. T., A.M.I.E.E., M.S.A., electrical engineer, Keynsham, Bristol. (Telegrams: "Parfitt, Keynsham.")

Parfitt, Webber & Co., electrical engineers & manufacturers & installation contractors, Keynsham, R.S.O., Bristol; & Denmark-st., Bristol. (Telegrams: "Parfitt, Keynsham." Telephone No. 1284.)

Pargeter, B. J., A.I.E.E., electrical engineer, Grove Lodge, Crescent-grove, Clapham Common, London, S.W.

Paris, E. A., A.M.I.E.E., Crow Trees, Gomersal, nr. Leeds. Director of Associated Cos. of The British Electric Traction Co., Ltd.

Parish, C. W., 58, Ennismore-gdns., S.W. Chairman Cuba Submarine Telegraph Co., Ltd.; director Amazon Telegraph Co., Ltd.

Parish, H. J., electric lighting contractor, 119, Dereham-rd., Norwich.

Park, F. W., wiring contractor, Hayes, Uxbridge.

Park, Miss J., Wellpark, Galway. Director Galway Electric Co., Ltd.

Park Bros., electrical engineers, 2, Spring Bridge-rd., Broadway, Ealing, W.

Parker, A. C., electrical engineer, Hobart Electric Tramway Co., Ltd., 358, Mansion House-chbrs., 11, Queen Victoria-st., London, E.C.

Parker, A. J., 9, Stone-bldgs, Lincoln's Inn, W.C. Chairman Typewriting Telegraph Corporation, Ltd.

Parker, Dr. Jas., Clovelly, Kilmacolm. Director Kilmalcolm Electric Lighting Co., Ltd.

Parker, Edwin, A.M.I.E.E., 178, Shrewsbury-st., Brook's Bar, Manchester.

Parker, Edwin T., A.M.I.E.E., A.M.I.M.E., 1B, Chapel-st., Edgware-rd., London, W.

Parker, F. A., A.M.I.E.E., 36, Park-rd., Rugby.

Parker, F. H., A.I.E.E., 72, Greenvale-rd., Well Hall, Eltham, Kent.

Parker, Hon. Reg., director Sunderland District Electric Tramways, Ltd., 13, St. Helen's-pl., E.C.

Parker, J., manufacturer of casings, cleats, &c., Steam Joinery Works, 109, Conybere-street, Birmingham. (Telegrams: "Joinery, Birmingham.")

Parker, John, consulting electrical engineer, Nelson-st., Hereford.

Parker, J., 5, Whittington-ave., E.C. Director Buenos Ayres Grand National Tramways Co., Ltd.

Parker, John Hampden, A.M.I.E.E., Oakfield West, Ratho-st., Greenock.

Parker, Percy C., A.I.E.E., B.SC., electrician, County of Durham Electrical Distribution Co., Gateshead Power Station, Gateshead.

Parker, Thomas, J.P., F.R.S.E., M.I.C.E., M.I.E.E., M.I.M.E., consulting electrical & general engineer & electro-chemist, 1B, Chapel-st., Edgware-rd., W. (Telegrams: "Speediest, London." Telephone No. 321, Mayfair); & Croft House, Rosecroft-ave., Hampstead, N.W. (P.O. Telephone No. 837, Hampstead.) Director Midland Electric Corporation (1900), Ltd.; director Midland Electric Corporation for Power Distribution, Ltd.

Parker, W. E., assistant engineer, Chatham & District Light Railway, Power House, Luton-rd., Chatham.

Parker Brothers, electric bell fitters, Newton Abbot.

PARKER, THOMAS, LTD., electrical engineers & contractors, Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34. A.B.C. Code used.) Registered April 19, 1894. Directors: C. T. Mander, Esq. (chairman); R. Armistead, Esq.; J. E. Underhill, Esq.; E. S. G. Rees, Esq. Managers, C. H. Iles & W. Armistead; secretary, F. Walton. Nominal capital: £75,000 in ordinary shares of £10 each & £75,000 debentures. 1750 ordinary are issued as paid; £10 per share has been called & paid on the remaining 5750 shares. Debentures issued: £65,000. Dividends: 1899–1900, 1900–01, 1901–02, 10 per cent.; 1902–03, 6 per cent.

Parkes, Robert J., medical electrician (electropathist), 2, Church-st., Southport.

Parkes, P., & Co., electrical engineers, 50, Bow-lane, London, E.C.

Parkin, C., manufacturing electrical engineer, Huddersfield-rd., Liversedge S.O., Yorks.

Parkinson, C. F., A.M.I.M.E., M.I.E.E., consulting & resident electrical engineer, Corporation, Paisley, N.B.

Parkinson, Frank Westlake, A.M.I.E.E., Auburn-pl., Holywood, Co. Down.

Parkinson, G. R. J., A.M.I.E.E., resident engineer, Midland Electric Corporation Power Station, Ocker Hill, Tipton.

Parkinson, John B., A.I.E.E., electrical engineer, York-st., Manchester.

Parkinson, Joseph, electrician, Meadowside, Lancaster.

Parkinson, T., lightning conductor manufacturer, Canterbury-st., Blackburn. (Telephone No. 15.)

Parkinson, W. W., works manager, Corporation Electric Works, Blackpool.

Parkinson & Frodsham, manufacturers of non-magnetizable watches, 5, Budge-row, Cannon-st., London, E.C.

Parkinson, J., & Son, engineers & tool makers, Canal-rd., Shipley. (Telegs.: "Temple, Shipley." Teleph. No. 80.)

Parkinson & Son, electrical engineers & contractors, Fisher-st., Southampton-row, W.C.; & 11, Gloucester-rd., W., London. (Teleph. Nos.: 1881, Holborn; & 737, Kensington.)

Parks, F., artistic silk shade manufacturer, 26, Nassau-st., Mortimer-st., London, W. (Teleph. No. 4938.)

Parks, R. W., electrical instrument maker, 4, Central-bldgs., Seaside-rd., Eastbourne.

Parkyn & Peters, manganese merchants, 32, Queen Victoria-st., London, E.C. (Telegrams; "Parkyn London.")

Parlett, G. B., A.M.I.C.E., M.I.E.E., electrical engineer, 17, Burlington-chbrs., New-st., Birmingham.

Parmiter, Hope & Sugden, manufacturing electrical engineers, Hulme Electrical Works, Manchester. (Telegrams: "Terminal, Manchester." Nat. Telephone No. 1902.)

Parmley Bros., wiring contractors, Keppell-st., South Shields.

Parnell, I., J.P., C.E., The Grange, Waltham Abbey. Director United Kingdom Tramway, Light Railway & Electrical Syndicate, Ltd.

Parr, G. D. Aspinall, M.SC., M.I.E.E., A.M.I.MECH.E., Head of Electrical Engineering Department, The University, Leeds.

Parr, S. C., electrical engineer, County of London Electric Lighting Co., Ltd., Vine-yard, Marshalsea-rd., London, S.E.

Parr, E. B., & Co., general pattern & model makers, 224, Bermondsey-st., London, S.E.

Parrack, W. T., M.I.MECH.E., shafting & pulley agent, 138, Leadenhall-st., London, E.C. (Telegrams: "Parracks, London." A.B.C. Code. Telephone No. 1345, Central.)

Parry, E. M., director Llangollen & District Electric Light & Power Co., Ltd., Bridge-st., Llangollen.

Parry, Evan, A.I.E.E., 801, Salisbury House, London Wall, London, E.C.; & "Sunningdale," 10, Fitzgerald-ave., Barnes.

Parry, S. Taylor, mechanical & electrical engineer, Princess-st., Chester. (Telegrams: "Parry, Engineer, Chester." Telephone No. 6 Y. 3.)

Parshall, Horace F., M.I.C.E., M.I.E.E., 801, Salisbury House, London Wall, London, E.C. (Telegrams: "Parshalite, London." Telephone No. 301, London Wall.)

Parsonage, W. R., A.M.I.M.E., lecturer & demonstrator in engineering, Municipal Technical School, Birmingham.

PARSONS, E. M., electrician & telephone engineer, 67, King Edward-st., Hull.

Parsons, Hy. C., electrical engineer, Hercules Works, Church-lane, Battersea, S.W.

Parsons, I. Hardy, electrical engineer (of Gent & Co., Ltd.), Faraday Works, Leicester. (Telegrams: "Lodestone, Leicester." Telephone No. 151.)

Parsons, Richard A., A.I.E.E., electrical engineer, Eastgate-st. & 4, Queen-st., Gloucester.

Parsons, The Hon. C. A., C.B., F.R.S., M.A., D.C.L., M.I.E.E., M.I.C.E., Heaton Works, Newcastle-upon-Tyne. Director Cambridge Electric Supply Co., Ltd.; director Scarborough Electric Supply Co., Ltd.; director Newcastle & District Electric Lighting Co., Ltd.

Parsons, The Hon. G. L., A.M.I.E.E., Heaton Works, Newcastle-on-Tyne.

Parsons, The Hon. Richard Clere, M.A., M.I.C.E., A.I.E.E., 39, Victoria-st., London, S.W. (Telegrams: "Outfall, London." Nat. Telephone No. 5079, Westminster.)

Parsons, T. C., A.M.I.E.E., borough electrical engineer, Govan, N.B. (Corp. Teleph. No. X. 536.)

Parsons, W., installation contractor, 66, Regent-st., Leamington.

Parsons, W. S., A.M.I.E.E., Stanton, Camberley, Surrey.

Parsons Bros., ironmongers & electrical engineers, 16, Eastgate, & 2 & 4, Queen-st., Gloucester. (Telegrams: "Parsons Bros., Gloucester." Telephone No. 3 Y., Nat.)

Parsons, C. A., & Co., manufacturing electricians, Heaton Works, Newcastle-on-Tyne (Telegrams: "Turbo, Newcastle-on-Tyne." Telephone No. 1618); 99, Great Clyde-st., Glasgow; & 66, Victoria-st., London, S.W. (Telegrams: "Silently, London." Telephone No. 586, Westminster.)

Parsons, Fletcher & Co., Ltd., oil manufacturers & merchants, Gravel-lane, Southwark, S.E. (Telegrams: "Fletcher, London." Telephone No. 819, Hop.)

Parsons, F., & Son, electric light contractors, Albion-rd., Stoke Newington, London, N.

Parsons, J., & Son, electricians, 48, Bedwin-st., Salisbury.

Parsons, Sherwin & Co., Ltd., installation contractors, Nuneaton.

Parsons, W., & Co., installation contractors, 66, Regent-st., Leamington.

Partick Town Council Electricity Works, Partick, N.B. (Telephone Nos.: 560, Works; 1264, Office.) H. B. Maxwell, M.I.E.E., engineer.

Partington Advertising Co., agents for the Electrical Advertising Syndicate, Ltd., Victoria Embankment, London, W.C. (Telegrams: "Partanus, London." Telephone No. 3185, Gerrard.)

Partington, W. E., & Co., electrical engineers, Farmside-pl., Levenshulme, Manchester. (Telegrams: "Partington, Levenshulme." Telephone No. 0112, H.M.)

Partington, W. K., & Co., electric light & power engineers, 28, Minories, London, E.C. (Telegrams: "Micarelle, London." Telephone No. 6071, Avenue.)

Parton, H. S. R., secretary, Corporation Electric Supply Department, Commercial-st., Sheffield. (Telegrams: "Electricity, Sheffield." Nat. Telephone No. 9.)

Partridge, Edward Henry, A.I.E.E., 161, Shooter's Hill-rd., Blackheath, S.E.

Partridge, Gerald W., M.I.C.E., M.I.E.E., chief engineer, London Electric Supply Corporation, 25A, Cockspur-st., London, W.C. (Telephone No. 3800, Gerrard.)

Partridge, H. Ralph C., A.I.E.E., Hockham, Thetford, Norfolk.

Partridge, W., engineer, Central Electric Supply Co., Ltd., 3, Lodge-pl., St. John's Wood, London, N.W.

Partridge, C. B., & Sons, electro & nickel platers, oxydizers; makers of screws, B.A. threads, also terminals, &c., Northwood-st., Birmingham. (Teleph. Nos. 2272 & 1639.)

Pasley, Hy., manufacturer of engineers' tools, Brocco Works, Edward-st., Sheffield. (Telegrams: "Brocco, Sheffield." Telephone No. 1121.)

Pass, C., & Son, Ltd., metal smelters, sellers of antimonial lead of all grades. Buyers of lead ashes, old accumulators & dross from same. Bedminster Smelting Works, Bristol. (Telegrams: "Pass, Bristol." Telephone No. 475.)

Patchell, W. H., M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer, Caxton House, Westminster, London, S.W. (Telegs.: "Patchell, London." Teleph. No. 898, Westminster.)

Patchett, James, A.I.E.E., Wellington, Salop.

Patchett, G., & Sons, wire manufacturers, Sedburgh Mill, Halifax. (Telegs.: "Patchett, Halifax." Teleph. No. 127.)

Patent Conveyor Co., Ltd., electrical & mechanical engineers, Phœnix Works, Dramond-st., Bradford, Yorks.

Patent Electranode Co., 2, Dock-chbrs., Bute-st., Cardiff. (Telegrams: "Martial, Cardiff." Nat. Telephone No. 106.) A. J. Marquand, manager.

Patent Electric Shot-Firing Co., electric bell fitters & contractors, Sheffield-rd., Chesterfield.

Patent Exploitation, Ltd., patent brokers, 10, Lord-st., Liverpool.

Patent Nonpolarizing Voltaic Battery Co., 143, Cannon-st., London, E.C.

Patent Office:—Comptroller General, C. N. Dalton, C.B., 25, Southampton-bldgs., London, W.C. Sale Branch (hours 10 a.m. to 4.30 p.m.): Quality-ct., Chancery-lane, W.C. (Telegrams: "Patent Office, London.")

Patent Plug Co., Ltd., makers of patent wood wall plugs, 11, Carteret-st., London, S.W. (Telegrams: "Jumpeth, London.")

PATENT PROCESS WIRE WEAVING CO., manufacturers of all classes of wire gauze & dynamo brushes, Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Nat. Telephone No. 2527.) *See advt. under* DYNAMO BRUSHES.

Patent Rivet Co., Ltd., makers of bolts, nuts, rivets, screws, &c., Smethwick, near Birmingham. (Telegrams: "Privet, Birmingham." Telephone No. 2016.)

Patents & Industries, Ltd., consulting electrical engineers, 10, Sergeant's Inn, Fleet-st., London, E.C.

Paterson, Clifford C., A.M.I.C.E., A.M.I.E.E., National Physical Laboratory, Teddington.

Paterson, J. S., chief electrician, Corporation Telephone Department, Glasgow. (Telephone No. 111)

Paterson, R. H., station superintendent, Electricity Works, Hammersmith, London, W.

Paterson, Sydney, M.I.E.E., A.M.I.M.E., managing director Johnson & Phillips, Ltd., Charlton, S.O. (Telegs.: "Paterson, Juno, Charlton, Kent." Teleph. No. 75, Central.)

Paterson, Bell & Co., Ltd., consulting & electrical engineers, 47, Waterloo-st., Glasgow. (Telegrams: "Tension, Glasgow." Telephone Nos.: Corp., 3765; Nat., 43 Y 1.)

Paterson Engineering Co., Ltd., makers of boiler feed water softeners, filters, &c., Amberley House, Norfolk-st., Strand, London, W.C. (Telegrams: "Cumulative, London." Telephone No. 6560, Gerrard.)

Paterson, W., & Son, electric bell contractors, 65, Pitt-st., Glasgow. (Telegrams: "Locksmith, Glasgow." Nat. Telephone Nos.: 980, Argyle; & 5980, Corp.)

Patey, A. P., A.M.I.E.E., A.M.I.MECH.E., Houses of Parliament, Westminster, London, S.W.

Paton, Frederick, electrical engineer & contractor, 51, Victoria-st., London, S.W. (Telegrams: "Electrinus, London.")

Patrick, J. & T., electric light & incandescent lamp importers & telephone fitters, 46, Union-rd., Rotherhithe, London, S.E. (Teleph. No. 3153, Hop.)

Patrick & Son, mechanical & electrical engineers, 155, Fulham-rd., London, S.W.

Patten, H. C. M., A.M.I.E.E., assistant engineer, Corporation Electric Lighting & Tramways Department, Nelson-st., East Ham, London, E.

Patterson, Alfred Edwin, electrical engineer, 65, Galleywall-rd., Rotherhithe, London, S.E.

Patterson, Percy, electrical accessory manufacturer, 77, Fore-st., London, E.C.

Patterson, Walter, telegraph wire manufacturer, 218, Goswell-rd., London, E.C.

PATTERSON, WILLIAM, manufacturer of dynamo & motor brushes, "Matchless" self-lubricating copper & brass gauze, also straight wire brushes for turbo machines, Walker Gate, Newcastle-on-Tyne. (Telegs.: "Wirework, Newcastle-on-Tyne." Nat. Teleph. No. 510, Central.) *See advt.*, DYNAMO BRUSHES.

Patterson, Richard, & Co., electrical engineers, 57 & 59, High-st., Belfast.

Patterson & Sutton, installation contractors, 13, Drummond-st., Euston-rd., London, N.W.

Pattison, W., & Son, manufacturing electricians, 88, Claypath, Durham. (Telegrams: "Pattison, Claypath, Durham.")

Patton, Geo., electric lighting contractor, Bath-lane, Newcastle-on-Tyne. (Teleph. No. 04820.)

PAUL, ROBT. W., M.I.E.E., manufacturer of electrical instruments & scientific apparatus, Newton-ave. Works, New Southgate, London, N. (Telegrams: "Unipivot, London.") Show-rooms: 68, High Holborn, London, W.C. (Telephone No. 4614, Holborn.) *See* INSTRUMENT MAKERS—ELECTRICAL.

Paul, M., & Co., engines, Dumbarton.

Pauls, S., A.M.I.E.E., Corporation Electricity Works, Townley-st., Middleton, Lancs.

Paus, Rudolph H., A.M.I.E.E., c/o British Thomson-Houston Co., Ltd., 30, Cross-st., Manchester.
Paxman, James, C.E., J.P. (chairman Messrs. Davey, Paxman & Co., Ltd., engineers), Colchester.
Paxman, W. (director Messrs. Davey, Paxman & Co., Ltd., engineers), Colchester.
Paxton, A., electrical engineer, Arcade-chbrs., St. John's-sq., Cardiff. (Telegs.: "Paxton, Arcade-chbrs., Cardiff." Teleph. No. 01063.)
Pay, F. C., A.I.E.E., engineer & manager Urban Electric Supply Co., Ltd., Electricity Works, Newton Abbot, Devon. (Telephone No. 26.)
Payman, W., director Empire Electric Light & Power Co., Ltd.
Payne, Ernest, M.A., A.I.E.E., 6, Cambridge-rd., Hove, Brighton.
Payne, G., resident engineer, Church Stretton Land Co., Ltd., Electricity Works, Church Stretton, Salop.
Payne, H. J., electrical & mechanical engineer & scientific instrument maker, 1, River View, The Terrace, Barnes, Surrey.
Payne, R. M. Horne, The Hermitage, Brentwood, Essex. Chairman British Columbia Electric Railway Co., Ltd.
Payne, S. G., works superintendent, Electricity Works, Bury, Lancs.
Payne & Bates, Ltd., manufacturers of & dealers in gas, oil, steam & electric engines, &c., Great Heath, Foleshill, nr. Coventry.
Payne, Edward J., & Son, patent design & trademarks agents, Warwick-chbrs., 104 & 106, Colmore-row, Birmingham.
Payne & Griffiths, steam engine & boiler fittings manufacturers, Tudor Works, Ladywood-rd., Birmingham. (Telephone No. 3481.)
Payze, P. O., director Whitchurch & Pangbourne Electric Supply Co., Ltd., King Edward-bldgs., Station-rd., Reading.
Peace, A., J.P., Penlea, Bridgwater. (Telegs.: "Peace, Bridgwater." Nat. Teleph. No. 0138.) Chairman Bridgwater & District Electric Supply & Traction Co., Ltd.
Peace, James Bennet, M.A., A.I.E.E., Engineering Laboratory, The University, Cambridge.
Peache, J. Courthope, M.I.C.E., Quex House, Old Bilton, Rugby. Director West London & Provincial Electric Supply Co., Ltd.
Peacock, F., electrical engineer, 59, Station-rd., Colchester.
Peacock Patent Steel Grip Lock Nut & Fish Bolt Syndicate, Ltd., Prudential-bldgs., Queen-st., Nottingham. (Telegrams: "Gath, Nottingham." Telephone No. 1396.)
Peake, A. H., M.A., A.I.E.E., Engineering Laboratory, Cambridge.
Peake, R. E., M.I.C.E., telegraph engineer (Clark, Forde & Taylor), 4, Great Winchester-st., E.C.
Peaker, Alfred, A.M.I.E.E., Ashley House, Ladypit-lane, Leeds.
Pearce, George, electrician, 162, Clapham-park-rd., London, S.W.
Pearce, J. E., electrical engineer, Broadway, Maidenhead, Berks.
Pearce, S. L., A.M.I.C.E., M.I.E.E., M.I.MECH.E., chief electrical engineer, Manchester Corporation, Dickinson-st., Manchester. (Telegs.: "Potential, Manchester." Teleph. No. 2301.)
Pearce, S. R., chief assistant engineer, Bromley (Kent) Electric Light & Power Co., Ltd., Bromley.
Pearce, Wm., & Sons, Ltd., amalgamated with Spencer Chapman & Messel, Ltd., sulphuric acid manufacturers, Chemical Works, Bow Common, London, E. (Teleph. No. 221, Eastern.)
Peard, G. W., A.M.I.E.E., Eldon House, Huyton, Lancs.
Pearn, Frank & Co., Ltd., general engineers, West Gorton, Manchester. (Telegrams: "Pumps, Manchester." Telephone No. 1021.)
Pearsall, Jas., silk for covering wires, 71–72, Little Britain, E.C. (Telephone No. 1639, Holborn.)
Pearsall, W. P., electrical engineer, c/o J. G. White & Co., Ltd., 22A, College Hill, London, E.C.
Pearson, Arthur, A.M.I.E.E., Ballymagrorty, 255, Vicarage-rd., King's Heath, nr. Birmingham.
Pearson, C. H. J., electrical contractor, 37, Park-st., Greenhayes, Manchester.
Pearson, G. A., A.M.I.E.E., lecturer in electrical engineering, Municipal Technical School, Hull.
Pearson, H., installation contractor, 4, Cotham Vale-rd., Bristol.
Pearson, Hugh A., A.I.E.E., 27, Flaxman-rd., Loughborough Junction, London, S.E.
Pearson, K., M.A., professor of applied mathematics, University College, Gower-st., London, W.C.
Pearson, R. Lloyd, A.M.I.E.E., consulting electrical engineer, University College, Reading.
Pearson, V. H., assistant electrical engineer, Electricity Works, Saltburn-by-the-Sea.
Pearson Bros., electrical engineers, 54–56, Long-row, Nottingham. (Telephone No. 942.)
Pearson Bros., motor manufacturers, 52, Elm-grove, Portsmouth. (Telephone No. 298.)
Pearson Fire Alarm, Ltd., 62, King William-st., London, E.C. (Telegs.: "Sauvetage, London." Tel. No. 5887, Bank.) Registered March 9, 1903. Capital: £250,000 in £1 shares. W. Hill, secretary.
Pearson, G. H., & Co., wood casings, Traffic-st., Nottingham.
Pearson, R. H. & J., Ltd., electric light engineers, 102, Terminus-rd., Eastbourne. (Telephone No. 38.)
Pearson, Sons & Co., Ltd., iron & brass founders & electric light apparatus makers, 107, Cathcart-st., Kingston, Glasgow.
Pearston, Osborne, A.M.I.E.E., electrical engineer, 4, Ludgate Hill, London, E.C.
Pease, H. M., A.M.I.E.E., telephone engineer, Western Electric Co., North Woolwich, London, E.
Peck, Gerard S., A.I.E.E., Westfield, Chorley New-rd., Bolton.

Peck, John S., M.AM.I.E.E., A.M.I.E.E., chief electrical engineer, British Westinghouse Co., Trafford Park, Manchester.

Peck, Wm. E., & Co., agents for tramway materials, &c., 8, Bradford-ave., London, E.C. (Telegrams: "Gentlefolk, London." Telephone No. 513, London Wall.)

Peckett, A., A.M.I.E.E., A.M.I.M.E., electrical engineer, 46, King William-st., London, E.C.

Peczenik, C. E., A.M.I.E.E., 11, Pancras-lane, London, E.C. (Telegs.: "Antinomian, London." Teleph. No. 5286, Bank.)

Peddar, P. C. N., Stowmarket. Chairman Suffolk Electricity Supply Co., Ltd.

Peebles, Wm. Carmichael, A.I.E.E., East Pilton, Edinburgh.

PEEBLES, BRUCE, & CO., LTD., engineers, Edinburgh. (Telegs.: "Peebles, Edinburgh." Nat. Tel. No. 1867. A.B.C. & Lieber's Codes.) London office: 1, London Wall-bldgs., E.C. (Tel. Nos. 5593 & 5594, Central.)

Peek, G. F., Delancey, St. Sampson's, Guernsey. Chairman Guernsey Railway Co., Ltd.

Peel, C. S., A.M.I.E.E., 48, Brompton-sq., London, S.W. (Telephone No. 1703, Kensington.)

Peel, Hon. Geo., director Eastern Extension Australasia & China Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C.

Peel, L. M., A.I.E.E., "Moore House," Beckenham, Kent.

Peers, F. W., A.I.E.E., Fairlight, Derby-rd., Ponders End, London, N.

Peers, George R., A.M.I.E.E., medical electrician, 344, Bury New-rd., Manchester.

Peers, Copland & Cardin, consulting electrical engineers, 16, John Dalton-st., Manchester.

Pegg, Geo., electrical engineer, 1, Harringay Villas, Green-lanes, Hornsey, London, N.

Pegg, R. C., electrical engineer, Garrick Theatre, Charing Cross-rd., London, S.W.

Pegg, Thos., "The Beacon," Ockbrook, Derby; & Long Eaton. (Telegs.: "Pegg, Long Eaton." Teleph. No. 40.) Chairman Harrington Electric Light Co., Ltd.

Pegler, Mrs. Clara A., Pontypool. Director Pontypool Electric Light & Power Co., Ltd.

Pegler, Wm., J.P., Pontypool. Chairman Pontypool Electric Light & Power Co., Ltd.

Pegler, W., jun., electrician, The Cross, Pontypool.

Peile, H., director Priestman Power Co., Ltd., Milburn House, Newcastle-on-Tyne.

Peirson & Co., ENGINEERS & CONTRACTORS FOR CONSTRUCTIONAL IRONWORK FOR STATIONS, &c., 17 & 18, St. Dunstan's Hill, Great Tower-st., London, E.C. (Telegrams: "Allegretto, London." Telephone No. 5951, Avenue.)

Peking & North China Electrical Corporation, Ltd., Salisbury House, London Wall, E.C. Registered June 2, 1902. Nominal capital: £100,000 in £1 shares, of which 49,500 are issued. Directors: Sir H. C. J. Bunbury, Bart.; A. Adam, Esq.; P. A. Lieder, Esq.; A. W. West, Esq. Secretary, G. T. Frost.

Pell, Bennett, M.I.E.E., 3, West Park-ave., Jersey.

Pell, F. B., A.I.E.E., c/o British Johns-Manville Co., Ltd., 81, Fenchurch-st., London, E.C.

Pell, Wm. M. D., A.I.E.E., electrical engineer, Cambridge-pl., Burrage-rd., Woolwich. (Telegrams: "Pell, c/o Light, Woolwich." Telephone No. 76.)

Pember, J. D., A.M.I.E.E., borough electrical engineer, Dartford, Kent.

Pemberton, S. Thos., Council-chbrs., Colmore-row, Birmingham, representative for the Midlands & South Wales, Electromotors, Ltd., Openshaw, Manchester.

Pemberton Urban District Council Electricity Works, Pemberton, nr. Wigan. Engineer, J. B. Robb.

Pembroke (Ireland) District Council Electric Light & Power Station, Pembroke, Ireland. Engineer, S. L. R. Price.

Penarth Electric Lighting Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C.; & Penarth, Glam. Registered June 10, 1897. Capital: £50,000 in 2500 ordinary shares & 2500 preference shares of £10 each. All the ordinary shares have been taken up. Acting managing engineer, H. Cameron; secretary, A. B. Gridley. Directors: G. Ratcliffe Hulme, Esq.; Geo. Offor, Esq.; G. J. Somerville, Esq.

Penarth Tramway Syndicate, Ltd., 124, Bute-st., Cardiff. Registered Sept. 16, 1903. Nominal capital: £3000 in £10 shares.

Pender, J. C. Denison-, director Eastern & South African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Pender, Sir J. Denison, K.C.M.G., director African Direct Telegraph Co., Ltd.; director Eastern Extension Australasia & China Telegraph Co., Ltd.; director Europe & Azores Telegraph Co., Ltd.; director Direct Spanish Telegraph Co., Ltd.; managing director Eastern & South African Telegraph Co., Ltd.; vice-chairman & managing director Eastern Telegraph Co., Ltd.; trustee Submarine Cable Trust; managing director West African Telegraph Co., Ltd.; chairman West Coast of America Telegraph Co., Ltd.; chairman Black Sea Telegraph Co., Ltd.; director Globe Telegraph & Trust Co., Ltd.; director London Platino Brazilian Telegraph Co., Ltd.; deputy-chairman Western Telegraph Co., Ltd.; director Pacific & European Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Pender, Sir J., Bart., 2, Mount-st., Berkeley-sq., London, W. Director Direct U.S. Cable; director Telegraph Construction & Maintenance Co., Ltd.; director Globe Telegraph & Trust Co., Ltd. director Metropolitan Electric Supply Co., Ltd.

Penfold, S., Folkestone. (Telephone No. 59.) Director Folkestone Electricity Supply Co., Ltd.

Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd., c/o Gill, Archer, Naples & Dun, 14, Cook-st., Liverpool. Registered May 27, 1904. Nominal capital: £3000 in £1 shares, of which 1979 are issued. Directors: H. Maconochie, Esq.; J. L. Owen, Esq.; A. Carter, Esq.; J. Roberts, Esq.; H. G. Keith, Esq. Secretary, F. W. Archer.

Penman & Co., boiler makers, Strathclyde-st., Glasgow. (Telegrams: "Penman, Glasgow." Telephone No. 2544.)

Penn, W. Cooper, M.I.M.E., engineer, 25, Victoria-st., Westminster. (Telephone No. 182, Victoria.) London office of Higginbottom & Mannock, electric crane & lift makers, & Davis Engineering Co., Ltd., ironfounders (electrical castings) & general engineers.

Penning, Samuel Heathcote, A.M.I.E.E., 94, Griffin-rd., Plumstead Common, S.E.

Penrose, Col. C., R.E., A.I.E.E., Head-Quarter Offices, High-st., Portsmouth.

Penrose, Thomas, A.M.I.E.E., 5, Great George-st., London, S.W.

Penrose, A. W., & Co., Ltd., electrical engineers & contractors, 109, Farringdon-rd., London, E.C. (Telegrams: "Zincograph, London." Telephone No. 9663, Central.)

Penton, E., A.I.E.E., 1, Mortimer-st., London, W.

Penzance & District Electric Supply Co., Ltd., 3, Clarence-st., Penzance. Registered Dec. 12, 1903. Nominal capital: £1000 in £1 shares. Issued: £300 fully paid. Directors: S. W. Cooper, Esq.; W. T. Pressland, Esq.; A. West, Esq. Electrical engineer, A. J. Fippard.

Pepper, G. R., A.I.E.E., 63, Avondale-rd., Croydon.

Peppercorn Bros., dealers in electric appliances, 16, 17, 18 & 19, Broadway; & 14, High-st., Deptford, S.E.

Percival, Arthur, electrical & mechanical engineer, Lady's Well Brewery, Cork.

Percival, F. S., Bodawen, Portmadoc, N. Wales. Chairman Yale Electric Power Co., Ltd.

Percival, F. W., 1, Chesham-st., Belgrave-sq., W. Director Yale Electric Power Co., Ltd.

Percival, Gerald, electrical engineer, 30, Old Georges-st., Cork.

Percival, Major-Gen. H., late R.A., New House, Pakenham, Bury St. Edmunds. Director Yale Electric Power Co., Ltd.

Percival, Vickers & Co., Ltd., manufacturers of arc lamp globes, &c., Glass Works, Jersey-st., Manchester. (Nat. Telephone No. 4782, Manchester.)

Percy, Stephen, electrical contractor, Osborne-rd., Newcastle-on-Tyne.

Percy & Co., electrical engineers, 13, Hatton Garden, London, E.C.

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless steel conduits. *See advt.*, CONDUITS (UNDERGROUND) & CULVERTS.

Periam, Herbert W., Ltd., Bolt, Nut, Screw & Rivet Nail Works, Floodgate-st., Birmingham. (Telegrams: "Floodgate, Birmingham." Telephone No. 373.)

Perken, Son & Co., Ltd., opticians & electrical instrument makers, 99, Hatton Garden, London, E.C. (Telegrams: "Optimus, London." Telephone No. 4515, Central.)

Perkins, A., district manager National Telephone Co., Telephone-ave., Bristol.

Perkins, C. E. H., Lieut. R.E. (M.), A.I.E.E., Coombe Hill, East Grinstead, Sussex.

Perkins, E. P., engineer, Chiswick Electricity Supply Corporation, Ltd., Aberystwith.

Perkins, J. E. S., electrical engineer, Queen-st. Iron Works, Peterborough.

Perks, G., Bailey-st., Oswestry. Director Oswestry Electric Lighting & Power Co., Ltd.

Perks, R. W., M.P., 11, Kensington Palace-gdns., W. Chairman Metropolitan District Railway.

Perman, Edward, electrical engineer, 50, Dock-st., Newport, Mon.

Permanent Enamel Co., Ltd., makers of enamelled plates & reflectors, Pelly-rd., Plaistow, London, E. (Telephone No. 618, Albert Dock.)

Perrin, W., plain & enamelled slate work for electrical purposes, Steam Slate & Marble Works, 153, Lower Kennington-lane, Kennington Cross, London, S.E.

Perring, R. B., assistant electrical engineer, District Council Electricity Works, Leek.

Perrott, Wm. Dentson, A.M.I.E.E., Electricity Works, South Denes-rd., Great Yarmouth.

Perry, F. H., wiring contractor, 103, Temple-rd., Birkenhead.

Perry, Frank, superintendent Anglo-American Telegraph Co., Ltd.; A1 Exchange, Liverpool. (Telephone No. 1535.)

Perry, H. H., A.M.I.E.E., The Cottage, Barnet-rd., Enfield.

PERRY, J., M.E., M.I.C.E., electrical engineer & director Galway Electric Co., Ltd., Newtownsmyth, Galway; county surveyor, consulting engineer, County Court House, Galway. (Telegs.: "Perry, Galway.")

Perry, Miss A. M., director Galway Electric Co., Ltd.

Perry, Miss Margaret, Wellpark, Galway. Director Galway Electric Co., Ltd.

Perry, Prof. J., M.E., D.SC., LL.D., F.R.S., M.I.E.E., A.M.I.C.E., Royal College of Science, South Kensington, S.W. Chairman Galway Electric Co., Ltd.

Perry, R. W., manager Conduit & Insulation Co., Ltd. Conduit Works: Summers Town, S.W. (Telegs.: "Conduits, London." Teleph. No. 157, Battersea.)

Perry, Wm. Geo., A.I.E.E., 6, Warndon-st., Rotherhithe New-rd., S.E.

Perry & Co., electric light fittings manufacturers, 17, Grafton-st., Bond-st., London, W. (Telegrams: "Periphery, London." Telephone No. 3910, Gerrard.)

Perry & Co., Ltd., manufrs. of electric motor fittings, &c., Perryan Works, Lancaster-st., Birmingham.

Perry, Thomas, & Son, file, rasp & magnet manufacturers, Columbia File Works, Herbert-rd., Small Heath, Birmingham.

Perry, Thos., & Son, Ltd., mechanical engineers, Highfield Works, Bilston, Staffs. (Telegs.: "Perry, Bilston.")

Perth Corporation Electricity Works & Tramways, Perth. Engineer, J. Lambert.

Perth Electric Tramways, Ltd., 30 & 31, St. Swithin's-lane, London, E.C. (Telegs.: "Tractable, London." Teleph. No. 5319, Bank.) Registered March 12, 1900. Nominal capital: 100,000 6 per cent. cumulative preference shares & 100,000 ordinary shares, both of £1 each, & £250,000 debentures. Issued: all the preference & ordinary shares, fully paid. £189,032 debenture stock. £43,600 debentures have been issued & are outstanding. Directors: A. F. P. Stoneham, Esq. (chairman); O. Wethered, Esq.; R. C. F. Ogilvie, Esq.; Chas. Wren, Esq. Electrical engineer, H. J. Somerset; secretary, F. A. Holyfield. Dividends: 1906, 2½ per cent. on ordinary; in full on preference to date.

Peru Telephone Co., Ltd. (Edmund Petley, F.C.I.S., acting sec.), 42, Old Broad-st., London, E.C. (Telegrams: "Chiliadal, London." Telephone No. 9343, London Wall.) Nominal capital of £100,000 in £5 shares. Only the 7 signatories shares have been taken up; nothing has been called or paid.

Pescatore, A. B., M.I.E.E., electrical engineer, 119, Victoria-st., London, S.W.

Pescatore, P., electrical engineer, Tudor Accumulator Co., Ltd., Barnmeadow Works, Dukinfield, nr. Manchester.

Peschek, J., electrical engineer, 44, Wellington-rd., Old Charlton, S.E. Works: West-st., Charlton, London, S.E. (Telephone No. 222, Woolwich.)

Petavel, J. E., M.SC., A.M.I.C.E., A.M.I.E.E., The University, Manchester.

Peterborough Corporation Electricity Supply Works, Peterborough. Engineer, J. C. Gill.

Peterborough Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C. Registered Aug. 5, 1902. Nominal capital: £60,000 in 6000 ordinary & 6000 6 per cent. cumulative preference shares of £5 each. Issued: 4000 ordinary & 4000 preference shares fully paid, & £20,000 debenture stock, secured by trust deed, dated June 26, 1903. Directors: W. J. Greer, Esq. (chairman); Lord Vaux of Harrowden; E. A. Paris, Esq. Secretary, C. H. Godward.

Peterborough Motor Co., electrical contractors, Cowgate, Peterborough.

Peterborough (Soke of) County Technical School, Peterborough. *See* SCHOOLS.

Peters, Philip, A.M.I.E.E., "Yardley Fields," Yardley, nr. Birmingham.

Petersen, Theodor, M.I.E.E., "Shiplake," Parkside-gdns., Wimbledon Common, London, S.W. (Teleph. No. 163, P.O., Wimbledon.)

Peterson, H. W. J., A.M.I.E.E., Ferndale, Clarence-rd., Sidcup.

Pethybridge, W., A.I.E.E., 3, Rhodesia-rd., Clapham Rise, London, S.W.

Petley, Edmund, F.C.I.S., secretary of the Amazon Telegraph Co., Ltd., & the Chili, the Ecuador & the Peru Telephone Cos., Ltd., 42, Old Broad-st., London, E.C.

Peto, W., M.I.E.E., "Sunnybank," Ashtead, Surrey.

Peto & Radford, Ltd., electrical engineers & contractors, 100, Hatton Garden, E.C. (Telegs.: "Concentration, London." Teleph. No. 1660, Holborn); & Greville Works, Ashtead, Surrey. Nominal capital: £40,000 in £1 shares. 31,684 have been issued & are fully paid. Directors: W. Peto, Esq. (chairman); F. W. A. Radford, Esq.; E. Mumford, Esq.; F. G. Hart, Esq. (secretary).

PETO & RADFORD, LTD., successors to Sutherland & Marcuson, storage battery makers & electrical engineers, 61, Chandos-st., Strand, W.C. (Teleph. No. 3578, Central.)

Petre, Loraine, 27, Gledhow-gdns., S.W. Director Bogota Telephone Co., Ltd.

Pettersen, George C., assistant electrician, City & South London Railway Co., London Bridge, London, S.E.

Pettifor, P. G., A.M.I.E.E., electrical engineer, British Ericsson Manufacturing Co., Beeston, Notts.

Peyton, W., assistant electrical engineer, Urban District Council, Bexley.

Pfeil & Co., engineers' tools & lathe manufacturers, 145–157, St. John-st., London, E.C. (Telegrams: "Pfeil, London." Telephone Nos. 623 & 626, Holborn.)

Phelon & Rayner, electrical engineers, Valley-rd., Cleckheaton, Yorks.

Phibbs, J. Pullar, M.I.E.E., Annat Lodge, Perth, Scotland.

Philip, Arnold, B.SC., A.M.I.E.E., H.M. Dockyards, Portsmouth.

Philipson & Co., tramcar life guard & step makers, Holland-st., Astley Bridge, Bolton, Lancs. (Telegs.: "Safety, Bolton.")

Phillip, I. E., Raymond & Co., electrical engineers, Finsbury Pavement House, London, E.C.

Phillips, A. F., M.I.C.E., consulting electrical engineer, 38, Parliament-st., Westminster, London, S.W. (Telegrams: "Umberto, London.")

Phillips, A. Lovell, A.M.I.E.E., 4, Albany Mansion, 140, Shaftesbury-ave., London, W.

Phillips, Charles D., mechanical engineer, Emlyn Iron Works, Newport, Monmouthshire (Telegrams: "Machinery, Newport." Telephone Nos.: 18, Nat.; & 576, G.P.O.); & Gloucester.

Phillips, Chas. E. S., A.I.E.E., Castle House, Shooter's Hill, Kent. (Telephone No. 174, Woolwich.)

Phillips, Chas. Henry, A.I.E.E., 33, Poplar Grove, West Kensington, London, W.

Phillips, Charles J., M.I.E.E., National Telephone Co., Ltd., Telephone House, Victoria Embankment, London, E.C. (Teleph. Nos.: 53, Head office; & 45, Croydon.)

Phillips, E., director Cinque Ports Light Railway, Ltd.

Phillips, E. G., superintendent Commercial Cable Co., 23, Royal Exchange, London, E.C. (Teleph. Nos. 1146 & 1147, Avenue.)

Phillips, Edward Goodson, A.M.I.E.E., telegraph engineer, Telegraph Department, Metropolitan Railway, Bishop's-rd. Station, London, W.

Phillips, J. A., electrical engineer, 55, Esmond-rd., Bedford-park, London, W.

Phillips, J. H. S., A.I.E.E., 4, Ailsa Park Villas, St. Margaret's-on-Thames.

Phillips, R. E., M.INST.C.E., consulting electrical engineer, 70, Chancery-lane, London, E.C.

Phillips, R. W. L., A.M.I.E.E., chief electrical engineer, Corporation Electricity Works, Bedford. (Nat. Telephone No. 60.)

Phillips, Walter, consulting engineer, 9, Gracechurch-st., E.C. (Telegrams: "Philology, London." Telephone No. 4165, Central.)

Phillips, Wm., A.M.I.E.E., 19, Fordyce-rd., Lewisham, S.E.

Phillips, W. L., A.M.I.E.E., A.M.I.C.E., N.E. Railway, New Bridge-st. Station, Newcastle-on-Tyne.

Phillips, A., & Co., electricians & motor car engineers, 78, High-st., Dartford.

Phillips, H. Fentum, & Co., manufacturing electrical engineers, Guildford Electrical Works, Guildford. (Telegrams: "Fentum Phillips, Guildford." Telephone No. 0182, Guildford.)

Phillips, J. W. & C. J., engineers, 23, College-hill, London, E.C. (Telegrams: "Colloquial, London.") BRISTOL RECORDING INSTRUMENTS.

Phillips & Leigh, patent agents, 22, Southampton-buildings, London, W.C. (Telegrams: "Rotnevni, London." Telephone No. 133, Holborn.)

PHILLIPS COMMUTATOR GRINDER CO., LTD., patentees & manufacturers, 95, Cannon-st., E.C.

Phillips' Monthly Machinery Register & Electrical & Autocar Supplement (price 6*d.*; ann. sub., 6*s.*). Published by C. D. Phillips, Emlyn Ironworks, Newport, Mon.

Phillipss, chartered patent agents, 70, Chancery-lane, London, W.C. (Telegrams: "Phicycle, London." Telephone No. 7518, Central.)

Phillpotts, Ralegh B., director Underground Electric Railways Co. of London, Ltd.

Philosophical Magazine (monthly, price 2*s.* 6*d.*), Taylor & Francis, Red Lion-ct., Fleet-st., London, E.C.

Philpot, A. E., & Co., mechanical & electrical engineers, 19 & 20, Cow Cross-st., London, E.C.

Philpot, E. J., & Son, electrical engineers, 34, St. George's-sq., Canterbury (Teleph. No. 0189); & 91, High-st., Ramsgate. (Telep. No. 0274.)

Philpot, R. W., & Co., electric light contractors, Ramsgate.

Phipps, W. W., 8, Great Tower-st., London, E.C. Director Primitiva Gas & Electric Lighting Co. of Buenos Aires, Ltd.

PHIPPS, RASHLEIGH & CO., electric lighting engineers & contractors, artistic electric light fittings, 147, Oxford-st., London, W. (Telegrams: "Diffuser, London." Telephone Nos.: 3973, Gerrard; & 12155, Central.)

Phœnix Art Metal Engineering Co., Ltd., castings, &c., 40, Coin-st., Stamford-st., London, S.E. (Telegs.: "Phoenart, London." Teleph. No. 1699, Hop.)

Phœnix Bolt & Nut Co., makers of telegraph fittings, Handsworth, Birmingham. (Telegrams: "Bolts, Birmingham.")

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W. (Telegs.: "Phedyna, London." Teleph. No. 1061, Victoria.)

PHŒNIX ELECTRIC HEATING CO., LTD., ELECTRIC HEATING APPARATUS MAKERS, 3, HOLBORN-PL., LONDON, W.C. (TELEPH. NO. 1895, HOLBORN.)

Phœnix Fire Office, 19, Lombard-street, E.C.; & 57, Charing-cross, S.W., London. (Telegrams: "Phœnix, London." Telephone No. 1990, Gerrard.) *See* CONTRACTORS—ELECTRIC LIGHT.

Phœnix Motors, Ltd., electro- & nickel-platers, Blundell-st., Caledonian-rd., London, N. (Telegrams: "Pacemakers, London." Telephone No. 264, North.)

Phosphor-Bronze Co., Ltd., makers of metallic alloys in rods, strips, ingots & castings, 87, Sumner-st., London, S.E.; & Bagot-st., Birmingham. (Telegs.: "Phosbronze, London." Teleph. No. 557, Hop.)

Physical Society of Glasgow University. Hon. President, Lord Kelvin, G.C.V.O., F.R.S., &c.; President, Prof. Gray, LL.D., F.R.S.; Vice-President, G. W. Walker, M.A., A.R.C.SC.; Secretary, D. B. Meek; Treasurer, Alex. D. Ross, M.A.; Physical Laboratory, University, Glasgow.

Physical Society of London, Royal College of Science, South Kensington, London, S.W. President: Prof. J. Perry, F.R.S. Vice-presidents who have filled the office of president: Prof. G. C. Foster, F.R.S.; Prof. W. G. Adams, M.A., F.R.S.; The Lord Kelvin, D.C.L., LL.D., F.R.S.; Prof. R. B. Clifton, M.A., F.R.S.; Prof. A. W. Reinold, M.A., F.R.S.; Prof. W. E. Ayrton, F.R.S.; Principal Sir Arthur W. Rücker, M.A., F.R.S.; Sir W. de W. Abney, R.E., K.C.B., D.C.L., F.R.S.; Shelford Bidwell, M.A., SC.D., LL.B., F.R.S.; Principal Sir Oliver J. Lodge, D.SC., F.R.S.; Prof. S. P. Thompson, D.SC., F.R.S.; R. T. Glazebrook, D.SC., F.R.S.; Prof. J. H. Poynting, F.R.S. Vice-presidents: C. Chree, D.SC., F.R.S.; H. M. Elder, M.A.; Prof. J. A. Fleming, M.A., D.SC., F.R.S.; J. Swinburne, F.R.S. Secretaries: W. Watson, D.SC., F.R.S.; W. R. Cooper, M.A.; & Prof. W. Cassie, M.A. Foreign secretary: Prof. S. P. Thompson, D.SC., F.R.S. Treasurer: Prof. H. L. Callendar, M.A., F.R.S. Librarian: W. Watson, D.SC., F.R.S. Other members of Council: T. H. Blakesley, M.A.; A. Campbell, B.A.; W. B. Croft, M.A.; W. Duddell; J. A. Harker, D.SC.; W. A. Price, M.A.; S. Skinner, M.A.; S. W. J. Smith, M.A.; W. Watson, D.SC., F.R.S.; & Prof. H. A. Wilson.

Picard, H., & Frere, telegraph apparatus makers, 26 & 27, Bartlett's-bldgs., London, E.C.

Pickard, F. Hattersley, & Co., electric fan makers, 15, King-st., Leeds. (Telegs.: "Pickard, King-st., Leeds." A.B.C. 4th ed. Code. Teleph. No. 4 X.)

Pickard & Lloyd, engineers, makers of lathes, screw tools, &c., Steelhouse-lane, Birmingham.

Pickering, S. A., borough engineer, Corporation Tramways, Oldham.

Pickering & Co., wholesale electricians & plumbers' merchants, 95, 99 & 101, Broughton-st., Edinburgh. (Telegrams: "Fittings, Edinburgh." Telephone No. 1345, Central.)

Pickerings, Ltd., electric lifts, cranes, pulleys, &c., Stockton-on-Tees; & 98, Leadenhall-st., London, E.C. (Telegrams: "Pickerings, Stockton-on-Tees." Telephone Nos.: 44, Nat.; & 21, P.O.)

Pickersgill, A., engineer, Urban District Council Electricity Works & Tramways, Cleckheaton, Yorks. (Telephone No. 16, Cleckheaton.)

Pickford, H. H., A.I.E.E., 21, Leader-st., Chelsea, S.W.

Pickford, H., & Co., electrical & general engineers, 21 & 25, Leader-st., Chelsea, S.W.

Pickstone, M. T., M.I.E.E., managing director Bruce Peebles & Co., Ltd., Edinburgh.

Pickworth, C. N., mechanical & electrical engineer, 38, Lorne-grove, Fallowfield, Manchester.

Pidduck, George & Co., special combined "Kratos Asbestos & Silicon-Paper," non-conducting boiler composition manufacturers, 2, Bury-st., St. Mary Axe, E.C. Works: Victoria Docks, London, E.

Pidgeon, Randell, M.A., A.I.E.E., 42, Porchester-sq., London, W. (Telephone No. 216, Paddington.)

Pierce, H. W., electrical engineer, Siemens Bros. Dynamo Works, Ltd., Manchester.

Pierce, J. F., A.M.I.E.E., electrical engineer, 45, Broad-st., Oxford.

Pierce, R. C., A.I.E.E., Cree Fleet, Cumberland Gate, Kew.

Piercy & Co., makers of steam engines, pumping machinery, &c., 53–54, Broad-st., Birmingham. (Telegrams: "Piercy, Birmingham." Telephone No. 20.)

Pierson, M., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness.

Pigg, Jas., A.M.I.E.E., 27, Windermere-st., Coatsworth-rd., Gateshead.

Piggott, George, electrical engineer, "Wootton," Parkhurst-rd., Bexley, Kent.

Piggott, G. E., A.M.I.E.E., electrical engineer, 110, Cannon-st., London, E.C.

Piggott Bros. & Co., Ltd., jointers' tents, 57, 58, 59, Bishopsgate-st. Without, London, E.C. (Telegrams: "Piggott, London." Telephone No. 2515, London Wall.)

PIGGOTT, GEO., & CO., electrical engineers' suppliers & valuers, 110, Cannon-st., London, E.C. Publishers of *Electrical Progress & Monthly Register*. Sole London agents for "Industrial" dynamos, motors, &c., suction, &c., gas producer plants, gas engines, &c., "Turner" electric lifts (passengers & goods); also Isaac Griffiths & Sons enamelled & galvanized steel conduits. (Telegrams: "Enticeable, London." Telephone No. 174, Bank.)

Piggott, Thomas, & Co., Ltd., Atlas Works, Springhill, Birmingham. (Telegs.: "Atlas, Birmingham." Teleph. Nos. 86 & 4546.)

Piggott, T., & Co., Ltd., engineers, 63, Queen Victoria-st., London, E.C. (Telegrams: "Intersection, London." Telephone No. 5265, Bank.)

Pilcher, O. A., A.M.I.E.E., L.C.C. Tramway Generating Works, Greenwich.

Pilditch, G. F., A.M.I.E.E., resident engineer, Rathmines & Rathgar Urban District Council Electricity Works, Rathmines, co. Dublin.

Pilkington, B. A., electrical contractor, 12, Atholl-pl., Edinburgh.

Pilkington, Lieut.-Col. Sir T. E., Bart., director Associated Cos. of The British Electric Traction Co., Ltd., Donington House, Norfolk-st., W.C.

Pilkington, S., A.I.E.E., 47, Park-rd., Regent's Park, London, N.W.

Pilkington Bros., Ltd., makers of glass cells for accumulators, St. Helens, Lancs. (Telegs.: "Pilkington, St. Helens." Teleph. Nos. 3 & 258.)

Pilkington & Co., patentees & sole makers of acid-resisting asphalte, Monument-chambers, King William-st., London, E.C. (Telegs.: "Polonceau, London." Teleph. Nos.: 6319, Avenue; & 1674, Hop.)

Pilling, F. S., M.I.M.E., M.I.E.E., The Durdans, Kingston-rd., Teddington, Middlesex.

Pilling, J., M.I.E.E., borough electrical engineer, King's Lynn. (Teleph. No. 2.)

Pillischer, J., scientific instrument maker, 88, New Bond-st., London, W. (Teleph. No. 4418, Gerrard.)

Pim, W. M., Bessbrook. Director Bessbrook & Newry Tramway Co.

Pimp, Chas., electrical engineer, Nydd, Leeds.

Pinchbeck Bros., lamp holder & electrolier manufacturers, 71, Queen-st., E.C. (Telegrams: "Pincheries, London." Telephone No. 988, Bank.)

Pinchin, Johnson & Co., Ltd., selling agents for Standard Insulating Varnish, Pinchin's Wharf, Ratcliff, London, E. (Telephone No. 2241A, Avenue.)

Pinching, Wm. B., A.M.I.E.E., Blue Knoll Wood, Cranham, Stroud, Glos.

Pinching & Walton, electrical agents, 52, Cannon-st., London, E.C.

Pinckney, W., Milford Hill, Salisbury. Director Salisbury Electric Light & Supply Co., Ltd.

Pincott, E., & Co., practical electrical & mechanical engineers, 103, Fore-st., Exeter.

Pinkerton, G. M., electrical contractor, Lloyd's-ave. House, Lloyd's-ave., London, E.C.

Pinn, W. C., chief assistant engineer, Electricity Works, Derby.

Pinto, E. M., 43, rua da Vinta, Lisbon. Director Marconi International Marine Communication Co., Ltd.

Pioneer Complete Furnishing Stores, electric lighting contractors, 9–19, Bold-st., Liverpool.

Pioneer Electric Light & Power Co. for Japan, Ltd., New Broad-st. House, New Broad-st., E.C. Registered Feb. 23, 1899, with a capital of £3000 in £1 shares, of which seven have been taken up.

Pioneer Gas, Electric Light & Power Co. of South Africa, Ltd., New Broad-st. House, New Broad-st., E.C. Registered Sept. 4, 1901. Nominal capital: £2000 in £1 shares, all issued. Directors: J. E. Lilley, Esq. (chairman); J. A. Kelman, Esq.; G. C. Eedes, Esq. Secretary, R. W. Blackburn.

Pipkin, W., manager, Switchboard & Accessories Department, Veritys, Ltd., Aston, Birmingham.

Pirrie, Rt. Hon. Lord, P.C., director Eastern Telegraph Co., Ltd.

PITKIN, J., & CO., electrical instrument & portable electric hand-lamp makers, 56, Red Lion-st., London, E.C. (Telegrams: "Barograph, London." Telephone No. 11273, Central.)

Pitman, P., manufacturer of Pelton water wheels & turbines, Bosbury, Ledbury. (Telegrams: "Pitman, Bosbury.")

Pitman & Son, electric light contractors, 30, Newgate-st., London, E.C.

Place, John, M.I.MECH.E., A.M.I.E.E., Wheatley Kirk, Price & Co., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077, Bank.)

Planet Electrical Engineering Co., 28, Victoria-st., Westminster, London, S.W. (Telegs.: "Lustre, London." Teleph. No. 548, Westminster.)

Plank, H. E., secretary African Direct Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C.

Plate, Geo., Bremen. Director Indo-European Telegraph Co., Ltd.

Plating Co., Ltd., nickel & silver platers & gilders, 10, Kirby-st., Hatton Garden, London, E.C. (Telephone No. 1522, Holborn.)

Platt, Col. H., C.B., Gordinog, Llanfairechan. Director North Wales Power & Traction Co., Ltd.

Platt, E. C., director & treasurer Commercial Cable Co.

Platt, Joseph, A.M.I.E.E., 34, Waverley-rd., Astley Bridge, Bolton.

Platt, J., Hyning, Carnforth. Director Southport Tramways Co., Ltd.; director Blackpool & Garstang Light Railway Co.

Platt, Samuel, engineer & shafting maker, King's Hill, Wednesbury. (Telegrams: "Platt, Wednesbury." Telephone No. 60, Wednesbury.)

Platt & Bleasdale, electric light & power engineers, Albion Electrical Works, Bolton. Offices & showrooms: 45 & 47, Victoria-sq., Bolton. (Telephone No. 27 X.)

Player & Mitchell, electric light fittings manufacturers, Cambridge-st., Birmingham. (Telegrams: "Baynton, Birmingham." Telephone No. 1584.)

Player, W. & J., Ltd., mechanical engineers, Lionel-st., Birmingham. (Telegrams: "Players, Lionel-st., Birmingham." Telephone No. 1310.)

Playfair, C. M., Capt., R.A., A.I.E.E., 7, Cantwell-rd., Woolwich, S.E.

Plenderleith, F. A., assistant electrical engineer, Corporation Electricity Works, Ripon-rd., Harrogate.

Plenty & Son, Ltd., engineers & boiler makers, Eagle Iron Works, Newbury, Berks. (Telegrams: "Plenty, Newbury." Telephone No. 7.)

Pletts, J. St. Vincent, A.I.E.E., c/o Marconi's Wireless Telegraph Co., 18, Finch-lane, London, E.C.

Plowright, T. H., chief assistant engineer, Windsor Electrical Installation Co., Ltd., Windsor. (Teleph. No. 29B, Windsor.)

Plucknett, Allan, M.I.E.E., electrical engineer & contractor, 1, Gresham-st., E.C.; & 22, Warmington-rd., Herne Hill, S.E. (Telegs.: "Plucknett, London." Teleph. Nos.: 1671, London Wall; 1510, Hop.)

Plucknett, Jas., A.M.I.E.E., St. John's, Warwick.

Plucknett, C. J., & Co., electricians, 29, Poland-st., London, W. (Telegs.: "Smooth, London." Teleph. No. 2590, Gerrard.)

Plucknett, Jas., & Co., electrical engineers, St. John's, Warwick.

Plummer, F. S., electric light & bell fitter, Ipswich-st., Stowmarket.

Plummer, T., A.I.E.E., assistant superintending engineer, North Wales District, G.P.O., Liverpool.

PLUMPTON, GEORGE, manufacturer of all kinds of telegraphic & electrical tools, including pliers, telegraph vices, draw tongs, &c., Albion Works, Warrington. (Telegrams: "Tools, Warrington.") Established 1860. (Illustrated Catalogue upon application.)

Plumpton, Herbert, maker of telegraph & electricians' tools, Excelsior Tool Works, Warrington, Lancs. (Telegrams: "Herbert Plumpton, Warrington.")

Plumtree, John S., A.M.I.E.E., Union Electric Co., Ltd., 53-57, Park-st., Southwark, London, S.E.

Plunket, A. J. L., engineer, c/o Newcastle-upon-Tyne Electric Supply Co., Royal Exchange-bldgs., Newcastle-on-Tyne.

Plunkett, M. P., A.M.I.E.E., resident electrical engineer, Electricity Works, Oban, N.B.

PLUTTE, SCHEELE & CO., agents for Kabelwerk Rheydt A.G.; Deutsche Telephonwerk, Berlin; Vorwerk & Sohn, Barmen; 18-19, Queenhithe, London, E.C. *See advt., page* 9.

Plymouth Corporation Electricity Works, Prince Rock, Plymouth. E. G. Okell, M.I.E.E., borough electrical engineer.

Plymouth Municipal Technical School, Plymouth. *See* SCHOOLS, CLASSIFIED SECTION.

Plymouth, Stonehouse & Devonport Tramways Co., Plymouth. (Telephone No. 53.) John Glenn, chief engineer; G. H. Moreton, manager.

Pochin, E. Arnold, machine-cut gearing manufacturer, Trafford Park, Manchester. (Teleph. No. 34, Trafford Park.)

Pochin, E. A. N., M.I.E.E., B.A., Westbrooke, Chelmsford.

Pochin, H. D., & Co., Ltd., manufacturers of sulphate of alumina, Willington-quay, Newcastle.

Pocklington, F. A., A.M.I.E.E., M.N.S.E.E., managing director Simplified Underground Conductor Co., Ltd., 180, Crown-st., Liverpool (Telegs.: "Simplified, Liverpool." Teleph. Nos.: 174, Royal); & 150, Boughton, Chester. (Teleph. No. 3 Y.)

Pockson, Melville John H., A.M.I.E.E., 198, Portland-rd., Newcastle-on-Tyne.

Pohl, Dr. Robt., electrical engineer, Thornbury Works, Bradford, Yorks.

Polden, F. C., A.M.I.E.E., A.M.I.MECH.E., 78, Queen Victoria-st., London, E.C.

Polglase & Co., manufacturing chemists, Tyne Vale Chemical Works, Skinnerburn-rd., Forth Banks, Newcastle-on-Tyne.

Polley, James W., A.M.I.E.E., electrical engineer, D. Hulett & Co., Ltd., 55/56, High Holborn, W.C.; & 23, Grange Park-rd., Leyton.

Pollit & Wigzell, Ltd., mechanical engineers, Sowerby-bridge, Yorkshire. (Telegrams: "Prow, Sowerby-bridge." Telephone No. 523.)

Pollitt, Sir Wm., Bowdon, Cheshire. Director London Electric Supply Corporation, Ltd.

Pollock & Macnab, Ltd., machine tool makers, Britannia Machine Tool Works, Bredbury, Manchester. (Telegs.: "Macnab, Woodley." Teleph. No. 289, Stockport.)

Pollock, S., & Sons, gas engine makers, Williamsburgh, Paisley, N.B.

Pollock, Whyte & Waddell, gas engine makers, Johnstone, N.B.

Polyblank, H. S., A.M.I.E.E., Department of Engineering, City of Bradford Technical College, Bradford.

Polyblank, W. J., engineer, 14, Grove Park-ter., Chiswick, W.

Polytechnic, The, courses in electrical engineering, magnetism & electricity, sound, light & heat, theoretical & practical physics, held day & evening, 307, 309 & 311, Regent-st., London, W. (Telegrams: "Polytechnic, London." Telephone No. 3747, Gerrard.) *See* SCHOOLS.

Pontifex, S., & Co. (F. Lennard, M.S.E., proprietor), electrolier manufacturers, 22, Coleman-st., London, E.C. (Telegrams: "Illumination, London." Telephone No. 395, Bank.)

Pontifex & Wood, iron founders & general engineers, 176, Salisbury House, London Wall, London, E.C. (Telegrams: "Ponfex, London." Telephone Nos.: 862, London Wall; & 5198, Central.)

Pontypool Electric Light & Power Co., Ltd., Club-chambers, Pontypool, Mon. (P.O. Teleph. No. 18.) Directors: W. Pegler, Esq., J.P. (chairman); Mrs. Clara A. Pegler; P. B. Ford, Esq.; W. T. Jones, Esq.; W. Pegler, jun., Esq. Secretary, A. H. Watkins; consulting engineer, J. C. Howell; resident engineer, W. T. Maybery. Nominal capital: £10,000 in £5 shares. 1143 shares have been taken up; £5 has been called on each of 669 of these & £4 on each of the 474 remaining. The total received is £5241. 4 per cent. mortgage debentures secured by trust deed, £5000. Dividends: 1903 & 1904, 5 per cent.

Pontypridd Electricity Works, Pontypridd, Glam. South Wales Electrical Power Distribution Co., proprietors. Engineer, W. A. Chamen; resident engineer, H. N. Holland. (Telegs.: "Unit, Treforest." Nat. Teleph. No. 28, Pontypridd.)

Pontypridd Urban District Council Electricity Works, Pontypridd, Glam. Resident engineer & manager, J. E. Teasdel, A.M.I.E.E. (Nat. Teleph. No. 11.)

Poole, H. C., wiring contractor, 21, Springbridge-rd., Ealing, W. (Teleph. No. 731, P.O., Ealing.)

Poole, Joseph, A.M.I.E.E., 7, Spencer-ave., Bowes Park, London, N.

Poole, S., assistant engineer, Electricity Works, Salisbury.

Poole, T. G., electrical engineer, c/o Veritys, Ltd., Hardman-st., Deansgate, Manchester.

Poole, Wm. E., resident engineer, Hexham & District Electric Supply Co., Ltd., Hexham.

Poole, H., & Co., electrical engineers, 58, Castle-st. E., London, W. (Telephone No. 3884, Central.)

Pooley, F., M.I.E.E., electrical engineer, 32, Victoria-st., Westminster, S.W. (Telegs.: "Dialite, London." Teleph. No. 4270, Gerrard.)

Pooley, Hubert, A.M.I.C.E., engineer & manager, Corporation Gas & Electricity Department, Stafford. (Telegrams: "Pooley, Stafford." Nat. Telephone No. 8.)

Poore, Mark S., A.I.E.E., managing director J. Lovibond & Sons, Ltd., Greenwich, S.E.

Pope, A., A.M.I.E.E., The Crane Works, Parkhead, Glasgow.

Pope, Edwyn L., A.M.I.E.E., c/o London County Council Tramways Department, 303, Camberwell Newrd., London, S.E.

Pope, P. C., A.M.I.E.E., electrical engineer, Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester. (Telegs.: "Siemens, Manchester." Teleph. No. 6735.)

Pope, T., & Co., name plates, Livery-st., Birmingham.

Pope, W., & Son, Ltd., general engineers, steam injectors, Gotha Iron Works, Slough. (Telegrams: "Gotha, Slough." Telephone No. 7.)

POPE'S ELECTRIC LAMP CO., manufacturers of incandescent lamps. Works: Hythe-rd., Willesden, N.W. (Telegrams: "Planetary, London." Telephone No. 70, Harlesden); 5, Arthur-st., New Oxford-st., London, W.C. (Teleph. No. 3000, Gerrard); 21, Manesty's-lane, Liverpool; & 15, Douglas-st., Glasgow. *See* INCANDESCENT LAMP MANUFACTURERS—ELECTRIC.

Popham, W. V. M., A.M.I.E.E., consulting electrical engineer, Talbot House, 9, Arundel-st., Strand, W.C. Director Colliery Power Supply Syndicate, Ltd.

Poplar Borough Electricity Works, Glaucus-st., Bromley-by-Bow, E. (Telegrams: "Acervuline, London." Telephone No. 424, Eastern.) Engineer, J. H. Bowden, A.M.I.E.E.

Popular Electricity (1*d*.), 4, Southampton-row, London, W.C. (Telegs.: "Unconform, London." Teleph. No. 6494, Gerrard.)

Porcher, H., electrical engineer, 19, Clyde-rd., Brighton.

Port-Dundas Pottery Co., Ltd., manufacturers of stoneware electrical apparatus, Bishop-st., Port-Dundas, Glasgow. (Telegrams: "Pottery, Glasgow." Telephone No. 3054.)

Portable Accumulators, Ltd., King Edward's Mansions, 210, Shaftesbury-ave., London, W.C. *In voluntary liquidation.* Liquidator, C. L. Waltner, 28, Sheen Park, Richmond, Surrey.

Porte, A. E., M.I.E.E., consulting engineer, 61, Dawson-st., Dublin. (Telegs.: "Electricity, Dublin." Teleph. No. 290.)

Porte, Frank C., A.M.I.E.E., electrical engineer, 27, Marlborough-st., Cork. (Telegs.: "Electrical, Cork." Telephone No. 118 X.)

Porte, F. C., & Co., electrical, mechanical & general engineers & contractors, 27, Marlborough-st., Cork. (Telegs.: "Electrical, Cork." Teleph. No. 118 X.)

Porter, A., resident electrical engineer, Corporation Electricity Works, Worthing.

Porter, C. V., A.I.E.E., electric bell manufacturer & contractor, 108, Pemberton-rd., Harringay, London, N.

Porter, G., A.M.I.C.E., borough electrical engineer, Worthing.

Porter, George, electrical engineer, 31, Lime-st., London, E.C.

Porter & Co., iron lamp post manufacturers, Gowts Bridge, Lincoln.

Porter, H., & Co., electrical engineers, 8, Northumberland Alley, Fenchurch-st., London, E.C.

Portheim, R. S., M.I.E.E., Bruce Peebles & Co., Ltd., 1, London Wall-bldgs., London, E.C. Director Falkirk Electric Construction Syndicate, Ltd.; director Canada Electric Traction Co., Ltd.

Portmadoc, Beddgelert & South Snowdon Railway Co., c/o Bruce Peebles & Co., Ltd., The Chalet, Beddgelert. (Telegs.: "Peebles, Glanaber.")

Portmadoc Slate Co., The, slate turners, Portmadoc, North Wales.

Portpatrick Electric Supply Co., Ltd., Dunskey Estates Office, Portpatrick. Registered June 25, 1903. Nominal capital: £2000 in £1 shares, of which 1550 have been issued. Directors: Col. Chas. Fergusson; The Right Hon. Viscount Kelburne; & the Right Hon. Lady Augusta Orr Ewing. Secretary, Jas. Purves.

Portsdown & Horndean Light Railway Co., Ltd., Moorgate Station-chbrs., London, E.C.; & Cosham, Hants. (Telegs.: "Glenn, Cosham." Nat. Teleph. No. 3; Corp. 5, Cosham.) Consulting engineer, J. Glenn, C.E.; resident engineer & manager, J. F. Glenn.

Portsmouth Corporation Electric Tramways. (Telephone No. 690, Corp.) V. G. Lironi, M.I.M.E., A.M.I.E.E., engineer.

Portsmouth Corporation Electricity Supply. (Telegrams: "Lighting, Portsmouth." Nat. & Municipal, Teleph. No. 231.) W. S. Foale, engineer & manager.

Portsmouth Corporation Telephone Department, Town Hall, Portsmouth. A. R. Bennett, consulting engineer; C. M. Gardner, A.M.I.E.E., resident engineer.

Portsmouth Municipal Technical School, Portsmouth. *See* SCHOOLS, CLASSIFIED SECTION.

Possmann, J., M.I.E.E., c/o Grindlay & Co., 54, Parliament-st., London, S.W.

Post Office Telegraphs. Headquarters: St. Martin's-le-Grand, London, E.C. For Officials, *see* CLASSIFIED SECTION.

Postal Telegraph Factory, Mount Pleasant, Clerkenwell, London, E.C. W. Bosomworth, supt.

Postal Telegraph Schools, L. D. Barclay, assistant superintendent in charge, G.P.O. West, London, E.C.

Postlethwaite & Stacey, electric lighting contractors, Printing Office-st., Doncaster. (Nat. Teleph. No. 0188.)

Poths, H., & Co., importers of chemical glass, &c., 4, 5 & 6, Bury-ct., St. Mary Axe, London, E.C. (Telegrams: "Poths, London." Telephone No. 1365, Avenue.)

Pott, Arthur H., M.I.C.E., M.I.E.E., A.M.AM.I.E.E., chief engineer, Metropolitan Electric Tramways, Ltd., & North Metropolitan Tramways Co., Spencer House, South-pl., Finsbury Pavement, London, E.C. (Telegs.: "Lentiscus, London." Teleph. No. 17, London Wall.)

Pott, Cassels & Williamson, electric driven centrifugal machine manufacturers, Motherwell, nr. Glasgow. (Telegrams: "Pott, Motherwell.")

Potter, Douglas, A.M.I.E.E., "Glencoe," Clifton-rd., Rugby.

Potter, W. R., A.M.I.E.E., consulting engineer, Potter & Tizzard, 17, Collingwood-st., Newcastle-on-Tyne.

Potter, F. W., & Co., wire weavers, gauze dynamo brush manufacturers, Soar's patent & ordinary, Phipp-st., Great Eastern-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Potter, Thomas, & Sons, Ltd., electrical, mechanical & general engineers, 44, South Molton-st., London, S.W.

Potter & Tizzard, consulting engineers, 17, Collingwood-st., Newcastle-on-Tyne. (Telegrams: "Lightning, Newcastle." Telephone No. 2665, Nat.)

Potteries Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C. (Telegs.: "Potteries, c/o Tramway, London.") Registered June 28, 1898. Nominal capital: £300,000 in £10 ordinary shares & £300,000 in £10 5 per cent. cumulative preference shares, & £300,000 in debenture stock, £245,000 of which has been issued. 24,500 ordinary & 24,500 preference shares have been issued, & fully paid up. Directors: G. Cornwallis West, Esq. (chairman); S. Mear, Esq.; Lieut.-Col. Sir T. E. Pilkington, Bart.; J. Vincent Kitchener, Esq. Engineer & manager, J. J. Walklate; secretary, W. Fisher Herring. Dividends on ordinary shares: 1900, 2 per cent.; 1901, 4 per cent.; 1902, 1903, & 1904 5 per cent.

Potts, Cuthbert, consulting engineer, 64, Fawcett-st., Sunderland. (Telegrams: "Cuthbert, Sunderland." Telephone No. 748.)

Potts, W. T., director Charing Cross, Euston & Hampstead Railway Co., Hamilton House, Victoria Embankment, E.C.

Poulton, G. D., A.M.I.E.E., 19, Llywel-st., Bryn Mill, Swansea.

Pounder & Sons, installation contractors, Park-rd., West Hartlepool.

Powell, C. H., A.R.S.M., A.I.E.E., 245, Peckham Rye, London, S.E.

Powell, David, electrical engineer, Gorseinon Electric Light Co., Gorseinon.

Powell, D. T., A.I.E.E., 40, Harcourt-terrace, London, S.W.

Powell, E., mechanical & electrical engineer, 10 & 12, Grove-hill-rd., Tunbridge Wells. (Telegrams: "Powell, Electrician, Tunbridge Wells." Telephone No. 138.)

Powell, Frank, A.M.I.E.E., Electric Department, G.N.R. Plant Works, Doncaster.

Powell, F. S., wire draw-plate & gauge manufacturer, The Elms, Egham, nr. London.

Powell, J. R., consulting engineer, Royal Stuart-bldgs., Docks, Cardiff.

Powell, Legh S., M.I.E.E., The Old Manor House, Ashley, Stockbridge, R.S.O., Hants.

Powell & Co., jewel-hole makers, 17, Poland-st., W. (Telephone No. 35,459.)

Powell, James, & Son, glass manufacturers, 26, Tudor-st., London, E.C. (Teleph. No. 1996, Central.)

Powells, Ltd., wire manufacturers, Rolling & Wire Mills, Vauxhall, Birmingham. (Telegrams: "Powells, Pitney-st., Birmingham." Telephone No. 83.)

Power, Herbert, wholesale factor of electrical goods, 34, Evanston-ave., Cardigan Fields; & 8, Park Cross-st., Leeds (Telephone No. 59 Y.); also Bradford & Shipley, Yorks.

Power, F. A., & Son, wire manufacturers, Midland Wire Mills, Saltley, Birmingham. (Telegrams: "Ingot, Birmingham." Telephone No. 2545.)

Power Gas Corporation, Ltd., 39, Victoria-st., London, S.W.

POWER PLANT CO., LTD., electric & gas plant manufacturers; sole manufacturers of patent machine-cut double helical wheels, Temple Bar House, Fleet-st., London, E.C. (Telegrams: "Biceps, London." Telephone No. 10968, Central.) Works: West Drayton.

Power & Traction, Ltd., electricians & electric railway engineers, &c., 79, Palace-chbrs., Westminster, London, S.W. (Telegrams: "Emissivity, London." Telephone No. 3195, Gerrard.) Registered Nov. 8, 1897. Capital: £10,000 in £1 shares, 4000 of which are issued & fully paid, & £3000 debentures, issued & paid. Directors: J. Browne Martin, Esq. (chairman); A. Greenwood, Esq.; H. C. Walker, Esq.; R. A. Smith, Esq., M.I.E.E. (managing).

Powles, Walter, A.I.E.E., electrician, 249–251, Kensal-rd., London, W.

Pownall, J. E., A.M.I.E.E., A.M.I.MECH.E., assistant engineer, Hampstead Electricity Works, London, N.W. (Telephone No. 67, Hampstead.)

Poynder, H. Bryan, A.M.I.E.E., 11, Elmfield Mansions, Elmfield-rd., Balham, S.W.

Poynter, John, Son & Macdonalds, manufacturing chemists, 72, Great Clyde-st., Glasgow. (Telegrams: "Poynter, Glasgow." Telephone No. 533.)

Poynting, J. H., D.SC., F.R.S., professor of physics, The University, Birmingham. (Telephone No. 68.)

Poynton, W. A., A.I.E.E., chief engineer, Hotel Cecil, Strand, London, W.C.

Practical Electrician's Pocket Book & Diary. Published annually about Oct.—Nov. Established 1898. Price: cloth, 1*s.*; leather, 1*s.* 6*d.* Publishers: S. Rentell & Co., Ltd., 36, Maiden-lane, London, W.C. (Teleph. No. 3287, Central.)

Practical Electro-Plating & Enamelling Co., Ltd., electroplaters & enamellers, Fleet-st., Coventry.

Practical Engineer (weekly, price 2*d.*), 359, Strand, W.C.; & Manchester. (Teleph. No. 12423, Central.)

"*Practical Engineer*" *Electrical Pocket Book & Diary*, Technical Publishing Co., Ltd., 287, Deansgate, Manchester. (Telephone No. 2202.)

Pragnell, E. C., electrician, 136, Great Dover-st., London, S.E.

Prance, H. W., A.I.E.E., 39, Westbourne-gdns., London, W.

Prangnell, Norman Wm., A.M.I.E.E., 20, St. Petersburgh-pl., London, W.

Pratt, Arthur, electrical engineer, 6, Nelson-ter., Tottenham-lane, Hornsey, London, N.

Pratt Bros., electrical contractors, 109, Dalry-rd., Edinburgh.

Pratt, James Jerram, & Son, antimony refiners, 79, Queen-street, London, E.C.

Pratt & Keith, electrical engineers, 161, Union-st., Aberdeen. (Telegrams: "Palace, Aberdeen." Telephone No. 234.) F. Fowell, electrical engineer.

Precision Engineering Co., Ltd., electrical & mechanical engineers, press tool makers & metal stampers, 5, Clerkenwell Green, London, E.C. (Teleph. No. 12382, Central.)

Preece, Arthur H., A.M.I.C.E., M.I.E.E., 8, Queen Anne's Gate, Westminster, S.W. (Telephone Nos. 420 & 446, Westminster.)

Preece, Frank H., A.M.I.E.E., Davey, Paxman & Co., Ltd., Colchester.

Preece, Geo. G. L., A.M.I.E.E., M.I.M.E., elec. engineer, W. T. Glover & Co., Ltd., Trafford Park, Manchester.

Preece, Sir W. H., K.C.B., F.R.S., M.I.E.E., PAST PRES.I.C.E., 8, Queen Anne's Gate, Westminster, London, S.W. (Telegrams: "Creephole, London." Telephone Nos. 420 & 446, Westminster.) Director London Electric Supply Corporation, Ltd.

Preece, William Llewellyn, M.I.E.E., A.M.I.C.E., 8, Queen Anne's Gate, Westminster, S.W.

Preece & Cardew, consulting electrical engineers, 8, Queen Anne's Gate, Westminster, S.W. (Telegrams: "Creephole, London." Telephone Nos. 420 & 446, Westminster.)

Preedy, Fritz Hubert, A.M.I.E.E., 94A, Ormiston-rd., Shepherd's Bush, London, W.

Preller, Chas. S. du Riche, M.A., PH.D., M.I.E.E., 61, Melville-st., Edinburgh.

Premier Accumulator Co., Cattle Market-rd., Northampton. (Telegs.: "Battery, Northampton." Teleph. No. 82.) *See advt. under* ACCUMULATORS.

Premier Electric Lamp Co., Ltd., manufacturers of incandescent lamps. Office & works: Huyton Quarry, nr. Liverpool. (Telegs.: "Outstrip, Huyton." Teleph. No. 60, Huyton.)

Premier Engineering Co., electrical & mechanical engineers, St. Mary's-rd., Sheffield.

"Premier" Gas Engine Co., Ltd., gas engine makers, Sandiacre, nr. Nottingham. (Telegrams: "Premier, Sandiacre." Telephone No. 39, Long Eaton.)

Prendergast, A. M., assistant engineer, Junior Army & Navy Stores, York House, Regent-st., London, S.W.

Prentice, J., resident engineer, Kelvinside Station, Kelvinside, Glasgow.

Prentice, Napier, A.I.E.E., consulting engineer, Stowmarket, Suffolk. (Telegs.: "Napier Prentice, Stowmarket.") Director Suffolk Electricity Supply Co., Ltd.

Prescot Electricity Works (British Insulated & Helsby Cables, Ltd.). (Telegrams: "Insulator, Prescot." Telephone No. 8, Prescot.) Engineer, R. P. Nash.

Prescott, George, A.M.I.E.E., 9, Merrion-row, Dublin.

Prescott, T., chartered patent agent, 4, St. Anne's-sq., Manchester.

Prescott, G. H., & Co., electrical & mechanical engineers, 25, Whitby-st., West Hartlepool.

Press Association, Ltd., Telegraphic News Agency, 14, New Bridge-street, London, E.C. (Telegrams: "Press Association, London." Telephone Nos.: P.O. 6130, Central; & Nat. 1767, Holborn.) Manager, E. Robbins.

Pressed Steel Car Co., 20, Broad-st. House, London, E.C. (Telegrams: "Hypsiloid, London." Telephone No. 1085, London Wall.)

Pressland, W. T., A.I.E.E., electrical engineer, Broad Sanctuary-chbrs., Westminster, S.W. (Telegs.: "Pressland, London." Teleph. No. 5026, Westminster.) Director Isle of Wight Electric Light & Power Co., Ltd.; Newmarket Electric Light Co., Ltd.; National Provincial Electricity Corporation, Ltd.; St. Austell & District Electric Lighting & Power Co., Ltd.; Ramsgate & District Electric Supply Co., Ltd.; Penzance & District Electric Supply, Ltd.; North Wales & District Light Railway & Electric Power Syndicate, Ltd.; Ashford & District Electric Supply Co., Ltd.; Western Electric Distributing Corporation, Ltd.; Bridgwater & District Electric Supply & Traction Co., Ltd.; Farnham & District Electric Supply Co., Ltd.

Prest, S. F., maker of steam engines for electrical purposes, 2, Suffolk-lane, London, E.C. (Telegrams: "Presteza, London.")

Prested Miners' Gas Indicating Electric Lamp Co., Mansion House-chbrs., London, E.C. (Telegs.: "Pestedora, London." Teleph. No. 3738, Central.) Works: Elthorne-rd., Holloway-rd., N.

Preston, E., wiring contractor, 42, Grange-rd. West, Birkenhead.

Preston, G. F. L., M.I.E.E., general manager Post Office London Telephone Service, G.P.O. South, Carter-lane, London, E.C.

Preston Corporation Tramways, Preston, Lancs. (Telegrams: "Tramways, Preston." Nat. Telephone No. 273.) Engineer & manager, J. F. Simpson, M.I.E.E.

PRESTON ELECTRIC CO., LTD. (late Midland Electric Co.), electrical engineers & contractors, Seymour-st., Belgrave-rd., Birmingham. (Telegrams: "Practical, Birmingham." Telephone No. 493.) Registered June 25, 1896.

Preston Electricity Works. National Electric Supply Co., Ltd., proprietors. Engineer, J. H. Tonge, M.I.E.E., A.M.I.C.E.

Prestwich, R. H., Holmleigh, Park-lane, Higher Broughton, nr. Manchester. Director Blackpool & Fleetwood Electric Tramroad Co.

Prestwich & Burt, South-lane, Kingston-on-Thames. (Telegrams: "Prestwich, Kingston-on-Thames." P.O. Telephone No. 19.)

Pretty, W. H., WH.SC., A.R.C.S., A.M.I.C.E., consulting engineer, "Fell Side," Cutcliffe-pl., Bedford.

Pretty, W., & Co., Ltd., electrical engineers, Osmondeston Works, Scole, Norfolk.

Prevette, E. A., electric light engineers, Station-st., Eastbourne.

Price, H. B., electrical engineer, Brush Electrical Engineering Co., Ltd., Belvedere-rd., London, S.E.

Price, Hugh, telegraph engineeer, engineering department, Postal Telegraphs, Cardiff.

Price, I. M., Park-st., Lower Brynamman. Director Brynamman & District Electric Supply Co., Ltd.

Price, J. P., engineer, Post Office Telegraphs & Telephones, South Metropolitan District, 74, North Side, Wandsworth Common, London, S.W.

Price, Leonard, local manager National Telephone Co., Leicester. (Telephone No. 210, Leicester.)

Price, S. L. R., resident electrical engineer, Electricity Works, Pembroke, Dublin.

Price, W. F., A.M.I.M.E., A.M.I.E.E., c/o Callender's Cable & Construction Co., Fairclough-lane, Liverpool.

Price & Belsham, civil & mechanical engineers, 52, Queen Victoria-street, London, E.C. (Telegrams: "Belsham, London." Telephone No. 6003, Central.)

Price, C., & Co., oil merchants & refiners, Castle Baynard, 12 & 13, Upper Thames-st., London, E.C. (Teleph. No. 779, Bank); Regent's Wharf, West Ferry-rd., Poplar, E. (Teleph. No. 227, Eastern.) Works: Belvedere, Kent. (Telegs.: "Montezuma, London." Teleph. No. 13, Woolwich.)

Price, Philip, & Co., installation contractors, 88, Lawrence Hill, Bristol.

PRICE, POWELL & CO., manufacturers of Porcelain Stoneware Insulators, Battery Jars, Porous Cells, &c., Potteries, BRISTOL. (Telegs.: "Pottery, Bristol." Nat. Teleph. No. 279.)

Price & Taylor, wiring contractors, 45, Argyle-st., Birkenhead.

Price, W. H., & Co., electrical engineers, Leicester-st., Walsall.

Price's Patent Candle Co., Ltd., manufacturers of oil for engines & dynamos, Battersea, London, S.W.; & Liverpool. (Telegrams: "Belmont, London." Telephone No. 91, Battersea.)

Prichard, M. St. B. Director Western Electric Railways Development Co., Ltd.

Prieger, E., director La Capital Traction & Electric Co., Buenos Aires, Ltd., 62, London Wall, London, E.C.

Priest, Rowland, pulley block maker, Cradley Heath. (Telegrams: "Hydraulic, Cradley Heath.")

Priestley, Wm. Clapham, A.I.E.E., Geldard-rd., Birstall, nr. Leeds.

Priestly, Percy, assistant electrical engineer, Corporation Electricity Works, Halifax.

Priestman, F., chairman Priestman Power Co., Ltd., Milburn House, Newcastle-on-Tyne.

Priestman Bros., Ltd., manufacturers of petroleum engines, Holderness Foundry, Hull. (Telephone No. 81.) London office: 3, Laurence Pountney Hill, E.C. (Telegrams: "Priestman, London." Telephone No. 901, Bank.)

Priestman Power Co., Ltd., Milburn House, St. Nicholas Churchyard, Newcastle-on-Tyne. Registered Nov. 26, 1903. Nominal capital: £40,000 in £1 shares. Issued: £20,000, fully paid. Directors: F. Priestman, Esq. (chairman); J. H. B. Noble, Esq.; J. T. Merz, Esq.; H. Peile, Esq.; S. J. Leybourne, Esq.; J. H. Armstrong, Esq. Secretary, N. Merz.

Primavesi Bros., electricians, Wellington House, Bournemouth. (Telephone No. 45.)

Primitiva Gas & Electric Lighting Co. of Buenos Aires, Ltd., 153, Leadenhall-st., London, E.C. (Telegs.: "Primgaco, London." Teleph. No. 1730, Central.) Registered Jan. 25, 1901. Nominal capital: £400,000 in £5 ordinary shares, £800,000 in £5 preference shares & £600,000 debentures. Issued: £398,495 ordinary shares, £796,990 preference shares & £600,000 (£50,000 is held by Co. as an investment) debentures, all fully paid. Directors: H. E. Jones, Esq. (chairman); J. Kincaid, Esq.; W. W. Phipps, Esq.; C. H. Sanford, Esq. Secretary, J. H. Bouwer, sen. Dividends: 1902, 5 per cent. on preference shares, 3 per cent. on ordinary; 1903, 5 per cent. on preference shares, 5 per cent. on ordinary; 1904, 5 per cent. on preference shares, 6 per cent. on ordinary; 1905, 5 per cent. on preference, 7 per cent. on ordinary.

Princess Art Metal Works Co., electric light fittings & lightning conductor manufacturers & erectors, 183 & 185, Princess-st., Manchester. (Telephone No. 2275, Nat.)

Pringle, Major Geo., The Cedars, Benges, Hertford. Director River Plate Electricity Co., Ltd.

Pringle, P. J., M.I.E.E., M.I.M.E., borough electrical engineer & tramways manager, Corporation Electricity Supply, Burton-on-Trent. (Teleph. No. 202.)

Pringle, J., & Co., electric light contractors, 61–63, Westow-st., Norwood, London, S.E. (Telephone No. 89, Sydenham.)

Pringle, R., & Sons, dealers in platinum scrap, 40 & 42, Clerkenwell-rd., London, E.C. (Telegrams: "Wilderness, London." Telephone No. 1929, Holborn.)

Prior, H. L., J.P., director Windsor Electrical Installation Co., Ltd., Peascod-st., Windsor. Director Slough & Datchet Electric Supply Co., Ltd.

Prismatic Shade Co., West Bridge, Leicester.

Pritchard, W. E., chief electrical engineer, Electricity Works, Portdinorwic, Carnarvonshire.

Pritchard, Green & Co., consulting engineers, 37, Waterloo-st., Birmingham. (Telegs.: "Pritchard, Birmingham." Teleph. No. 4450.)

Pritchett, C. R. D., electrical engineer, 20, Victoria-st., Westminster, S.W.

Pritchett, G. E., A.I.E.E., Oak Hall, Bishop's Stortford, Herts.

Pritchett, G. E. B., Clymping Dene, Feltham, Middlesex. Chairman Pritchetts & Gold, Ltd.

Pritchett, T. W., A.I.E.E., Uplands, Feltham, Middlesex.

PRITCHETTS & GOLD, LTD., manufacturers of storage batteries, 20, Victoria-st., Westminster, S.W. (Telegs.: "Acidulated, London." Teleph. No. 762, Victoria.) Works: Feltham, Middlesex. (Telegs.: "Pritchetts, Feltham." Teleph. No. 63 X., Hounslow.) *See* BATTERIES—STORAGE.

Private Telephone Co., telephone engineers & contractors, 27, Chancery-lane, London, W.C. (Telephone No. 4373, Central.)

PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., general electrical engineers, 78, Queen-st., Cheapside, London, E.C. (Telephone No. 1243, London Wall.)

Privett, Percy A. D., electrician, West End, Melksham, Wilts.

Probert, Ernest, A.M.I.E.E., electrical engineer, 180, Mitcham-lane, Streatham, S.W.

Probert, I., A.I.E.E., 58, Palewell Park, East Sheen, Mortlake.

Probert, W., & Son, brass founders & electric fittings makers, Boulton Works, South-rd., Hockley, Birmingham.

Probyn, Lieut.-Col. Clifford, J.P., 55, Grosvenor-st., W. Director Metropolitan Railway Co.

Probyn, Sir Lesley, 79, Onslow-sq., S.W. Director Great Northern, Piccadilly & Brompton Railway Co.; deputy-chairman Great Northern Railway Co.

Proceedings of the Royal Society (irregular), Harrison & Sons, 45, St. Martin's-lane, London, W.C.

Procter, Francis Egerton, M.I.E.E., Dorincourt, St. Augustine's-ave., South Croydon.

Proctor, C. Faraday, M.I.E.E., M.I.M.E., electrical engineer, Edison & Swan United Electric Light Co., Ltd. Works: Benwell, Newcastle-on-Tyne, & 44, Simonside-ter., Heaton, Newcastle-on-Tyne.

Proctor, Frank, electrical engineer, Foster & Co., Worple-rd., Wimbledon, London, S.W.

Proctor, H. Faraday, A.M.I.C.E., M.I.E.E., past president Municipal Electrical Association, city electrical engineer, Temple Back, Bristol. (Telegs.: "Faraday, Bristol." Teleph. No. 746; Private, 726.)

Proctor, Wm. Wilson, F.I.C., analytical chemist & assayer, 33 & 35, Side, Newcastle-on-Tyne.

Proctor, J., Ltd., makers of the Proctor mechanical stoker, Hammerton-st. Iron Works, Burnley. (Telegrams: "Proctor, Burnley." Telephone No. 212.)

Proger, J. G., & Sons, electrical engineers, Trinity-st., Cardiff.

Prout, T. A., A.I.E.E., electrician, 19, Courtenay-rd., Waterloo, Liverpool. (Tel. No. 400, Waterloo.)

Proven, G., consulting engineer, 8, Commercial-st., Leith. (Telegrams: "Survey, Leith.")

Provincial Tramways Co., Ltd., Moorgate Station-chbrs., London, E.C. Registered July 10, 1872. Nominal capital: £400,000 in 30,000 ordinary shares of £10 each & 10,000 6 per cent. preference shares of £10 each. Issued: £349,120, fully paid. Debentures: £121,500. Directors: A. Beattie, Esq., D.L., J.P.; A. W. White, Esq.; S. Hern, Esq.; J. Barber Glenn, Esq. (managing & secretary). Engineer, John Glenn. Dividends: 1903, 3 per cent.; 1904, 3 per cent.; 1905, 3½ per cent.

Prusmann, C. A. L., A.M.I.M.E., M.I.E.E., engineer, Corporation Electricity Supply Department, Swansea. (Teleph. No. 399, Corp.)

Pryce, H. J., locomotive & telegraph superintendent, North London Railway Co., Bow-road Works, London, E.

Pryor, M. R., Sun Life Assurance Office, 63, Threadneedle-st., E.C. Director St. James' & Pall Mall Electric Light Co., Ltd.

Public Undertakings, Ltd., 28, Victoria-st., Westminster. (Teleph. No. 5008, Westminster.) Registered July 12, 1904. Nominal capital: £10,000 in £1 preference shares & 7 ordinary shares of £1 each. Directors: Major H. Tulloch, C.B.; I. Parnell, Esq., J.P.; G. E. S. Venner, Esq., F.I.D., F.C.I.S. (secretary).

Pudney, C. C., electrical engineer, 11, Guildhall-st., Bury St. Edmunds.

Pudsey Corporation Electricity Works, Pudsey, Yorks. Resident engineer, E. Denton.

Pulford, Egerton G., A.M.I.E.E., consulting electrical engineer, 108, Whitechapel, Liverpool.

Pulford Brothers, Ltd., engineers & electricians, 108 & 110, Whitechapel, Liverpool. (Telegs.: "Personal, Liverpool." Teleph. No. 1495-6, Royal.) Registered Sept. 8, 1899. Capital: £3000 in £1 shares, 1623 of which are issued & are fully paid, & £590 debentures. Managing directors: Egerton G. Pulford, Esq., A.M.I.E.E.; J. Macleod, Esq.

Pullan, Chas., electrical engineer & contractor, 57, King's Arcade, Market-st., Bradford (Teleph. No. 1912); & Otley-rd., Shipley.

Pullar, J., & Co., electric bell fitters, West Wynd, Dundee. (Telephone No. 836.)

Pulleine, Capt. H. P., Sandford House, Richmond, Yorks. Director Northern Counties Electricity Supply Co., Ltd.

Pullen, A. E., A.M.I.E.E., chief assistant electrical engineer, Electricity Works, Ealing.

Pullen, W. J., engineer & electrician, 4, Pemberton-pl., London-rd., Sittingbourne.

Pullin, Jas. H., & Co., slate merchants, 8, Union-court, Old Broad-st., London, E.C. (Telephone No. 1960, London Wall.)

Pullon, J. T., director Cumberland Power Syndicate, Ltd., 4, South Parade, Leeds.

Pulsford, Charles A., A.M.I.E.E., Kelvin & Jas. White, Ltd., 16-20, Cambridge-st., Glasgow.

Pulsford, G. E., manufacturer of "Pulsford" incandescent lamps, 25, Coleman-st., London, E.C. (Telegrams: "Etoile, London." Telephone No. 9975, London Wall); & 10, rue Taitbout, Paris.

PULSOMETER ENGINEERING CO., LTD., makers of vacuum pumps, general pumping machinery & independent condensing apparatus, Nine Elms Iron Works, Reading, Berks. (Telegs.: "Pulsometer, Reading." Teleph. No. 583.) London offices & show-rooms: 61 & 63, Queen Victoria-st., E.C. *See* VACUUM PUMPS.

Pulteney, K., St. Austin's, Lymington. Chairman Lymington Electric Light & Power Co., Ltd.

Pulvertaft, Amos Wm., A.I.E.E., 120, George-st., Cork.

Pummell, Wm., A.I.E.E., Waverley, Brockley Rise, London, S.E.

Puplett, Henry, engineers' agent, 47, Victoria-st., London, S.W. (Telegs.: "Puplett, London." Teleph. No. 5423, Westminster.)

Purcell, E., electrical apparatus maker, Gravesend, Kent.

Purcell & Nobbs, electrical engineers, 87 & 89, Cleveland-st., Fitzroy-sq., London, W. (Telegrams: "Nobilified, London." Telephone No. 4637, Gerrard.)

Purrett, John, A.M.I.E.E., assistant electrical engineer, Electricity Works, Salford.

Purse, Frederick Walter, A.M.I.E.E., A.M.I.M.E., chief assistant engineer, Electricity Works, Howley, Warrington.

Pursell, D., & Co., ironfounders, makers of castings & forgings for electricians, Dalkeith, Midlothian, Scotland.

Purser, G. & W., electric bell manufacturers, Trafalgar Works, Palmer-st., Birmingham. (Telegrams: "Rubber, Birmingham." Telephone No. 17.)

Pursey, C. I., 99, Dover-rd., Folkestone. Director Folkestone Electricity Supply Co., Ltd.

Pursey, H. S., A.I.E.E., Wakefield & District Light Railways Co., Belle Isle, Wakefield.

Purves, Thos. F., A.I.E.E., assistant superintending engineer, Southern District, General Post Office, 64, North Side, Wandsworth Common, London, S.W.

Purves, J. & W., consulting electrical engineers, 53, York-pl., Edinburgh (Telegs.: "Dioptrics, Edinburgh." Teleph. No. 1259); & Queen-st.-chbrs., Exeter.

Purvis, John, A.I.E.E., 120, Durant's-rd., Ponder's End, London, N.

Putland, E. E., A.M.I.E.E., 31, Bargery-rd., Catford, S.E.

Putz, F. R., Bell's Asbestos Co., Ltd., 8 & 9, South Parade, Manchester (Telegrams: "Putz, Manchester"); & at 19 & 20, Strand-st., Liverpool.

Pybus Bros., electrical engineers, 8, Bank-pl., Salford.

Pye, Wm. B., A.I.E.E., 58, Hawkshead-st., Southport.

Pye, W. G., & Co., electrical & scientific instrument makers, Granta Works, Mill-lane, Cambridge. (Telegs.: "Pye, Cambridge." Local Teleph. No. 0314.)

Pyke, E., J.P., director National Electric Supply Co., Ltd., 119A, Fishergate, Preston.

Pyke, L., M.I.E.E., A.M.I.C.E., F.C.S., F.R.I., consulting electrical & mechanical engineer, Albany-bldgs., 39, Victoria-st., London, S.W. (Telegrams: "Synchronize, London.")

Pyle & Blaina Works, Ltd., manganese merchants, 17, Gracechurch-st., London, E.C. (Telephone No. 4022, Avenue.)

Pyle, Henry, & Co., electric bell fitters & dealers, 196, Poplar High-st., London, E. (Telephone No. 188, Eastern.)

Pyne, Albert Periam, A.M.I.E.E., A.M.I.C.E., Vickers, Sons & Maxim, Gun Mounting Department, Barrow-in-Furness.

Pynegar, Henry, electrical engineer, 5, Dowgate-hill, London, E.C. (Telegrams: "Pynegar, London." A.B.C. & A1 Codes used. Telephone No. 281, Bank.)

Pyper, W. J. S., A.I.E.E., electrical engineer, Holywood, St. Lawrence-rd., Clontarf, Dublin.

Pyrophone Co., automatic fire detection, 52, Queen Victoria-st., E.C.

Quartermaine, H., electric lighting contractor, Chertsey-rd., Woking.

Queen's College, Belfast. (Telephone No. 171.) *See* SCHOOLS, &c.

Queen's College, Cork. *See* SCHOOLS, &c.

Queen's College, Galway. *See* SCHOOLS, &c.

Queenstown Electricity Works, Queenstown, Ireland. (Telegrams: "Tramways, Queenstown." Telephone No. 22.) Cork Electric Tramways & Lighting Co., Ltd., proprietors. Engineer, W. H. Joyce.

Quelch, Robert James, M.I.C.E., M.I.N.A., consulting engineer & naval architect, 20, Billiter-bldgs., London, E.C. (Telegrams: "Quelch, London.")

Quick, A. C., Church-sq., Guernsey. Director Guernsey Railway Co., Ltd. (States Teleph. No. 466.)

Quick, B. J., electrical engineer, 3, Langney-rd., Eastbourne.

Quick, James, M.I.E.E., Technical Institute, Folkestone.

Quicke, Chas. F., M.I.E.E., mechanical, electrical & consulting engineer, 315, Euston-rd., London, N.W.

Quicke, Chas. F., & Co., electrical agents, 315, Euston-rd., London, N.W. (Telegrams: "Quicongo, London." Telephone No. 4226, Gerrard.)

Quilter, Sir W. Cuthbert, Bart., 14, King's Arms-yard, London, E.C. Director National Telephone Co., Ltd.

Quirk, Barton & Co., pig lead, litharge & tin & lead-foil for electrical purposes, 9, Gracechurch-st., London, E.C. (Telegrams: "Plumbum, London." Telephone No. 2202, Avenue.)

Quitmann, Carl, globes, shades, separators, bulbs, &c., 3, Cloth-st., Aldersgate-st., London, E.C. (Telegrams: "Karlus, London." Telephone Nos.: 415, Holborn; & 11424, Central.)

Radcliffe, F. R. Y., K.C., 1, Mitre-ct.-bldgs., Temple, E.C. (Teleph. No. 10871, Central.) Director Spanish Teleph. Co., Ltd.

Radcliffe Urban District Council Electricity Works, Radcliffe, Lancs. Engineer, H. Wilkinson.

Raden, H. W. van, maker of woven glass accumulators, volt & ampere meters, &c., 2, Regent-st., Coventry.

Radford, A. L., Cedar House, Hillingdon, Middlesex. Chairman Northwood Electric Light & Power Co., Ltd.; chairman Uxbridge & District Electric Supply Co., Ltd.

Radford, F. W. A., electrical engineer, Peto & Radford, Ltd., 100, Hatton Garden, London, E.C. (Teleph. No. 1660, Holborn.)

Radford, R. Heber, Son & Squire, consulting engineers & valuers, 15, St. James's-row, Sheffield. (Telegrams: "Radford, Sheffield." Telephone No. 425.)

Radley, Wood & Co., engineers, Ampthill-rd., Bedford.

Rae, B. G., assistant engineer, Corporation Electricity Works, Exeter.

Rae Bros., electrical & scientific instrument makers, 77, Renfield-st., Glasgow.

Raeburn & Duncan, electric light fittings manufacturers, Vinicombe-st., Hillhead, Glasgow. (Telephone No. 458 W., Corp.)

Raffael Bros., makers of "Patent Chicago Slabs," preservative composition for commutators, John Dalton-st., Manchester. (Telegrams: "Raffael, Manchester." Telephone No. 4618.)

Ragosine & Co., Ltd., oil manufacturers, 7 & 8, Idol-lane, Eastcheap, London, E.C. (Telegrams: "Ragosine, London." Telephone No. 244, Avenue. A1 Code used.)

Railing, M., A.I.E.E., "Newlyn," Driffold, Sutton Coldfield, Warwick.

Railway Construction & General Development Co. (Tasmania), Ltd., 231-3, Dashwood House, E.C. Registered Oct. 30, 1900. Nominal capital: £100,000 in £1 shares. Issued: 81,378 shares, 55,600 of them as paid. Directors: R. E. Middleton, Esq. (chairman); W. H. Palmer, Esq.; W. H. Glazier, Esq.; W. Lewis, Esq. Secretary, G. H. Deeks.

Railway Electrical Fog Signal Syndicate, St. Peter's Church-walk, Nottingham.

Railway & General Engineering Co., Ltd., engineers & dynamo makers, Midland Engineering Works, Meadow-lane, Nottingham.

Railway Lighting, Ltd., 78, King-st., Manchester. Registered Nov. 9, 1897. Capital: £75,000 in 50,000 £1 ordinary shares & 25,000 deferred shares of £1 each. Issued: 38,405 ordinary & 20,000 deferred shares. Mortgages & charges, £56,000. Directors: W. H. Collier, Esq. (chairman); W. P. J. Fawcus, Esq.; J. C. Willson, Esq.; E. E. Johnson, Esq. Secretary, H. S. Johnson.

Railway Signal Co., Ltd., Fazakerley, Liverpool (Telegrams: "Signal Co., Fazakerley." Telephone No. 15, Walton); & Sanctuary House, Westminster, London, S.W. (Telegrams: "Condensation, London." Telephone No. 562, Westminster.)

Railway Telegraph Superintendents' & Engineers' Conference (G. A. Neale, hon. secretary, H. & B. Railway, Hull).

Railway & Tramway Trust, Ltd., 5, Howick-pl., Victoria-st., Westminster, London, S.W. Registered July 28, 1906. Nominal capital: £1000 in 10*s.* shares.

RAILWAY WORLD. *See* (*Tramway & Railway World*).

Rainbow, E. H., A.I.E.E., South Wales Electrical Power Distribution Co., Treforest, Glam.

Raine, A., electrician, Cleveland Trust, Ltd., Saltburn-by-the-Sea.

Raine, A. D., A.I.E.E., electrical engineer, Telegraph Works, Silvertown, London, E.

Raine, G. E., 45, Stratford-rd., S.W. Director Southern Counties Mono-Rail Syndicate, Ltd.

Rainforth, W., & Sons, Britannia Iron Works, Lincoln. (Telegs.: "Rainforths, Lincoln." Teleph. No. 4.)

Rainsford & Lynes, Ltd., electric light engineers, 113, Emily-st., Birmingham.

Ralli, P., Ashstead Park, Surrey. Chairman Leatherhead & District Electricity Co., Ltd.

Ralph, Geo., M.I.E.E., c/o J. H. Holmes & Co., Portland-rd., Newcastle-on-Tyne.

Ram, Gilbert Scott, M.I.E.E., electrical inspector of Factories & Workshops, Home Office, London, S.W.

Ramage, P. A., A.M.I.E.E., Salford Iron Works, Manchester. (Telegrams: "Ramage, c/o Mather, Manchester." Telephone Nos. 5781, 5782 & 5783.)

Ramsay, D. A., electrician, Cambridge Scientific Instrument Co., Ltd., Cambridge.

Ramsay, Sir William, K.C.B., PH.D., F.R.S., professor of chemistry, University College, Gower-st., London, W.C.

Ramsay Bros., mechanical & electrical engineers, Phœnix Works, Whitehaven; & Carlisle.

RAMSDEN, CAMM & CO., LTD., manufacturers of telegraph wire of high conductivity, Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See* WIRE MANUFACTURERS—COPPER.

Ramsgate & District Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.; & Ramsgate. (Teleph. Nos. 27 & 51, Ramsgate.) Registered Dec. 21, 1903. Nominal capital: £30,000 in £5 ordinary shares. Issued: 84 shares, fully paid. Directors: F. E. Gripper, Esq.; J. C. Wigham, Esq.; W. T. Pressland, Esq.; W. B. Hopkins, Esq. Engineer, M. Farrer; secretary, C. H. Jones.

Ramuz, F. R., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness, Kent.

Rand Central Electric Works, Ltd., 120, Bishopsgate-st. Within, London, E.C. (Telegrams: "Incessancy, London.") Registered March 30, 1895. Nominal capital: £300,000 in £1 shares, all issued & fully paid. Directors: Sir Chas. Rivers Wilson, G.C.M.G., C.B. (chairman); G. von Chauvin, Esq.; C. Gorrissen, Esq.; A. H. Märker, Esq.; H. Strakosch, Esq.; Geo. Zwilgmeyer, Esq. Secretary, H. Rogers. Dividends: 1901, 1902 & 1903, *nil*.

Rand Electric Syndicate, Ltd. Registered Dec. 29, 1905. Nominal capital: £5000 in £1 shares.

Randall, Alex Brodribb, M.I.E.E., engineer, Salisbury Electric Light Co., Town Mill, Salisbury.

Randall, J. Holmes, electric bell fitter & contractor, Station-rd., Holt, Norfolk.

Randall Bros., installation contractors, St. Mary's, Bedford.

Randolph, A. M., electrical engineer, British Westinghouse Co., Trafford Park, Manchester.

Rands, Paul W., electrical engineer, Dacre House, Victoria-st., Westminster, London, S.W.

Rands, Robson & Co., electrical suppliers, Dacre House, Victoria-st., S.W.

Ranger & Hooper, general founders, 36, Percival-st., Clerkenwell, E.C.

Rangoon Electric Tramway & Supply Co., Ltd. Registered office: 14, Dale-st., Liverpool. (Telegs.: "Nabob, Liverpool." Teleph. No. 6698, Central.) Registered Dec. 20, 1905. Nominal capital: £500,000 in 50,000 6 per cent. cumulative preference shares of £5 (75 rupees) each & 250,000 ordinary shares of £1 (15 rupees) each & £150,000 debenture stock, secured by trust deed, dated Feb. 1, 1906. Secretary, F. J. Wilson.

Ranken, A. W., A.M.I.C.E., M.I.E.E., 9, Victoria-st., Westminster, London, S.W.

Rankin, A., engineer, Limavady Power & Light Works, Limavady, Ireland.

Rankin, T. T., C.E., B.SC., M.I.M.M., M.I.M.E., instructor in electrical engineering, Mining & Technical College, Wigan.

RANKINE PATENT FEED WATER FILTER CO., LTD., manufacturers, 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

Ranking, Harvey, 28, Westbourne-ter., Hyde Park, W. Director City & South London Railway Co., Ltd.

Ransome, F. S., A.M.I.C.E., A.I.E.E., c/o Schill Seebohm & Co., Ltd., 117, Portland-st., Manchester. (Telegrams: "c/o Schill, Manchester." Telephone No. 132.)

Ransome & Marshall, engineers, 67, Tithebarn-st., Liverpool. (Telegrams: "Ransome, Liverpool." Telephone No. 1658, Central.)

Ransomes & Rapier, Ltd., electric cranes, 32, Victoria-st., Westminster, S.W.; & Waterside Iron Works, Ipswich. (Telegrams: "Waterside, Ipswich;" "Ransomes Rapier, London." Telephone Nos.: 49, Ipswich; 568, Westminster.)

Ransomes, Sims & Jefferies, Ltd., mechanical engineers, high-speed engine makers, Orwell Works, Ipswich (Telegs.: "Ransomes, Ipswich." (Teleph. No. 11); & 9, Gracechurch-st., London, E.C. (Telegs.: "Anglia, London." Teleph. No. 10817, Central.)

Raphael, F. C., A.M.I.E.E., 203-6, Temple-chbrs., Temple-ave., London, E.C. (Telegs.: "Circling, London." Teleph. No. 5509, Holborn.)

Rapid Magnetting Machine Co., Ltd., 18, The Crescent, Birmingham. (Telegs.: "Boring, Birmingham." Teleph. No. 1842.)

Rasecki-Morton, E., A.M.I.E.E., 43, Muswell-rd., Muswell Hill, London, N.

RASHLEIGH PHIPPS & CO., electric lighting engineers & contractors, artistic electric light fittings, RASHLEIGH Electric Lamps, all voltages, 10*s.* 6*d.* per dozen, 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 12155, Central.)

Rasmussen, Webb & Co., precision turning & screw cutting lathes, 11, Charterhouse-bldgs., London, E.C. (Telegrams: "Rasmussen, London." Telephone No. 1815, P.O. Central.)

Rastrick & Son, Ltd., electricians, King's-terrace, Southsea.

Ratcliff, H. A., A.M.I.E.E., electrical engineer, 15, Filey-rd., Fallowfield, Manchester.

Ratcliff Bros., agents, 8, Mason's-ave., London, E.C.

Ratcliff, G. F., & Co., electric light & power engineers, 37, North Audley-st., London, W. (Telegrams: "Lumineux, London." Telephone No. 69, Paddington.)

Ratcliff, Joseph, & Sons, brazing solder manufacturers, New Summer-st., Birmingham. (Telegs.: "Ratcliffs, Birmingham." Teleph. No. 483.)

Rathenau, E., c/o Allgemeine Elektricitäts Ges., Friedrich Karl Ufer 2–4, Berlin, N.W. Director Chilian Electric Tramway & Light Co., Ltd.

Rathmines & Rathgar U.D.C. Electricity Works, Rathmines, co. Dublin. G. F. Pilditch, A.M.I.E.E., engineer.

Rathmore, Rt. Hon. Lord, The Oaks, Wimbledon. Director Central London Railway Co.

Ravenshaw, H. W., A.M.I.C.E., consulting electrical engineer, Rutland House, Hanwell, W. (Teleph. No. 735, P.O., Ealing.)

Rawlings, Arthur Lionel, A.I.E.E., 2, The Avenue, Taunton.

Rawlings, F., A.M.I.E.E., 98, The Drive Mansions, Fulham Park-gdns., Fulham, S.W.

Rawlings, H. S., A.I.E.E., 131, High-rd., Chiswick, W.

Rawlings, W. R., A.M.I.E.E., "Lakeside," Wimbledon Park, S.W.

Rawlings Bros., Ltd., electrical engineers, 82, Gloucester-rd., South Kensington, London, S.W. (Teleph. No. 786, Kensington); 165, Sloane-st., S.W. (Teleph. No. 876, Kensington.)

Rawlins, J. E., Syston Court, Bristol. Director North Wales Power & Traction Co., Ltd.

Rawlins, W., A.I.E.E., 45, King William-st., London, E.C.

Rawlinson, J. F. A., 46, Clarges-st., Piccadilly, W. Director Bogota Telephone Co., Ltd.

Rawlinson, Ltd., electric lifts, Hope Works, Kirkstall-rd., Leeds. (Telegrams: "Rawlinsons, Leeds." Telephone No. 1487.)

Rawlinson, S., & Sons, cable drums, Audley Range & Baker-st., Blackburn. (Telegrams: "Rawlinson, Audley, Blackburn." Telephone No. 15Y.)

Raworth, B. S., editor, *Engineering*, 35 & 36, Bedford-st., Strand, London, W.C.

RAWORTH, JOHN ERNEST, A.I.E.E., Queen Anne's-chbrs., Westminster, S.W. (Telegs.: "Raworthic, London." Teleph. No. 2025, Victoria.)

Raworth, John S., M.I.C.E., M.I.E.E., director British Electric Traction Co., Ltd.; director Devonport & District Tramways Co.; chairman Southport Tramways Co., Ltd.; director General Electric Tramways Co., Ltd.; chairman Birkdale District Electric Supply Co., Ltd.; director North Staffordshire Tramways Co., Ltd.; director Yorkshire (Woollen District) Electric Tramways, Ltd., 2, Queen Anne's Gate, S.W. (Teleph. Nos.: 1157, Victoria; & 16, Streatham.)

Raworth's Traction Patents, Ltd., electric car contractors, 2, Queen Anne's Gate, Westminster, S.W. (Telegs.: "Jayessar, London." Teleph. No. 1157, Victoria.)

Rawson, Frederick L., M.I.E.E., A.M.I.C.E., 24–26, Hart-st., London, W.C. (Teleph. No. 6302, Gerrard.)

Rawson, Herbert, Colonel, R.E., C.B., M.I.E.E., 43, Thurloe-sq., South Kensington, London, S.W.

Rawson, W. Stepney, M.A., M.I.E.E., consulting electrical engineer, 23, Fitzroy-sq., London, W. (Telegs.: "Maborlim, London." Tel. No. 8368, Gerrard); & 12, Drayton-ct., Drayton-gdns., London, S.W.

Rawtenstall Technical School, Rawtenstall, Lancs. *See* SCHOOLS.

Ray Motor Co., electrical engineers, Boulters Island, Maidenhead.

Raybould, E. J., & Co., general & constructional engineers, Workington.

Rayleigh, the Right Hon. Lord, O.M., F.R.S., M.A., D.C.L., LL.D., F.R.A.S., F.R.G.S. (Hon. Professor of Natural Philosophy at the Royal Institution, & scientific adviser to the Trinity House), Terling-pl., Witham, Essex.

Rayment, Arthur John, A.I.E.E., Eversfield, Somerset-rd., New Barnet.

Raymond-Barker, E., M.I.E.E., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, London, E.; & 12, Edge Hill, Wimbledon.

Rayner, Arthur B., A.M.I.E.E., "Normanhurst," Alexandra Park-rd., Muswell Hill, London, N.

Rayner, Edward, A.M.I.E.E., Corporation Show-rooms, Darlington-st., Wolverhampton.

Rayner, Edwin H., M.A., A.M.I.E.E., Elm Lodge, Queen's-rd., Teddington.

Rayner, E. S., A.M.I.E.E., borough electrical engineer & tramways manager, Doncaster. (Teleph. Nos. 43 & 94.)

Rayner, F. W., A.I.E.E., Rowsley, Havelock-rd., Wealdstone, Middlesex.

Rayner, G. T., A.I.E.E., Railway Clearing House, 163, Seymour-st., Euston-sq., London, N.W.

Rayner, W. A. B., assistant engineer, Corporation Electricity Works, Exeter.

Rayner & Co., patent agents, 37, Chancery-lane, London, W.C. (Telegrams: "Segment, London.")

Read, Ayton H., A.M.I.E.E., 13, King's-ave., Talbot-rd., Old Trafford, Manchester.

Read, C. M., electrical engineer, Stockwell, Silverton, Devon.

Read, H. J., A.M.I.E.E., Broad Sanctuary-chbrs., Westminster, London, S.W. (Telephone Nos.: 14, Westminster; & 3474, Gerrard.)

Reade, Jackson & Parry, civil engineers, 26, Bedford-row, London, W.C.

Reader, Chas. L. de W., A.M.I.E.E., Electric Light & Power Station, Hursley, nr. Winchester.

Reader, L. C., A.I.E.E., Electric Light & Power Station, Hursley, nr. Winchester.

Reader, T., A.M.I.E.E., elec. engineer, Hindhead & District Elec. Light Co., Ltd., Hindhead, Surrey.

Reader, E., & Son, Ltd., engineers, Nottingham.

Reading Corporation Tramways, Mill-lane, Reading. General manager & engineer, W. Binns. (Telegrams: "Tramways, manager, Reading." Nat. Telephone No. 330.)

Reading Electric Supply Co., Ltd., electric supply engineers, Vastern-rd., Reading. (Teleph. Nos. 140 & 142.) Registered Jan. 2, 1892. Nominal capital: £150,000 in ordinary £5 shares. Issued: £144,000, fully paid. Directors: Henry Collins, Esq. (chairman); F. W. Albury, Esq.; Geo. May, Esq.; W. Pole Routh, Esq. Engineer & manager, E. Rowland Hill, A.M.I.E.E. Dividends: 1900, 4 per cent.; 1901, 1902, 1903, 1904 & 1905, 5 per cent.

Readman, G., 9, Moray-pl., Edinburgh. Director Blackpool & Fleetwood Electric Tramroad Co.

Reason Manufacturing Co., Ltd., engineers & electricians. Offices & works: Lewes-rd., Brighton. (Telegs.: "Reason, Brighton.")

Reavell Bros., electric lighting contractors, Alnwick. (Teleph. No. 099.)

Reavell & Co., Ltd., electric light engine builders, Ipswich.

Rebman, Ltd., publishers of *Archives of the Roentgen Ray & Allied Phenomena*, 129, Shaftesbury-ave., Cambridge Circus, London, W.C. (Telegrams: "Squama, London." Telephone No. 2026, Gerrard.)

Record, J. W., A.M.I.E.E., electrical engineer, 100, Great Clowes-st., Lower Broughton, Manchester.

Reddaway, F., & Co., Ltd., makers of the Camel brand belting, 50 & 51, Lime-st., London, E.C. Mills: Pendleton, Manchester; & Halifax. (Telegrams: "Reddaway, London;" "Sphincter, London.")

Redditch District Light Railway Co., 34, Waterloo-st., Birmingham. Registered May 26, 1898. Nominal capital: £45,000 in £1 shares. Engineers, Pritchard, Green & Co.

Redditch Urban District Council Electricity Works. (Teleph. No. 53.) Engineer, W. J. Ferguson.

Redfern, E. M., electrical engineer, 9, Ethel-st., New-st., Birmingham. (Teleph. No. 121 X.)

Redfern, G. F., & Co., general patent office (established 1830), 4, South-st., Finsbury, London, E.C. (Telegrams: "Invention, London." Telephone No. 4492, Central.)

Redgrave, Wm. Bramley, A.M.I.E.E., 3, Eliot Park, Blackheath.

Redman, S. G., assistant engineer, Ballsbridge Station, Dublin United Tramway Co., Dublin. (Telephone No. 1816.)

Redman, W., assistant engineer, Electricity Works, Shipley, Yorks.

Redmond, D. D., M.D., consulting electrician, 126, Sandford-road, Dublin.

Redruth Electricity Works (Urban Electric Supply Co., Ltd., proprietors), Carn Brea, R.S.O., Cornwall. Engineer, F. S. Hanning, A.M.I.E.E.

Redruth School of Mines & Art, Redruth. *See* SCHOOLS.

Redwood & De Hailes, analytical chemists, 15, Red Lion-square, London, W.C.

Reed, A. H., consulting engineer, 64, Mark-lane, London, E.C. (Telegrams: "Wagon, London.")

Reed, C., director New Rottingdean Electricity Co., Ltd., Rottingdean.

Reed, Ch., electric bell manufacturer, 65, Cardiff-street, Aberdare.

Reed, George, electrical engineer, Chagford & Devon Electric Light Co., Chagford.

Reed, S., director New Rottingdean Electricity Co., Ltd., Rottingdean.

Reed, Chas. H., & Co., makers of iron & steel forgings & special dynamo magnet forgings, Trimdon-st., Sunderland. (Telegrams: "Charles Reed, Sunderland." Telephone No. 14.)

Reed & Son, electric light engineers, 26, North-st., Brighton. (Telephone No. 26.)

Reed, W. H., & Son, electric silk shade makers, 180, Wardour-st., London, W.

REEDS ELECTRICAL CO., 128, Southwark-st., London, S.E. (Telegrams: "Rigoletto, London." Telephone No. 1304, Hop.)

Reedtz-Thott, Baron, director Great Northern Telegraph Co., Ltd., of Copenhagen.

Rees, D. Sims, mining engineer, Glanllyuvi House, Maesteg. (Telegrams: "Sims Rees, Maesteg." Telephone No. 18, P.O. Maesteg.)

Rees, E. S. G., electrical engineer, director Thomas Parker, Ltd., Wolverhampton. (Telegrams: "Rees, c/o Coils, Wolverhampton." Telephone No. 34.)

Rees, E. W., WH.EX., A.R.C.S., A.I.E.E., engineer, Granton, Great North-rd., Highgate, London, N.

Rees, W. T., chairman Ton-yr-efail & Gilach Goch Electric Light Co., Ltd., 138, High-st., Tonyrefail.

Rees & Co., electrical engineers & contractors, Swansea. (Telegs.: "Consulting, Swansea." Teleph. No. 256, Corp.)

Reeve, George, electrician, 4, Crimscott-street, London, S.E.

Reeves, A. R., M.I.M.E., consulting engineer, 46, Queen Victoria-st., London, E.C.

Reeves, F. R., M.I.E.E., F.C.I.S., electrical engineer (financial adviser Crompton & Co., Ltd.; & secretary Hove Electric Lighting Co., Ltd.; Calcutta Electric Supply Corporation, Ltd.; Chelmsford Electric Lighting Co., Ltd.; Totnes Electricity Supply Co., Ltd.; Auxiliary Electrical Co., Ltd.; Madras Electric Supply Corporation; & Electric Supply Corporation, Ltd.), Salisbury House, London Wall, London, E.C. Director Chagford & Devon Electric Light Co., Ltd.

Reeves, J. H., M.A., A.I.E.E., 2, Penywern-rd., S.W.

Reeves Patent Filters Co., Ltd., feed-water filter manufacturers, 9 & 11, Fenchurch-ave., London, E.C.

Regina, Ltd., Arc Lamps. *See* Marples, Leach & Co.

Reich, S., & Co., glass manufacturers for electrical purposes, 23, Aldermanbury, London, E.C.

Reichwald, August, steel, iron, metal & mineral merchant, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne. (Telegrams: "Reichwald, London;" "Reichwald, Newcastle-on-Tyne." Telephone No. 2612, London Wall.)

Reid, David, M.I.E.E., 18, Cambridge-st., Glasgow.

Reid, Edwin J., M.I.E.E., 12, Wharf-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249.)

Reid, E. S., engineer, National Conduit & Cable Co., Oxford-ct., Cannon-st., London, E.C.

Reid, H., district manager, National Telephone Co., 25, Hindpool-rd., Barrow-in-Furness.

Reid, Irvine, engineer, Fort William Electric Light Co., Fort William.

Reid, James, M.I.E.E., A.I.C.E., 12, Wharf-rd., City-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249.)

Reid, Wm., director Madeira Electric Lighting Co., Ltd., 6, Harrison-rd., Halifax.

Reid, W. D., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.; & 3, Balmoral-pl., Stirling, N.B. (Teleph. No. 0156, Stirling.)

REID BROTHERS, manufacturers of electric light apparatus, electric alarms, electric lamps (arc & incandescent), lightning conductors, telegraph insulators, & dynamo magneto & electric machines, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See* ENGINEERS—ELECTRICAL MANUFACTURING.

Reid & Co., brass founders, coppersmiths, electrical engineers & factors, 108, High-st., Ayr, N.B. (Telegrams: "Reid, Brassfounders, Ayr." Nat. Telephone No. 69.)

Reid, F., Ferens & Co., electrical engineers, Orchard-st.-bldgs., Orchard-st., Newcastle-on-Tyne; & 22, John-st., Sunderland. (G.P.O. Telephone Nos.: Newcastle, 529; Sunderland, 20.)

REID GEAR CO., THE, Linwood, nr. Paisley. (Telegs.: "Reid, Linwood." Teleph. No. 4 X., Johnstone.)

Reid, W., & Co., steam reducing valve makers, 112, Fenchurch-st., London, E.C. (Telegrams: "Reidwill, London." A1 Code used. Telephone No. 351, Avenue.)

Reidy, R. J., M.I.E.E., Constitutional Club, Northumberland-ave., London, W.C.

Reigate Corporation Electricity Works. (Teleph. No. 134, Redhill.) Engineer, W. S. Ross.

Reilly, Walter, A.M.I.E.E., electrical & mechanical engineer, Davos, Driffold, Sutton Coldfield, nr. Birmingham.

Reinold, Prof. A. W., M.A., F.R.S., professor of physics, Royal Naval College, Greenwich, S.E.

Reiss, F. E., electrical engineer, Swyncombe, Henley-on-Thames.

Reliable Electric Heating & Cooking Co. (Isenthal & Co.), 227, Regent-st., London, W. (Telegs.: "Isenthal, London." Teleph. No. 4829A, Gerrard.)

Reliance Electrical Wire Co., manufacturers of covered wires of all descriptions, 36, Spital-sq., Bishopsgate, London, E.C. (Nat. Teleph. No. 9212, London Wall.)

Reliance Lubricating Oil Co., oil manufacturers, 19 & 20, Water-lane, Great Tower-st., London, E.C. (Telegrams: "Subastral, London." Telephone No. 5891, Avenue.)

Remington, Chas., M.I.E.E., district manager, National Telephone Co., 14, Astley Gate, Blackburn.

Rene, L., & Co., Ltd., pocket voltmeters & ammeters, 8, Plum Tree-ct., Farringdon-st., London, E.C. (Telegs.: "Depolarize, London." Teleph. No. 2269, Holborn.)

Renfree, Thomas Rolls, A.M.I.C.E., A.I.E.E., Westinghouse Works, Trafford Park, Manchester.

Renfrew, Robert S., electrician, 136 & 140, North-st., Glasgow. (Telephone Nos.: Corp., 2254; & 218, Charing Cross.)

Rennie, John, M.I.E.E., electrician, Board of Trade Electrical Standards Laboratory, 8, Richmond-ter., Whitehall, London, S.W.

Rennies' Steel Casting Co., steel castings, Tollcross, Glasgow. (Teleph. Nos.: 3135, Bridgeton, Nat.; & Y378, Corp.)

Rennison, J. C., electric bell fitter, Bondgate, Darlington. (Teleph. No. 0447.)

Renold, Hans, Ltd., driving chain makers (steel), Progress Works, Brook-st., Manchester, S.E. (Telegrams: "Driving, Manchester." Telephone No. 3219.)

Renshaw, W. R., & Co., Ltd., boiler makers, &c., Phœnix Works, Stoke-on-Trent. (Telegrams: "Renshaw, Stoke-on-Trent." Telephone No. 58.)

Rentell, Sidney, A.M.I.E.E. (editor of *Electricity*), 36, Maiden-lane, Strand, London, W.C. (Telephone No. 3287, Central); & 15, Woodland Gardens, Muswell Hill, London, N.

Rentell, S., & Co., Ltd., proprietors of *Electricity* & publishers of electrical books, &c., 36, Maiden-lane, Strand, London, W.C. (Teleph. No. 3287, Central.)

Renton, Col. W. G., Ginilsborough, Northampton. Director Northwood Electric Light & Power Co., Ltd.; director Uxbridge & District Electric Supply Co., Ltd.

Renton, George Henry, & Co., timber & slate merchants, 110, Cannon-st., London, E.C. (Telegrams: "Timbertree, London." Telephone Nos. 5471 & 5472, Bank.)

Renwick, H. B., secretary County of London Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C. (Telegrams: "Partnership, London." Telephone Nos.: 2682, London Wall; & 7492, P.O., Central.)

Renwick, Harry Benedetto, A.I.E.E., Burnham, Roehampton, S.W.

Restler, J. D. K., A.I.E.E., Rickmansworth & U.V. Water Co., Batchworth, Rickmansworth.

Reuter's Telegram Co., Ltd. London offices: 24, Old Jewry, E.C. (Telegrams: "Reuter, London." Telephone No. 23, Bank.) Mr. Walter F. Bradshaw, secretary. Directors: Admiral the Right Hon. Sir John C. Dalrymple Hay, Bart., G.C.B. (chairman); Hon. Mark F. Napier; Baron de Reuter; Baron George de Reuter; Frederick J. Griffiths, Esq. The company was established in 1865. The capital is £100,000 in fully paid up shares of £8; 11,839 have been taken up, the full amount called & paid. The accounts are made up annually to December 31, & submitted in June. Dividends: 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904 & 1905, 5 per cent. per annum.

Revel, Frank, & Co., installation contractors, King-st., South Shields. (Telephone No. 148.)

Reynolds, C., electrical agent (Oliver & Co.), Ocean-bldgs., Belfast.

Reynolds, Charles, C.I.E., M.I.E.E., general manager to the Pacific Cable Board, c/o Grindlay & Co., 54, Parliament-st., London, S.W.

Reynolds, Ernest Arthur, M.A., A.I.E.E., Belvedere, Richmond Hill, Edgbaston, Birmingham.

Reynolds, F. W., J.P., A.I.E.E., Edward-st., Blackfriars, London, S.E. (Telegs.: "Excellence, London." Teleph. No. 720, Hop.) Chairman Richmond (Surrey) Electric Light & Power Co., Ltd.; director County of London Electric Supply Co., Ltd.; director City of London Electric Lighting Co., Ltd.; director Bournemouth & Poole Electricity Supply Co., Ltd.; director Brentford Electric Supply Co., Ltd.; director Hayward's Heath Electric Supply Co., Ltd.

Reynolds, James Emerson, D.SC., M.D., F.R.S., PRES.C.S., professor of chemistry, Trinity College, University of Dublin.

Reynolds, John F. J., A.M.I.C.E., A.I.E.E., Caxton House, Westminster, London, S.W. (Telegs.: "Argano, London." Teleph. No. 5053, Westminster.)

Reynolds, J. H., Principal of the Municipal School of Technology, Manchester. (Telegrams: "Technology, Manchester." Nat. Telephone No. 397.)

Reynolds, Prof. O., M.A., LL.D., F.R.S., M.I.C.E., professor of civil & mechanical engineering, Owens College, Manchester.

Reynolds & Branson, Ltd., manufacturers of electrical apparatus, 14, Commercial-st., Leeds. (Telegrams: "Reynolds, Leeds." Telephone No. 1000.)

Reynolds Bros., electrical engrs., Tudor Works, Daventry. (Telegs.: "Garage, Daventry." Tel. No. 16.)

Reynolds, Jas., & Co., engineers, Linfield Foundry, Belfast. (Telegrams: "Machinery, Belfast.")

Reynolds, T., & Co., electrical & general engineers, Victoria Works, 19, High-st., Coventry. (Teleph. No. 338.)

Reynolds & Wadsworth, electrical accessories, Market Hill, Barnsley. (Telephone No. 27.)

REYROLLE, A., & CO., LTD., manufacturing electrical & general engineers. Works: Hebburn-on-Tyne. (Telegs.: "Reyrolle, Hebburn." Teleph. No. 220, Gateshead.) London depôt: 8, Howland Mews West, Fitzroy-sq., W. (Teleph. No. 7763, Gerrard.) Glasgow depôt: 61, Pollok-st., Pollokshaws. (Teleph. No. 38, Pollokshaws.)

Rheam, N., M.I.E.E., A.M.I.MECH.E., chief assistant engineer, City & South London Railway Co., Stockwell, London, S.W.

Rheinische Westfalische Kupferwerke (Schwarte & Hammer), copper wire manufacturers, 6, Lime-st., E.C.

Rhenish Rubber & Celluloid Co., Ltd., celluloid manufacturers for electrical purposes, 68, Basinghall-st., London, E.C. (Telegrams: "Klavehn, London." Telephone No. 611, London Wall.)

Rhodes, Ernest H., assistant resident electrical engineer, Urban District Council, Stretford.

Rhodes, F. W., electrical engineer, Commercial-st., Morley.

Rhodes, J. Fredk., magnet manufacturer, 161, Newhall-st., Birmingham.

Rhodes, Wm. Gould, D.SC., M.I.E.E., consulting electrical & mechanical engineer, Adelphi-chbrs., Brown-st., Manchester.

Rhodes Electrical Manufacturing Co., Ltd., Riverside Works, Doncaster (Telegs.: "Rhodique, Doncaster." Teleph. No. 113); & 102, Charing Cross-rd., London, W.C.

Rhodes, Gill & Co., electrical & mechanical engineers, Primitive-st., Kirkstall-rd., Leeds. (Teleph. No. 3568.)

Rhodes, Joseph, & Sons, Ltd., sheet metal working engineers, Wakefield. (Telegrams: "Rhodes, Wakefield." Telephone No. 52.)

Rhondda Tramways Co., Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered April 14, 1906. Nominal capital: £200,000 in 200,000 ordinary shares of 5s. each & 150,000 5½ per cent. cumulative preference shares of £1 each. Directors: L. B. Schlesinger, Esq.; B. Bernheim, Esq.; W. B. Cownie, Esq.; J. T. Jervis, Esq.; J. Carr Saunders, Esq. Secretary, L. D. H. Jacobs.

Rhondda Tramways Construction Syndicate, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered Feb. 28, 1906. Nominal capital: £250,000 in 2500 shares of £100 each, all issued. Directors: L. B. Schlesinger, Esq.; B. Bernheim, Esq.; J. Carr Saunders, Esq. Secretary, W. B. Cownie.

Rhyl Urban District Council Electricity Works. (Telephone No. 39.) Engineer, E. H. Wright.

Rhymney Valley & General Electric Supply Co., Ltd., Tenby House, Capel-st., Bargoed. Registered July 6, 1906. Nominal capital: £5000 in £1 shares.

Rhynox Sheet Fibre Co., 55, Chancery-lane, London, W.C.

Ribblesdale, Lord, 32, Green-st., W. Director Kolar Mines Power Station, Ltd.

Rice, John, consulting engineer, 11, Queen Victoria-st., London, E.C.
Rice, Percy Richard, A.I.E.E., 110, St. Martin's-lane, London, W.C. (Telephone No. 1588, Central.)
Rice, Thos. S., M.I.M.E., agent Rankine Patent Feed Water Filter Co., Ltd., Aldermary House, 60, Watling-st., London, E.C.
Rich, Theodore, A.M.I.E.E., 104, St. George's-sq., London, S.W.
Richard Frères (agents, Casella & Co.), 11–15, Rochester-row, London, S.W. (Telegs.: "Escutcheon, London.")
Richards, A. F. W., A.I.E.E., W. T. Glover & Co., Trafford Park, Manchester.
Richards, David, electrician, 44, Wern-road, Landore, near Swansea, S. Wales.
Richards, D. J., M.A., lecturer in mathematics & physical science, St. David's College, Lampeter.
Richards, J., electrical engineer, High-st., Burton-on-Trent. (Telegrams: "Electricity, Burton-on-Trent." Telephone No. 5 Y.)
Richards, John David, A.I.E.E., 11, James-st., Docks, Cardiff.
Richards, A. W., & Co., electrical engineers, 70–71, Bishopsgate-st. Within, London, E.C. (Telegs.: "Richards, Ethelburga House, London." Teleph. No. 1455, London Wall.)
Richards, Geo., & Co., Ltd., pulley makers, Broadheath, near Manchester. (Telegrams: "Richards, Altrincham." Telephone No. 14, Altrincham.)
Richards, Rupert, & Co., electricians, 60, Huntley-st., Tottenham Court-rd., London, W.C.
Richardson, A. W., patentee & manufacturer of arc lamps & boiler feed pumps, Skew Bridge Works, Patricroft, Manchester. (Telegrams: "Richardson, engineer, Patricroft.")
Richardson, C., electric light fittings maker, 214, Vauxhall Bridge-rd., London, S.W.
Richardson, C. H., Donegall-sq., Belfast. Director Bessbrook & Newry Tramway Co.
Richardson, Chas., A.M.I.E.E., electrical engineer, Romily, nr. Stockport. (Telegs.: "Richardson, Electrician, Romiley.")
Richardson, Chas. W., consulting electrical engineer, 57, Lillie Bank, New-lane, Patricroft, nr. Manchester.
Richardson, E. J., director Johnson Secret Wireless Telegraph & Telephone Testing Synd., Ltd., 40, King-st., Cheapside, E.C
Richardson, F. W., A.I.E.E., electrical engineer, 402, High-st., West Bromwich.
Richardson, G., A.M.I.E.E., Carlisle House, Bath-st., Rugby.
Richardson, G., 98, Westbourne-ter., London, W. Director Metropolitan Electric Tramways, Ltd.; director North Metropolitan Electric Power Supply; chairman Blackpool & Fleetwood Tramroad Co.
Richardson, H., M.I.E.E., Corporation Electricity Works, Dudhope Crescent-rd., Dundee.
Richardson, J. C., electrician & electro-chemical engineer, 19, Claremont-sq., London, N.
Richardson, J. N., Mount Caulfield, Bessbrook, co. Armagh. Chairman Bessbrook & Newry Tramway Co.
Richardson, J. T. H., lamp, gas & electric glass shade manufacturer, Hatton, Burton-on-Trent. (Telegrams: "Richardson, Tutbury.")
Richardson, Oliver A., F.S.I., A M.I.E.E., Sun Fire Office, Threadneedle-st., London, E.C.
Richardson, Robert, electrical engineer, 21, Leslie-st., Pollokshields, nr. Glasgow.
Richardson, R. J., electric light & power contractor, Baskerville-pl., Broad-st., Birmingham. (Telegrams: "Pulsometer, Birmingham." Telephone No. 3271.)
Richardson, Spencer W., D.SC., principal & professor of physics, Hartley College, Southampton.
Richardson, T., local manager, National Telephone Co., 1A, Queen-st., Peterhead, N.B.
Richardson, T., electrician, 62, High-st., Loftus, R.S.O., Yorks.
Richardson, Thos. Green, A.I.E.E., 15, Bridge-st., Bradford.
Richardson, A. & W. T., slate turners, Brunswick-wharf, Vauxhall, S.W.
Richardson Brothers, copper & metal merchants, Cathedral-bldgs., Newcastle-on-Tyne. (Telegrams: "Rex, Newcastle Tyne." Nat. Telephone No. 1133.)
Richardson & Carlmark, electrical & mechanical engineers, 402, High-st., West Bromwich; & at Sutton Coldfield & Handsworth. (Teleph. Nos.: 10 X., West Bromwich; 2 Y. 4, Sutton Coldfield.)
Richardson & Co., engineers' tool makers, Bowling-green Tool Works, Halifax.
Richardson & Co., manufacturing electrical engineers, Nelson-st., Stretford-rd., Manchester. (Telegrams: "Fuses, Manchester." Telephone No. 25 X., Manchester.)
Richardson Electrical Co., Ltd., electrical & mechanical engineers, 16, Dorset-st., Baker-st., London, W. (Telegs.: "Richarical, London.")
Richardson, H. G., & Sons, electric shade manufacturers, Wordsley, near Stourbridge. (Telegrams: "Richardson, Wordsley.")
Richardson, John, & Co. (Leicester), Ltd., manufacturing chemists, Friar-lane, Leicester. (Telegrams: "Antizyme, Leicester." Telephone No. 107.)
Richardson, Koolman & Isger, electrotypers, St. Bride-st., E.C.
Richardson, Wm., & Co., electric light apparatus & fittings manufacturers, 18, Brownlow-st., High Holborn, W.C.; & Summers Town, Tooting, S.W.
Richardsons, Westgarth & Co., Ltd., marine, electrical & mechanical engineers, Hartlepool Engine Works, Hartlepool, Durham (Telegrams: "Richardsons, Hartlepool." Telephone No. 247, West Hartlepool); & 9, Gracechurch-st., London, E.C.

Riches, G. T., & Co., sole agents for Eisemann Ignition Magnetos, 19, Store-st., Tottenham Court-rd., London, W.C. (Telegs.: "Plaxinesco, London." Teleph. No. 2754, Gerrard.)

Richmond, G. S., electrical engineer, Llanelly, Carmarthenshire.

Richmond, Joseph, M.I.E.E., 30, Kirby-st., Hatton Garden, London, E.C.

Richmond, Sir D., Broompark, Pollokshields, Glasgow. Chairman Clyde Valley Electrical Power Co.

Richmond, W. Pearson, A.M.I.E.E., A.M.I.MECH.E., electrical engineer, Green Bank, Colne.

Richmond & Chandler, mechanical engineers, Globe Works, Manchester.

Richmond, D., & Co., Ltd., iron & steel tube manufacturers, City Tube Works, 35, Rose-st., Glasgow. (Telegrams: "City, Glasgow." Telephone No. 1502.)

Richmond, Joseph, & Co., Ltd., electrical engineers, 30, Kirby-st., Hatton Garden, E.C. (Telegrams: "Richmond, London." Telephone Nos.: 822, Holborn; & 1582, Central); & New Sun Iron Works, 180½, Burdett-rd., Bow, E., London. (Telephone No. 822A, Holborn.)

Richmond (Surrey) Electric Light & Power Co., Ltd., Moorgate-court, Moorgate-pl., E.C. (Telegrams: "Partnership, London"); & Electric Lighting Station, Richmond, Surrey. (Telegrams: "Electric, Richmond, Surrey." Telephone No. 111, Richmond.) Registered July 8, 1892. Nominal capital: £50,000 in £5 shares. 6266 have been taken up & the full amount called & paid, & £1000 in 5 per cent. debentures, & £6000 5 per cent. first mortgage debentures, of which the whole have been issued. Directors: F. W. Reynolds, Esq. (chairman); F. E. Savory, Esq.; A. H. Sanderson, Esq.; R. Percy Sellon, Esq. Consulting engineer, C. P. Sparks, M.I.C.E.; engineer, L. C. B. Trimnell; manager & secretary, H. B. Renwick. Dividends: 1901, 6 per cent.; 1902, 1903 & 1904, 7 per cent.

Rickard, William, Ltd., electrical wire & cable manufacturers, &c., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Ridd, P. J., electrician, Nat. Telephone Co., 6 & 8, Marshalsea-rd., London, S.E. (Teleph. No. 103, Hop.)

Riddell, H. G., electrician, Cuthbert's-buildings, Clayton-square, Liverpool.

Riddell, Wm., & Co., wire drawers (fine) of brass, bronze, copper, aluminium, &c., &c., 636, Springfield-rd., & 54, Mitchell-st., Glasgow. (Telegs.: "Riddell, Parkhead." Teleph. No. 3437.)

Rider, Alfred, A.M.I.E.E., 9, Donkin-ter., North Shields.

Rider, John H., M.I.C.E., M.I.E.E., M.I.M.E., electrical engineer, L.C.C. Tramways, 62, Finsbury Pavement, E.C.

Rider, H. G., & Co., electrical engineers, 27, Chancery-lane, London, E.C.

Ridgways, Ltd., earthenware manufacturers, Bedford Works, Bedford-st., Shelton, Staffs.

Ridley, E., electrical & mechanical engineer, Fire Brigade Department, London County Council, 149, Southwark Bridge-rd., London, S.E.

Ridley, Eustace, A.M.I.E.E., Glenthorne, Foxley Hill-rd., Purley, Surrey.

Ridley, Herbert W., A.M.I.E.E., electrical engineer, "Cleeve," Foxley Hill-rd., Purley, Surrey.

Ridley, Percy Edward, A.I.E.E., 34, Gorst-rd., Wandsworth Common, S.W.

Ridout & Co., electrical engineers, 124, Regent-st., London, W.

Ridpath, Wm. H., A.M.I.E.E., mains engineer, Derbyshire & Notts. Elec. Power Co., Ltd., Ilkeston, Derby.

Ridyard, Ald. J., J.P., chairman Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board.

Rigby, A. B., A.M.I.C.E., A.M.I.E.E., 24, Queen Anne-st., London, W.

Rigby, F., Westmere Lodge, Alsager, Cheshire. Director North-Western Electricity & Power Gas Syndicate, Ltd.; director North-Western Electricity & Power Gas Co.

Rigby, John, & Sons, Ltd., iron, steel & brass wire manufacturers, Parkhouse Mill, Low Moor, Bradford. (Telephone No. 21, Low Moor.)

Rigg, Arthur, Pelton impulse wheels, 42, Old Broad-st., London, E.C.

Rigg, Rd., Windermere. Director Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Lighting Co., Ltd.

Rigg, Richard, A.I.E.E., Grange Hotel, Grange-over-Sands, Lancs.

Riggs, Walter, A.M.I.E.E., Grasmere, Harrow View, Harrow-on-the-Hill.

Riker Motor Vehicle Co., Ltd., 31, Walbrook, London, E.C.

Riley, Edward, Marlow. Director Windsor Electrical Installation Co., Ltd.

Riley, Wm., A.M.I.E.E., c/o J. G. White & Co., Ltd., 9, Cloak-lane, Cannon-st., London, E.C.

Rimington, E. C., A.I.E.E., consulting electrical engineer, 85, Church-rd., Norwood, S.E.

Rimington, F. C., Colaba Causeway, Bombay. Managing director Bombay Elec. Supply & Trwys. Co., Ltd.

Rinder, R. H., superintendent of electric tramway construction, South Lancashire Tramway Co. & Lancashire United Tramways, Atherton, Lancs.

Ringrose, C. E. L., director Northallerton Electric Light & Power Co., Ltd., Northallerton, Yorks.

Ripley, Sir F., Hanley Castle, Worcester. Director West Riding Tramways & Electricity Supply Co., Ltd.

Rippingille Manufacturing Co., Ltd., general metal manufacturers to the electrical trades, Plume-st., Aston, Birmingham.) Telegs.: "Rip, Birmingham." Teleph. No. 2650.)

Rippon, Frank Harold, A.I.E.E., electrical engineer & contractor, City-chbrs., Gandy-st., Exeter.

Rippon, Joseph, M.I.E.E., general manager Halifax & Bermudas Cable Co., Ltd.; Direct West India Cable Co., Ltd., 33, Old Broad-st., London, E.C.

Riseley, H. L., A.M.I.E.E., resident engineer, Carville Power Station (Newcastle Electric Supply Co., Ltd.), Wallsend. (Telegs.: "Power, Wallsend." Teleph. Nos.: 34 & 95, Nat.; & 16, P.O.)

Ristori, E., C.E., J.P., A.M.I.C.E., consulting engineer, 66, Victoria-st., London, S.W. (Telegrams: "Ristori, London." Telephone No. 1910, Victoria.)

Ritchie, John, consulting engineer (water power), The Knowe, Lygon-rd., Edinburgh.

Ritchie, Robert O., M.I.E.E., Scottish Amicable-bldgs., 86, Cross-st., Manchester. (Tel. No. 187 X.)

Ritchie, T. E., A.M.I.E.E., A.M.I.MECH.E., A.AM.I.E.E., electrical engineer & commercial manager of Royce, Ltd., Manchester; & 179, Barton-rd., Stretford, Manchester.

Ritson, T., mechanical & electrical engineer & machinery merchant, Redhugh Bridge-rd., Gateshead.

Ritter, E. J. S., engineer, Light & Power Works, Limavady. (Telegs.: "Ritter, Limavady.")

River Plate Electricity Co., Ltd., 78, Coleman-st., London, E.C. Registered Nov. 28, 1902. Nominal capital: £150,000 in £1 ordinary shares, £100,000 in £1 preference shares & £250,000 debentures, secured by trust deed registered Jan. 8, 1903. Issued: 119,694 ordinary & all the preference shares, fully paid, & £200,000 debenture stock. Directors: M. W. Mattinson, Esq. (chairman); R. Miller, Esq.; W. T. Western, Esq.; Major Geo. Pringle. Secretary, T. S. Hamilton.

River Plate Telegraph Co., Ltd. (E. Steer Hodson, secretary), Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Amulet, London." Telephone No. 1118, London Wall); & 142, St. Vincent-st., Glasgow. (Telegrams: "Mannca, Glasgow." Telephone No. 1368.)

River Po Electric & Power Syndicate, Ltd., 65, New Broad-st., London, E.C. Registered June 29, 1898. Capital: £10,000 in £1 shares.

Rivers-Smith, Eric, electrical engineer, 13A, Heath-st., Hampstead, London, N.W.

Rivett, E. S., mains superintendent, Corporation Electricity Works, Southend-on-Sea.

Riviera Syndicate, Ltd., railway & tramway constructors, 195, Palmerston House, London, E.C.

Robb, Edward E., A.I.E.E., 62, Mount Pleasant-rd., Tunbridge Wells.

Robb, G. C., managing director, electrical engineer & secretary James Carrick & Sons, Ltd., Dalry Iron Works, Edinburgh. (Telegrams: "Derrick, Edinburgh." Telephone No. 1515, Central.)

Robb, John McLorinan, M.I.E.E., Engineer's Department, Postal Telegraphs, Belfast.

Robb, J. M., A.I.E.E., chief assistant, Electric Works, Cheltenham.

Robert Bros., electric light contractors, Leigh, Lancs.

Robert Gordon's College, Schoolhill, Aberdeen.

Roberts, A., electrical contractor, 15 & 17, Lee-st., Bradford.

Roberts, C. P., electrical engineer, 138, St. Paul's-rd., London, N. (Telephone No. 1881, North.)

Roberts, D. E., M.I.C.E., M.I.E.E., 59, Queen-st., Cardiff.

ROBERTS, ERNEST, A.M.I.E.E., electrical engineer & dealer in electrical supplies, 6, Holborn-pl., London, W.C. (Telegrams: "Roborant, London." Telephone No. 1642, Holborn.)

Roberts, F. A., J.P., The Common, Windermere. Director Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Lighting Co., Ltd.; director East India Construction Synd., Ltd.

Roberts, G. A., A.M.I.E.E., Corporation Electricity Works, Doncaster.

Roberts, G. R. W., A.I.E.E., 22, Albany-rd., Roath, Cardiff.

Roberts, J. Kitto, Fore-st., Mevagissey. Director Mevagissey Electric Lighting Co., Ltd.

Roberts, J. A., chief inspector, Electric Tramways, Lowestoft.

Roberts, James, M.A., LL.B., A.I.E.E., 1, Paper-buildings, Inner Temple, E.C.

Roberts, Martin F., M.I.C.E., F.C.S., M.I.E.E., assistant engineer-in-chief, G.P.O. (West), London, E.C. (Telephone No. 1049, Central.)

Roberts, R. C., A.I.E.E., c/o Kennedy & Jenkin, 17, Victoria-st., London, S.W.

Roberts, R. H., electric bell fitter, 15, High-st., Bala.

Roberts, R. L. W., A.M.I.E.E., 11, Sussex-pl., South Kensington, London, S.W.

Roberts, R. W., resident engineer, Kensington & Knightsbridge Co., Chapel-pl. Central Station, Brompton-rd., London, S.W.

Roberts, Adlard & Co., slate turners for electrical purposes, 11, Queen-st., Cheapside, London, E.C.; & 25 & 26, Bermondsey-wall, S.E. (Telegs.: "Dralda, London." Teleph. No. 87, Hop.)

Roberts Bros., electrical engineers, 15 & 17, Lee-st., Thornton-rd., Bradford. (Teleph. No. 99 X.)

Roberts Bros., fuel economiser & machine tool makers, Dukinfield, Manchester. (Telegrams: "Roberts Bros., Dukinfield." Telephone No. 11, Ashton-under-Lyne.)

Roberts Bros., electrical engineers, 1, Silk-st., Leigh, Lancs.

Roberts & Co., electrical supply contractors, 3, Cookridge-st., Leeds.

Roberts, Cornford & Co., electrical engineers, 8A, City-rd., London, E.C.

Roberts, T. R., Ltd., electric light contractors, 216–217, Upper-st., Islington, London, N. (Telegrams: "Roberts, North London." Telephone No. 639, King's Cross.)

Roberts, T., & Son, electricians, Juniper-st., Bankhall, Liverpool. (Telegrams: "Thomas, Liverpool." Telephone No. 2662.)

Roberts, W., & Co., manufacturers of copper sheets, &c., Crown Copper Mills, Garston, Liverpool. (Telegrams: "Strebor, Liverpool." Telephone No. 2743.)

Roberts-Wray, T. H., A.M.I.E.E., Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C.

Robertson, A. B., jun., A.I.E.E., 260, Union-st., Aberdeen.

ROBERTSON, CHARLES J., M.I.E.E. (ENGINEER & TECHNICAL DIRECTOR, ROBERTSON ELECTRIC LAMPS, LTD., BROOK-GREEN). WORKS: HAMMERSMITH, LONDON, W.

Robertson, D., B.SC., A.I.E.E., professor of electrical engineering, Merchant Venturers' Technical College, Bristol. (Telephone No. 407.)

Robertson, F. S., A.M.I.E.E., demonstrator of electrical engineering, Siemens Laboratory, King's College, London, W.C.

Robertson, Geo., station superintendent, Electricity Supply Works, South Shields.

Robertson, Geo., jun., A.M.I.E.E., electrical engineer, Snawdoun Works, 55, Back Sneddon-st., Paisley, Scotland.

Robertson, Geo. H., Plas Newydd, Llangollen. Director Liverpool Overhead Railway Co., Ltd.; director National Telephone Co., Ltd.; chairman British L. M. Ericsson Manufacturing Co., Ltd.

Robertson, J., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd,, 12, King-st., Manchester.

Robertson, J. A., M.I.E.E., burgh electrical engineer, Corporation Electricity Works, Greenock. (Telegs.: "Energy, Greenock." Teleph. No. 330.)

Robertson, J. C., assistant-in-charge, Dewar-pl. Works, Edinburgh.

Robertson, J. D., director Gloucestershire Electric Power Co.; director Gloucestershire Electric Power Syndicate, Ltd.

Robertson, Leslie S., M.I.C.E., consulting engineer, 28, Victoria-st., London, S.W. (Telegs.: "Eyebolts, London." Teleph. No. 128, Westminster.)

Robertson, Robert, B.SC.EDIN., M.I.C.E., M.I.E.E., 154, West George-st., Glasgow, N.B. (Telegs.: "Strain, Glasgow." Teleph. No. 740, Argyle.)

Robertson, R. S., resident engineer, Urban Electric Supply Co., Ltd., Godalming. (Telegrams: "Electricity, Godalming." Telephone No. 8, Godalming.)

Robertson, W., Benachie, Comely Park-pl., Dunfermline. Director Fife Electric Power Co., Ltd.

Robertson, A. B., & Son, installation work, 260, Union-st., Aberdeen. (Telephone No. 398.)

Robertson & Co., makers of electrical specialities, 95, Bath-st., Glasgow.

Robertson & Co., electrical engineers, 55, Back Sneddon-st., Paisley. (Telegrams: "Robertson, Sneddon, Paisley." Telephone No. 2.)

ROBERTSON ELECTRIC LAMPS, LTD., lamp makers, 31, Copthall-ave., E.C.; & Brook Green Works, Hammersmith, W. (Telegrams: "Voltamento, London." Telephone No. 27, Hammersmith.) Manufacturers of lamps for all purposes, including fancy lamps, battery lamps, &c. Nominal capital: £50,000 in 5000 shares of £10 each, & £10,000 debentures. Issued: 4500 shares, fully paid. Secretary, L. Dummere; manager, C. Wilson. *See* INCANDESCENT LAMP MANUFACTURERS—ELECTRIC.

Robertson & Hogg, electrical engineers, 31, Nicholson-st., Edinburgh. (Teleph. No. 644, Central.)

Robertson, J. C., & Co., electricians, 11, Wemyss-pl., Glasgow. (Teleph. Nos.: 228 X. 3, Douglas; & Corp. 2893.)

Robertson, J. C., & Son, wiring contractors, 15, Preston-st., Exeter.

Robertson, J. W., & Co., dealers in platinum scrap, 100, Aldersgate-street, London, E.C.

Robertson & Orchar, engineers, Wallace Foundry, Dundee.

Robertson & Outram, consulting engineers, 28, Victoria-st., London, S.W. (Telegrams: "Eyebolts, London." Telephone No. 128, Westminster.)

Robey & Co., Ltd., steam engine & boiler manufacturers, Globe Works, Lincoln (Telegrams: "Robey, Lincoln." Telephone No. 3. A.B.C., A1, Moreing's & Lieber's Codes used); & 79, Queen Victoria-st., London, E.C. (Telephone No. 505, Bank.)

Robinow, F., 4, Mount-st., Mayfair, W. Director Lisbon Electric Tramways, Ltd.; director Cape Electric Tramways, Ltd.

Robinson, A. C., superintendent Direct Spanish Telegraph Co., Ltd., Falmouth.

Robinson, Alex. Hunter, A.M.I.E.E., consulting electrical engineer, 13, Castle-st., Liverpool (Teleph. Nos.: 59, Old Swan; & 2413, Central); & Claremont, Sandown Park, Wavertree, Liverpool.

Robinson, A. N., A.I.E.E., electrical engineer, Drayton, Abingdon, Berks.

Robinson, Chas. Norman, A.M.I.E.E., 37, College Green, Dublin.

Robinson, Clifton, superintendent London United Tramways (1901), Ltd., Chiswick.

Robinson, E. L., A.I.E.E., c/o Siemens Bros. & Co., Ltd., Stafford.

Robinson, E. M., A.I.E.E., 53, Victoria-st., London, S.W.

Robinson, F. Foley, A.M.I.C.E., M.I.E.E., electrical engineer, 1, Telford-ave., Streatham Hill, London, S.W.

Robinson, F. L., secretary Pacific & European Telegraph Co., Ltd.; secretary West Coast of America Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C. (Telegrams: "Woolpack, London.")

Robinson, H. A., electrical engineer, Union Bank of London, 2, Prince's-st., London, E.C.

Robinson, John, mechanical & electrical engineer, Regent-st., Kingswood, nr. Bristol.

Robinson, John Albert, A.I.E.E., 13, Lethbridge-rd., Southport.

Robinson, J. H., 31, Percy-gdns., Tynemouth. Director Tynemouth & District Electric Traction Co., Ltd.

Robinson, Keith, A.M.I.C.E., A.M.I.E.E., Parliament Mansions, Victoria-st., London, S.W.

Robinson, Leigh, A.M.I.C.E., A.M.I.E.E., Parliament Mansions, Victoria-st., Westminster, London, S.W.

Robinson, L. L., A.M.I.C.E., M.I.E.E., A.M.I.MECH.E., borough electrical engineer, Hackney Electricity Works, Millfields-rd., Clapton, N.E. (Teleph. No. 201, Dalston); & Clapton Common, N.E. (Teleph. No. 408, Dalston.)

Robinson, Mark, J.P., M.I.C.E., M.I.M.E., M.I.E.E., M.I.N.A., 9, Belsize-grove, Hampstead, London, N.W.; & Victoria Works, Rugby. Chairman Willans & Robinson, Ltd.; director Leicestershire & Warwickshire Electric Power Syndicate, Ltd.

Robinson, O. M., electrical engineer, c/o Woodhouse Bros., 20, North John-st., Liverpool.

Robinson, Percival Jas., A.M.I.E.E., Hycroft, Erith, Kent.

Robinson, Prof. Henry, M.I.C.E., M.I.E.E., Parliament Mansions, Victoria-st., London, S.W.

Robinson, Samuel, A.I.E.E., electrical engineer, 28, Belgrave-rd., Rathmines, Dublin.

Robinson, Sir Clifton, A.I.C.E., M.I.E.E., managing director & engineer London United Tramways (1901), Ltd.; director & engineer-in-chief Bristol Tramways & Carriage Co., Ltd.; managing director & engineer Imperial Tramways Co., Ltd.; managing director & engineer Middlesborough, Stockton-on-Tees & Thornaby Electric Tramways; director Metropolitan District Railway; director Underground Electric Railways of London, Ltd.; director Corris Railways, 16, Great George-st., Westminster, London, S.W.

Robinson, William, M.E., M.I.C.E., M.I.E.E., M.I.M.E., professor of engineering, University College, Nottingham. (Telephone No. 776.)

Robinson, Wm. Mosse, A.I.E.E., 24, Kensington Park-rd., W.

Robinson, A. E. & H., & Co., hot air motor, oil & gas engine manufacturers, 78, Great Bridgewater-st., Manchester. (Telegrams: "Thermo, Manchester.")

Robinson & Brunker, installation contractors, 37, College Green, Dublin.

Robinson & Carter, electrical & mechanical engineers, Castle Works, 5, Thomas-st., Liverpool.

Robinson & Emerson, electrical engineers, 222, Victoria-st., Great Grimsby.

Robinson, F. A., & Co., electrical engineers, 54, Old Broad-st., London, E.C. (Telegrams: "Farrago, London." Telephone No. 2677, London Wall.)

Robinson & Horsfall, consulting elec. engineers, 13, Castle-st., Liverpool. (Teleph. No. 2413, Central.)

Robinson, J., & Co., Ltd., manufacturing chemists, Huddersfield. (Telegrams: "Robinson, Huddersfield." Telephone No. 304.)

Robinson, J., & Co., machines for insulating wires, Springfield Iron Works, Salford, Manchester. (Telegrams: "Opal, Manchester." Telephone No. 783.)

Robinson, J. & T., electrical engineers, 51, George-st., Croydon, Surrey.

Robinson, Lionel, & Co., Ltd., electrical engineers, Ferry Works, Thames Ditton, Surrey.

Robinson, Norman, & Brunker, electrical engineers, 37, College-green, Dublin.

Robinson & Price, motor engineers, 43, Pembroke-pl., Liverpool. (Telephone No. 2682, Royal.)

Robinson, Wm., & Co., Ltd., enamelled electric light shades, reflectors, casings, &c., in stamped steel, Stafford-st., Wolverhampton. (Telegrams: "Enamel, Wolverhampton." Telephone No. 264.)

Robisher, J., electrician, 60, Vine-street, Higher Openshaw, near Manchester.

Robison, John W., electrical engineer, Highfield Works, Feltham, Middlesex.

Robson, A. S., electric light fittings, 177, Lord-st., Southport.

Robson, John, maker of the "Shipley" gas engine, Ives-st., Shipley.

Robson, R. E., A.M.I.E.E., Haymarket-lane, Newcastle-on-Tyne.

Robson, W. H., 6, Booth-st., Manchester. Director North Wales & District Light Railway & Electric Power Syndicate, Ltd.

Robson, W. T., electrical engineer, Station-rd., Bexhill-on-Sea. (Telegs.: "Robson, Bexhill." Teleph. No. 0451.)

Robson, W., & Sons, electric & gas engineers, 226, Westminster-rd., Liverpool. (Teleph. No. 470, Bootle.)

Robson & Coleman, electrical engineers, Haymarket-lane, Newcastle-on-Tyne. (Telegs.: "Coleman, Newcastle-on-Tyne." Teleph. No. 616.)

Roburine Co., insulating material manufacturers, 15, Victoria-st., London, S.W. (Telegs.: "Gabionage, London." Teleph. No. 5223, Westminster.)

Roburite Explosives Co., Ltd., makers of electric fuses, &c., 103, Cannon-st., London, E.C. (Telegrams: "Roburite, London." Telephone No. 141, Bank); & (Works) Gathurst, nr. Wigan.

Rochdale Corporation Electricity Works & Electric Tramways, Rochdale, Lancs. (Telephone Nos.: 176, Office; & 179, Works.) Engineer, C. Claremont Atchison, M.I.E.E.

Rochdale Electric Co., Ltd., makers of penny-in-the-slot electric meters, resistances, dynamos & motors, Shawclough, Rochdale. (Nat. Telephone No. 281.) Registered Jan. 31, 1898. Directors: Thos. Snape, Esq. (chairman); Wm. D. Watson, Esq. (managing); Walter Scott, Esq. Electrical engineer, Thos. Humphreys, A.M.I.E.E.; secretary, Hert. Clegg, F.C.I.S. Nominal capital: £5000 in ordinary shares & £500 debentures, all issued & fully paid.

Rochdale Municipal Technical School, Rochdale. (Telephone No. 164.)

Roche, E. C., A.I.E.E., electrician, Polytechnic, 309, Regent-st.; & 8A, Durham-pl., Campden Hill, Kensington, London, W.

Roche, Joseph J., & Co., armature & field coil winders, &c., 83, Queen Victoria-st., London, E.C. (Telephone No. 8007, Bank.) Works: 13, Little Trinity-lane, E.C.

Rock, A. F., A.M.I.E.E., electrical engineer & superintendent, North Staffordshire Railway, Stoke-on-Trent. (Telegs.: "Rock, Stoke-on-Trent Rail." Teleph. No. 802, Potteries.)

Rockley, C., publicity manager & editor, West Ham Electrical Bulletin, Corporation Electricity Department, West Ham.

Rodd, R. J., electrical engineer & contractor, Church-st., Walton-on-Thames.

Rodgers, Chas., A.M.I.E.E., 56, Denbigh-st., Westminster, London, S.W.

Roffey, A. F., electrical engineer, 268, Vauxhall Bridge-rd., London, S.W. (Telephone No. 901, Victoria.)

Rogers, A., superintendent Western Union Telegraph Co., Bristol. (Telephone No. 309.)

Rogers, David, electrical & general engineer, 2, Jackson-rd., Holloway, London, N. (Teleph. No. 1071, North.)

Rogers, Francis M., F.C.S., M.I.E.E. (established 1878), consulting engineer, electrician & patent agent, 21, Finsbury-pavement, London, E.C. (Telegrams: "Invaluable, London.")

Rogers, F. W., electric bell manufacturer, New-st., Cromer, Norfolk.

Rogers, Hubert Edward, A.M.I.E.E., 10, Hazel-st., Leicester.

Rogers, H. I., A.M.I.E.E., electrical engineer, Thrissell-st., Bristol. (Telegs.: "c/o Brecknell, Bristol." Teleph. No. 467.)

Rogers, H. J., M.I.M.E., A.M.I.E.E., electrical & general engineer, Watford Engineering Works, Watford, Herts. (Telegrams: "Mechanical, Watford." Telephone No. 35.)

Rogers, J., J.P., Truro. Director Newquay Electric Light & Power Co., Ltd.

Rogers, R. B., M.A., A.M.I.C.E., consulting electrical engineer, Hexworthy, Launceston.

Rogers, R. F., resident engineer & manager Middlesbrough-Stockton-Thornaby Tramways, Middlesbrough.

Rogers, W. R., chief electrician, Felling Electricity Works, Pelaw-on-Tyne.

Rogers Brothers, importers & dealers in mica & talc, 221, Bradford-street, Birmingham.

Rogers & Gowlett, electricians, High-st., Watford.

Rogers, J. K. & J. F., electrical & mechanical engineers, Heckmondwike, Yorks.

Rogers, Stewart & Co., telegraph contractors, 5, Great Winchester-st., London, E.C. (Telegrams: "Impact, London." Telephone No. 1762, London Wall.)

Rogerson, W. M., A.M.I.E.E., Corporation engineer, Halifax.

Rogerson, John, & Co., Ltd., manufacturers of electrical steel castings & forgings, Stanners Closes Steel Works, Wolsingham, R.S.O., Durham. (Telegs.: "Steelworks, Wolsingham." Tel. No. 58, Durham.)

Roget, S. R., M.A., A.M.I.C.E., A.M.I.E.E., electrical engineer, Falkland House, Choniston-gdns., Kensington, London, W.

Roles, Thos., A.M.I.E.E., city electrical engineer, Electricity Offices, Victoria-sq., Bradford.

Roles, Wm., & Sons, electric bell fitters, Bell-st. & Newton-lane, Romsey; & Rumbridge-st., Totton, Hants. (Telegrams: "Roles, Romsey," or "Roles, Totton.")

Rolf, George, A.I.E.E., 8, Bentinck-cres., Newcastle-on-Tyne. (Nat. Teleph. No. 2906.)

Rolland, M'Kirdy & Co., manufacturers of electric light fittings, 22, St. James-sq.; & 7 & 9, Elder-st. Edinburgh. (Telegrams: "Brass, Edinburgh." Telephone No. 1087.)

Rollason & Slater, Ltd., Mitre Wire & Rivet Works, Richard-st., Birmingham (Telegrams: "Comet, Birmingham." Telephone No. 115); & Wombridge Iron Works, near Oakengates, Salop.

Rollet, H., & Co., brass & iron drawn rods for screws, terminals & electrical parts, 12 & 13, Coldbath-sq., Rosebery-ave., London, E.C. (Telegrams: "Anterior, London." Telephone No. 4674, Holborn.)

Rollit, Sir Albert K., M.P., 3, Mincing-lane, London, E.C. Director National Telephone Co., Ltd.

Rolph, W. Mair, A.M.I.E.E., Gordon-chbrs., 20, Jermyn-st., London, S.W.

Rommel, W. B., director Cape Electric Tramways, Ltd.; director Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., E.C.

Ronketti, Joseph, scientific instrument maker, 25, Northampton-road, London, E.C.

Röntgen Society (C. V. Boys, F.R.S., president; F. H. Low, M.B., hon. secretary), 2, Henrietta-st., Cavendish-sq., London, W. (Teleph. No. 522, Mayfair.)

Rook, T., electrical contractor, Workington.

Rooney, M. H., assistant electrical engineer, Corporation Electricity Works, Limerick.

Rooper, Walter Osmond, M.I.E.E., Victoria Works, Eastgate-st., Stafford (Telegs.: "Rooper, Stafford." Teleph. No. 73); & 26, Victoria-st., Westminster, London, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

Rooper, W. O., & Co., storage battery manufacturers, Victoria Works, Stafford. (Telegs.: "Rooper, Stafford." Teleph. No. 73, Stafford.) Branch office: 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

Roose, F. O. J., A.M.I.E.E., F.C.S., assistant resident engineer, London County Council's Tramways, 303, Camberwell New-rd., London, S.E.

Root Steam Boiler Co., patent water tube steam boilers, 11, Queen Victoria-street, London, E.C.

Rorie, G., C.A., Dundee. Director Tayside Electric & Gas Light Co., Ltd.

Rorke, Edwin, A.I.E.E., Thames Bank Electrical Works, Barnes, London, S.W.

Rorke, T. J., M.I.E.E., electrical engineer, Thames Bank Electrical Works, Barnes, London, S.W.

Rorke Bros., electrical engineers, Royal Opera Arcade, Pall Mall, London, S.W. (Telegrams: "Rorcual, London." Telephone No. 7519, Gerrard); & Thames Bank Electrical Works, Barnes, S.W. (Telephone No. 449, Putney.)

Rosario Electric Co., Ltd., 52, Moorgate-st., London, E.C. (Telegs.: "Radioso, London." Teleph. No. 9617, London Wall.) Registered April 24, 1902. Nominal capital: £260,000 in £60,000 £5 ordinary shares & £100,000 in 6 per cent. cumulative preference shares of £5 each, & £100,000 in second cumulative 6 per cent. preference shares of £5 each, convertible into ordinary shares from Jan. 1, 1917. Issued: all the ordinary as paid, £100,000 preference with £5 per share paid, & £75,000 second preference with £2 per share paid. Directors: W. T. Western, Esq. (chairman); A. Wright, Esq.; W. F. Leese, Esq.; A. E. Hadley, Esq. Secretary, H. E. Benthall. Dividends on ordinary shares: 1904–05, 3*s.* per share; 1905–06, 7*s.* per share.

Roscoe, P. H., assistant electrical engineer, Corporation Tramways Department, Portsmouth.

Roscoe, Sir Henry Enfield, B.A., PH.D., LL.D., D.C.L., F.R.S., F.C.S., 10, Bramham-gardens, London, S.W.; & Woodcote, West Horsley, Leatherhead.

Rose, A. H., electrical engineer, 30, Cheapside, London, E.C. (Teleph. No. 7043 Central.)

Rose, C. M., 3, Throgmorton-ave., E.C. Director Buenos Ayres Grand National Tramways Co., Ltd.

Rose, Thomas A., A.M.I.E.E., electrical engineer, Nirvana, Cotswold-rd., Westcliffe-on-Sea; & 30, Cheapside, London, E.C. (Teleph. No. 7043 Central.)

Rose, T. K., D.SC., chemist & assayer, Royal Mint, London, E.

Rose & Co., engineers & electric light contractors, James-st. Docks, Cardiff. (Telegrams: "Machinery, Cardiff." Telephone No. 25.)

Rose, Downs & Thompson, Ltd., mechanical engineers & boiler makers, Old Foundry, Cannon-st., Hull (Telegrams: "Rose, Hull." Telephone No. 344); & 12, Mark-lane, London, E.C. (Telegrams: "Arroser, London." Telephone No. 6255, Avenue.)

ROSE, SIR W. A., & CO., oil refiners & grease manufacturers, 66, Upper Thames-st., London, E.C.; & Rose's Wharf, Millwall, London, E. (Telegs.: "Warose, London." Teleph. No. 6970, Central.)

Rose Street Foundry & Engineering Co., Ltd., contractors motors or wiring, Inverness. (Telegs.: "Ironworks, Inverness." Nat. Teleph. No. 62.)

Rose Bros., electrical engineers, 30, Cheapside, London, E.C. (Teleph. No. 7043, Central.)

Rose Vacuum Pump, Ltd., 30, Cheapside, London, E.C. (Teleph. No. 7043 Central.)

Rose, William, & Co., fire extinguishing apparatus manufacturers, Salford, Manchester. (Telegrams: "Metropolitan, Manchester." Telephone No. 812A, Nat.)

Roseblade, S. J., A.I.E.E., 20, Ossington Villas, Sherwood-st., Nottingham.

Rosenberg, A., & Co., Ltd., electrical engineers, 259, High Holborn, London, W.C. (Telegs.: "Purgament, London." Teleph. No. 1073, Holborn.)

Rosenbusch, Gilbert, A.M.I.C.E., M.AM.I.E.E., Underground Electric Railways Co. of London, Ltd., Hamilton House, Victoria Embankment, London, E.C.

Rosenheim, E. A., B.SC., A.I.E.E., 1, Croxteth-rd., Princes Park, Liverpool.

Rosenthal, J. H., A.I.E.E., director Babcock & Wilcox, Ltd., Oriel House, 30, Farringdon-st., London, E.C.

Roseveare, Stuart, A.I.E.E., "Colham," Basingstoke-rd., Reading.

Rosevere, Gerald Rhodes, A.I.E.E., Adderbury, Bristol-rd., Northfield, nr. Birmingham.

Rosher, N. B., A.M.I.E.E., electrical engineer, 12, Kingswood-rd., Gillingham, Kent.

Rosling, Percy, M.I.E.E., electrical engineer, Netherleigh, Rugby.

Ross, Alex., engineer, Great Northern, Piccadilly & Brompton Railway Co., Hamilton House, E.C.; & engineer, Great Northern Railway Co., King's Cross.

Ross, Chas., electrical engineer & contractor, 19, Bridge-st., Walsall. (Teleph. No. 1 X. 4.)

Ross, J., machinery broker & "Boilerine," 885A, Old Kent-rd., London, S.E. (Telegs.: "Boilerine, London." Teleph. No. 216, Hop.)

Ross, S. J., A.M.I.E.E., engineer & electrician, Public Baths, Hackney, London, N.E.

Ross, W. S., borough electrical engineer, Electricity Works, Reigate, Surrey.

Ross, W. W., electrical engineer, Mardy Electric Light Co., Ltd., Mardy, Glam.

Ross & Co., electric bells & telephones & agents for electric light cables & general supplies, 62, Robertson-st., Glasgow. (Telephone Nos.: Nat., 2021, Argyle; & Corp., 2910, Central.)

Ross Electric Light & Power Co., Ltd., Bank Offices, Ross, Hereford. (P.O. Teleph. No. 46.) Registered Nov. 16, 1900. Nominal capital: £4000 in £1 ordinary shares & £4000 in £1 preference shares & £2845 debentures. Issued: 1735 ordinary shares, 1110 preference shares & £1500 4 per cent. debentures. Directors: J. Mackay, Esq. (chairman); E. C. Gurney, Esq.; N. H. Matthews, Esq.; C. L. Llewellyn, Esq.; Hy. Southall, Esq.; J. Mitchell, Esq. Consulting engineer, John Parker; electrical engineer, C. E. Gray; secretary, F. W. Wintle.

Ross, Ltd., projection arc lamps & optical lantern makers, 111, New Bond-st., London, W. (Telegs.: "Rossano, London." Teleph. No. 3540, Gerrard.)

Ross & Morrison, electricians, 9, Killermont-st., Glasgow. (Telephone No. 2807, Corp.)

Ross, R. G., & Son, reducing gear for motors, Greenhead, Glasgow.

Ross, William, & Co. (London), Ltd., iron & steel merchants, Horse-shoe Wharves, Malt-st., Old Kent-rd., London, S.E. (Telegrams: "Slipshoes, London." Telephone No. 1986, Hop.)

Rossendale Belting Co., Ltd., belting & covering manufacturers, 10, West Mosley-st., Manchester. Works: Newchurch, Lancs. (Telegrams: "Hair, Manchester." Telephone No. 2656); & 117, Queen Victoria-st., London, E.C. (Telephone No. 8106, Bank.)

Rossendale Valley Tramways Co., 61, Gracechurch-st., London, E.C.

Rosser & Russell, engineers, 22, Charing Cross, London, S.W. (Telegrams: "Lesorus, London." Telephone No. 5210, Gerrard.)

Rossetti, Gabriel A. M., A.I.E.E., 30, Harper's-lane, Smithills, Bolton.

Rossignol, A. Le, 10, Austin Friars, London, E.C. Director United River Plate Telephone Co., Ltd.

Rossignol, Alfred Ernest Le, electrical engineer, 27, Great George-st., Westminster, S.W.

Rossiter, A. E., A.I.E.E., 45, Parliament-hill-rd., Hampstead, London, N.W.

Rossiter, J. T., M.I.E.E., electrical engineer, Mobberley, Grove Park-gdns., Chiswick.

Rostron, S., Riverside, Beddington, Croydon. Director City of Buenos Ayres Tramways Co. (1904), Ltd.

Roth, S. B., A.I.E.E., electrical engineer, 51, Vanbrugh-park, Blackheath, London, S.E.

Roth, Schmidt & Co., insulating wax (cable wax) manufacturers, 6, Crosby-sq., London, E.C.

Rotherham Municipal Electricity Works & Tramways. (Telephone No. 138.) E. Cross, borough electrical engineer.

Rothesay Electricity Works. Engineer, E. B. Stiven.

Rothesay Tramways Co., Ltd., Point House, Rothesay, N.B.; & Donington House, Norfolk-st., Strand, London, W.C. Nominal capital: £90,000 in £1 ordinary shares, £10,000 in 5 per cent. cumulative preference shares of £1 each & £50,000 debentures. Issued: 63,875 ordinary shares, fully paid, & all the debentures. Directors: A. C. Miles, Esq. (chairman); F. W. Chanter, Esq.; H. S. Day, Esq. Engineer, A. Wilkes; manager, A. Robertson; secretary, W. F. Herring. Dividends: 1901, 7 per cent.; 1902, 6 per cent.; 1903 & 1904, *nil.*

Rottenburg, L., electrical engineer, 11, Hartington-st., Barrow-in-Furness.

Rotter, E., A.M.I.C.E., consulting engineer, 47, Victoria-st., London, S.W. (Telegs.: "Disjoined, London." P.O. Teleph. No. 311.)

Rotter & Jones, consulting civil & electrical engineers, 47, Victoria-st., Westminster, London, S.W. (Telegs.: "Disjoined, London." P.O. Teleph. No. 311, Victoria.)

Rouch, A. E., consulting electrical engineer, 2, Merchant's-rd., Clifton, Bristol. (Telegrams: "Rouch, Bristol." Telephone No. 140 Y., Nat.)

Rouch & Penny, electrical engineers & contractors, 1, Quay Head, Bristol. (Teleph. No. 2140 Y.)

Roumieu, G. F., Bethune House, Farnham. Director Farnham & District Electricity Supply Co., Ltd.

Round, John, manufacturing electrician, 3, Marmont-rd., Peckham, London, S.E.

Roundhay & District Electric Lighting Co., Ltd., 34, Albion-st., Leeds. Registered June 22, 1900. Nominal capital: £20,000 in £10 shares, 777 of which have been issued & paid. Directors: W. P. Green, Esq.; M. Kitchen, Esq.; J. E. Whiting, Esq.; A. G. Lupton, Esq.; W. Miers, Esq. Engineer, H. Love; secretary, G. A. Pearson.

Rouse, F. R. C., electrical engineer, 53, St. George's-rd., Regent's Park, London, N.W.

Routh, W. Pole, A.M.I.C.E., M.I.MECH.E., Oakfield, Reading. Director Reading Electric Supply Co., Ltd.

Routledge, Wm., A.M.I.E.E., Blaydon Iron Works, Blaydon-on-Tyne.

Roux, A. A., director South American Cable Co., Ltd., 106, Cannon-st., E.C.

Rowden, W. T., B.SC., consulting engineer & professor of mechanical engineering, Glasgow & West of Scotland Technical College, Glasgow.

Rowe Bros. & Co., Ltd., lead manufacturers, High-st., Exeter; Canon's Marsh, Bristol; Berkley-st., Birmingham; Pall Mall, Liverpool; & Burry Port, R.S.O., South Wales. (Telegs.: "Rowe, Exeter;" "Rowe, Bristol;" "Rowe, Birmingham;" "Roboro, Liverpool;" & "Rowe, Burry Port." Tel. Nos.: 29 & 30, Exeter; 673 & 674, Bristol; 1383, Birmingham; 8190, Liverpool.)

Rowell, D., & Co., iron buildings, 31 & 33, Old Queen-st., London, S.W. (Telegrams: "Rowell, London." P.O. Telephone No. 238, Victoria.)

Rowell Stuart Kelman & Co., Ltd., merchants & contractors for electric lighting & traction, 27 & 28, Broad-st.-ave., London, E.C. (Telegrams: "Stet, London." Telephone No. 1695, London Wall.)

Rowland, R., A.M.I.E.E., engineer, District Council Electricity Works, Stretford, Lancs. (Teleph. No. 56, Docks, Manchester.)

Rowland, Wm., A.M.I.E.E., 23, Eastcombe-ave., Old Charlton; & Cranleigh, Surrey.

Rowland, W. E. A., third engineer, St. James' & Pall Mall Electric Light Co., Ltd., Carnaby-st., Golden-sq., London, W.

Rowland, B. R., & Co., Ltd., makers of the Morrin patent "Climax" water tube steam boilers, "Climax" Works, Reddish, nr. Manchester. (Telegrams: "Heroic, Reddish." Telephone No. 47, Heaton Moor.)

Rowlandson, C. A., engineer-in-chief, Great Central Railway (Engineer's Office), Marylebone Station, London, N.W. (Nat. Teleph. No. 66, Paddington.)

Rowlandson, Wm., electrical engineer, 67, Lord-st., Liverpool, W. (Telephone No. 1824.)

Rowner-Muriel & Co., accumulator & electric lamp makers, Dulwich Electrical Works, Colwell-rd., S.E.; & 170, Lordship-lane, London, S.E.

Rowney, G., & Co., mathematical instrument makers, 10 & 11, Percy-st., W.; & 9, 10 & 11, Diana-pl., Euston-rd., London, N.W. (Telegs.: "George Rowney, London." Teleph. No. 4893, Gerrard.)

Rowsell, P., dealer in old electric lamps & electrician, 9, Derwent-grove, East Dulwich, London, S.E.

Roy, A. W., maker of small Manchester type, Overtype, &c., dynamos, armature stampings, slotted or plain rings & drums, &c., 151, Shields-rd., Heaton, Newcastle-on-Tyne.

Roy, W. H., & Co., water cooling apparatus, Tower-chbrs., 30, Spring-gdns., Manchester. (Telegs.: "Exhaust, Manchester." Teleph. No. 278 X.)

Royal Albert Memorial College, Exeter. *See* SCHOOLS.

Royal Astronomical Society, Burlington House, Piccadilly, London, W.

Royal College of Science, South Kensington, London, S.W. (Telegrams: "Scientist, London.")

Royal College of Science for Ireland, Dublin, lectures & laboratory practice on experimental physics, including applied electricity. *See* SCHOOLS.

Royal Engineers Institute, Chatham. (Telegrams: "Sapper, Chatham.")

Royal Geographical Society, 1, Savile-row, Burlington-gardens, London, W.

Royal Institution of Great Britain, for the promotion, diffusion, & extension of science & of useful knowledge. Lord Rayleigh, O.M., D.C.L., F.R.S., hon. professor of natural philosophy; Prof. J. J. Thomson, LL.D., D.SC., F.R.S., professor of natural philosophy; Prof. Sir James Dewar, LL.D., D.SC., F.R.S., Fullerian professor of chemistry. Hon. sec., Sir William Crookes, D.SC., F.R.S., 21, Albemarle-st., London, W. (Telegrams: "Royal Institution, London." Telephone No. 3669, Gerrard.)

Royal Insurance Co., 28, Lombard-st., E.C. (Telegs.: "Princely, London." Teleph. No 1465, Avenue.)

Royal Laboratory, Royal Arsenal, Woolwich, London, S.E.

Royal Meteorological Society (W. Marriott, secretary), 70, Victoria-st., Westminster, London, S.W.

Royal Microscopical Society, 20, Hanover-square, London, W.

Royal Naval College, Greenwich. (Telegrams: "College, Greenwich." Telephone No. 024, Deptford.) *See* SCHOOLS, &c.

Royal Observatory, Greenwich, London, S.E.

Royal Physical Society, India-bldgs., Edinburgh.

Royal Scottish Society of Arts, 117, George-st., Edinburgh.

Royal Society, Burlington House, Piccadilly, London, W. (Telegrams: "Royal Society, London." P.O. Telephone No. 905, Mayfair.)

ROYAL STANDARD ELECTRIC LAMP MANUFACTURING CO., 4, Hart-st., New Oxford-st., London, W.C. (Telegs.: "Spectrolit, London." Teleph. No. 8109, Gerrard.) *See advt. under* INCANDESCENT LAMPS.

Royal Statistical Society, 9, Adelphi-terrace, Strand, London, W.C.

Royal Technical Institute, Salford. *See* SCHOOLS.

Royal University of Ireland, Dublin. *See* SCHOOLS, &c.

Royal-Dawson, W. G., A.M.I.E.E., electrical engineer, 40, Creffield-rd., Ealing, London, W. (Teleph. No. 344, Ealing, P.O.)

Royce, F. H., M.I.E.E., M.I.MECH.E., electrical engineer, Royce, Ltd., Manchester; & Brae Cottage, Knutsford.

ROYCE, LTD., makers of Dynamos, Open & Enclosed Motors, Motor-Starting & Controlling Gear Cranes, Hoists, Transporters, Capstans, Winches, &c., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Cablegrams: "Switch, Manchester, England." Nat. Teleph. No. 4831. Registered Oct. 17, 1899. Nominal capital: £100,000 in £1 ordinary & £70,000 in £1 preference shares. 72,487 ordinary & 34,955 preference have been issued. Both preference & ordinary are fully paid. Debentures issued: £25,000. Directors: E. A. Claremont, Esq. (chairman); F. H. Royce, Esq.; R. D. Hulley, Esq. Commercial manager, T. E. Ritchie, Esq.; secretary, John De Looze, F.C.I.S.

Royle, John, Northwood, Wilmslow. Director Alderley & Wilmslow Electric Supply, Ltd.

Royles, Ltd., feed-water heater makers, Irlam, nr. Manchester.

Royse, S. W., & Co., chemical, mineral & metal merchants, 20, Albert-sq., Manchester. (Telegrams: "Roys, Manchester." Telephone Nos. 1889 & 5337.)

Royston, W. J., wood worker for electrical purposes, 54A, King's-rd., Camden Town, London, N.W.

Royston, J., Son & Co., Ltd., galvanized iron & steel wire manufacturers, Shrogg's Mills, Halifax.

Ruberoid Co, Ltd., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. (Telegs.: "Ruberoid, London." Teleph. No. 1480, Central.)

Ruck, R. M., Brigadier-General, R.E., M.I.E.E., 44, Thurloe-sq., London, S.W.

Rücker, Sir Arthur W., M.A., D.SC., LL.D., F.R.S., M.I.E.E., principal University of London, South Kensington, S.W.

Rudd, F. H., A.I.E.E., Electricity Works, Rochdale, Lancs.

Rudd, J. A., M.I.E.E., 68, Gordon-st., Glasgow.

Rudd, J. A., & Co., electrical engineers & merchants, 68, Gordon-st., Glasgow. (Telegs.: "Thorough, Glasgow." Teleph. Nos.: Nat., 812, Argyle; P.O., 812.)

Ruddle, Mark, M.I.E.E., M.I.C.E.I., city electrical engineer, Dublin Corporation, Central Station; & 7, Lansdowne-ter., Dublin.

Ruddock, A. E., A.M.I.E.E., district manager for Potteries district, National Telephone Co., Ltd., Hanley. (Telegrams: "National Telephone, Hanley." Telephone No. 131.)

Ruddock, Ernest N., A.I.E.E., "Stockland," 23, Palace-rd., Streatham Hill, London, S.W.

Rudge, E., electrician, 1, New Bond-st.-pl., Bath.

Rüffer, A., director Spanish Telephone Co., Ltd., 39, Lombard-st., E.C.

Rüffer, E., 39, Lombard-st., London, E.C. Chairman Spanish Telephone Co., Ltd.

Rüffer, H., 5, Great George-st., Westminster, S.W. Director South Wales Electrical Power Distribution Co.; chairman Llanelly & District Electric Lighting & Traction Co., Ltd.; director Derbyshire & Nottinghamshire Electric Power Co.; director Lothians Electric Power Co.

Rugby School Electric Lighting Co., Ltd., Dunchurch-rd., Rugby, Warwick. Nominal capital: £5500 in £50 shares. 90 shares have been taken up & are fully paid. Chairman, Rev. H. A. James, D.D.; electrical engineer, A. E. Lee; honorary secretary, A. E. Donkin, Esq. Dividends: 1896, 1897, 1898 & 1899, 5 per cent.; 1900, 4 per cent.; 1901, 5 per cent.; 1902, 6 per cent.

Rugby Urban District Council Electricity Works. Engineer, T. S. Shenton.

Rumball, F. G., director Canada Electric Traction Co., Ltd., 13, St. Helen's-pl., London, E.C.

Rumney & Rumney, Bastian meters, &c., 39, Victoria-st., London, S.W.

Runcorn Technical Institute, Runcorn. *See* SCHOOLS.

Rungay, T., A.M.I.E.E., Blenheim Palace, Woodstock.

Rusett, Chas. H. de, A.I.E.E., British Buffalo Marine Motor Co., Ltd., Strand-on-the-Green, London, W.

Rushforth, S., & Son, electrical engineers, Eldon-st., Barnsley.

Rushton Bros., boiler makers, Gas-st. Foundry, Bolton, Lancs.

Rushworth & Co., engineers' tools, Sowerby Bridge, Yorks. (Telegrams: "Rushworth, Sowerbybridge.")

Russell, A., M.A., M.I.E.E., electrician, Electrical Standardizing Laboratory, Faraday House, 66–70, Southampton Row, London, W.C. (Telegrams: "Russell, c/o Standardizing, London.")

Russell, C. Newton, M.I.E.E., A.M.I.C.E., borough electrical engineer, Borough Electricity Supply Works, Shoreditch, N. (Telephone No. 1157, London Wall.)

Russell, D., Inchdarnie, 2, St. Andrew-sq., Edinburgh. Director Fife Electric Power Co., Ltd.; director Scottish Central Electric Power Co., Ltd.; director Lothians Electric Power Co.

Russell, Dr. F. R., director Guildford Electricity Supply Co., Ltd., High-st., Guildford.

Russell, Earl, M.I.E.E., electrical engineer, Telegraph House, Chichester.

Russell, George, M.I.E.E., telegraph superintendent, Glasgow & South-Western Railway Co., St. Enoch Station, Glasgow.

Russell, H., M.I.E.E., director Alliance Electrical Co., Ltd., 23, Grafton-st., Piccadilly, London, W. (Telegrams: "Continuity, London." Telephone No. 1490, Gerrard.)

Russell, H. S., M.I.E.E., "Fernbrook," Manor Court-rd., Hanwell.

Russell, Louis, electrical engineer, Station-rd., Bexhill-on-Sea.

Russell, N. S., 39, Coleman-st., E.C. Director North-West London Railway Co.; director Lancashire Electric Power Co.

Russell, R., Cadham, Markinch. Director Fife Electric Power Co.; director Fife Electric Power Co., Ltd.

Russell, Stuart A., M.I.E.E., electrical engineer, India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, Essex.

Russell, S. G. C., F.E.S., M.I.E.E., electrical engineer, Phœnix Assurance Co., 19, Lombard-st., E.C. (Teleph. No. 8157–8, Central.)

Russell, Walter H., A.M.I.E.E., Crompton & Co., Ltd., Salisbury House, London Wall, E.C.

Russell, Wm. Edward, A.I.E.E., electrical engineer, Wood-st., St. Anne's-on-the-Sea. (Telegrams: "Russell's, St. Anne's-on-Sea." Telephone No. 3 X.)

Russell & Co., Ltd., wiring contractors, St. Anne's-on-Sea.

Russell & Erwin Manufacturing Co., manufacturers of bells & push buttons, Brooks Wharf, Upper Thames-st., London, E.C.

Russell, George, & Co., Ltd., electric cranebuilders, Alpha Works, Motherwell, N.B. (Telegrams: "Russell, Motherwell." Telephone No. 4.)

Russell, John, & Co., Ltd., iron tube manufacturers, Alma Tube Works, Walsall (Telegs.: "Alma, Walsall." Tel. No. 34); 145, Queen Victoria-st., London, E.C. (Telegs.: "Anchor, London." Tel. No. 361, Bank); Colston-st., Bristol (Telegs.: "Alma, Bristol." Tel. No. 218); London-rd., Manchester (Telegs.: "Alma, Manchester." Tel. No. 1543); & 15, Wellington-st., Leeds. (Telegs.: "Alma, Leeds." Tel. No. 223.)

Russell, James, & Sons, Ltd., iron telegraph pole manufacturers, Crown Tube Works, Wednesbury. (Telegrams: "Russell, Wednesbury." Telephone No. 6502.)

Russell, J., & Sons, electricians, 4, Mile End-rd., London, E.

Russell & Son, wire drawers, 73, Stibbington-street, Oakley-square, London, S.W.

Russell & Wardrop, electrical engineers & contractors, Pritchard-st., Chorlton-on-Medlock, Manchester. (Telegs.: "Armature, Manchester." Teleph. No. 6031.)

Rust, H., A.M.I.E.E., electrical engineer, 3, Anfield-rd., Oldfield-rd., Sale, Cheshire.

Ruston, F. T., & Son, dealers in electrical sundries, St. Ives & Huntingdon.

Ruston, Proctor & Co., Ltd., mechanical engineers, Sheaf Iron Works, Lincoln (Telephone No. 56); & 46, Queen Victoria-st., London, E.C. (Telegrams: "Ruston, Lincoln;" "Ruston, London." Telephone No. 5148, Bank.)

Rutherford, Adam, A.M.I.E.E., 353, West Prince's-st., Glasgow, N.B.

Rutherford, A. P., A.M.I.E.E., borough electrical engineer, Leith, Edinburgh.
Rutherford, Robert, A.M.I.E.E., The Rosery, Whickham, Swalwell, R.S.O., co. Durham.
Rutherford, W., M.I.E.E., assistant managing director Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C.
Rutherford, A., & Co., electrical engineers, Bridge-st. & Cleveland-st., Birkenhead. (Telegrams: "Neptune, Birkenhead." Telephone No. 104, Birkenhead.)
Rutherford College, Newcastle-on-Tyne. (Telephone No. 2301.) *See* SCHOOLS, &c.
Ryan, A. J., A.M.I.E.E., chief assistant & deputy borough electrical engineer, Corporation Electricity Works, Gillingham, Kent.
Ryan, Frederick, A.I.E.E., c/o Electrician-in-Chief, Eastern Telegraph Co., Electra House, Finsbury Pavement, London, E.C.
Ryan, J. H., M.A., M.I.C.E., engineer, 22, Nassau-st., Dublin.
Ryan, Prof. John, D.SC., M.A., LL.M., expert adviser to City Council, Dubin.
Ryan, Valentine, A.I.E.E., electrical engineer, Electric Light Station, Killarney; & 22, Leeson Park, Dublin.
Ryan, W. A., B.A., B.L., Whaley Abbey, Rathdrum, co. Wicklow, Ireland. Director Kerry Electric Supply Co., Ltd.
Rycroft, P. E., A.M.I.E.E., engineer & manager, Heston & Isleworth Urban District Council, Bridge-rd., Hounslow, W.; & 1, The Villas, Lampton-rd., Hounslow, W.
Ryde Pier Co. & Electric Railway, Ryde, Isle of Wight. W. D. Stanney, manager.
Ryde & St. Helens Electricity Works (Isle of Wight Electric Light & Power Co.), Ryde, Isle of Wight. F. T. Crowe, resident engineer.
Ryder, Thos., & Son, lathes, forging machines, &c., Turner Bridge, Bolton, Lancs.
Rye, A. N., resident engineer, Urban Electric Supply Co., Ltd., Hawick. (Telegrams: "Urban Co., Hawick." Telephone No. 407, Hawick.)
Rye & Co., electric wiring contractors, Faringdon-st., Swindon. (Telegs.: "Rye, New Swindon.")
Rylance, H., resident engineer, Electricity Works, Kildare, Ireland.
Rylands, W. A., assistant superintendent, Telegraph Factory, Mount Pleasant, London, E.C.
Rylands Brothers, Ltd., Wire Mills, Wire-rope, Wire-netting & Galvanizing Works, Warrington. (Telegrams: "Wire, Warrington.")
Ryman, Fredk., & Co., manufacturing electrical engineers, Cox-st., St. Paul's-sq., Birmingham.
Rymer-Jones, J., M.I.E.E., "Elmside," Dartmouth-pl., Blackheath, S.E.

S. M. H. Tramway Syndicate, Ltd., 13, St. Helen's-pl., London, E.C. Registered May 17, 1905. Nominal capital: £1000 in £1 shares. Engineers, Harper Bros. & Co. & D. Balfour & Son.
Sabine, A., secretary, Messrs. Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate, London, S.W.
Sachs, Carl J., electrician-in-charge British Museum, Great Russell-street, Bloomsbury, London, W.C.
Sadler, Hastings V., A.I.E.E., 53, Haydon Park-rd., Wimbledon, S.W.
Sadler, M., manufacturing electrician, 19, Aston-street, Birmingham.
Sadler & Co., Ltd., manufacturing chemists, Cleveland Chemical Works, Middlesbrough. (Telegrams: "Alizarine, Middlesbrough." Telephone Nos. 29 & 180.)
Safety Tread Syndicate, Ltd., makers of electric light cover boxes, steel spring washers, &c., 15, Barbican, London, E.C. (Telegrams: "Unslipping, London." Telephone No. 5646, Bank.)
Sage, Ernest, electrical engineer, 9 & 28, Elnathan-mews, Formosa-st., London, W.
Sage, Frederick, & Co., installation contractors, 58–62, Gray's Inn-rd., London, W.C. (Telegrams: "Sage, London." Telephone No. 64, Holborn.)
Saggerson, T., & Co., meter movements, West-st., Prescot, Lancs.
Sainsbury, A. W., electric light & power contractor, 89, Arundel-st., Sheffield. (Telegrams: "Sainsbury, Sheffield." Telephone No. 2797.)
St. Albans & District Electric Supply Co., Ltd., Evelyn House, 101, Finsbury Pavement, London, E.C. (Telegs.: "Metrolito, London." Teleph. No. 2090, London Wall.) Registered Nov. 7, 1903. Nominal capital: £25,000 in £1 shares. Directors: J. Devonshire, Esq.; Wm. L. Madgen, Esq.; G. Offor, Esq. Engineer, E. T. Ruthven Murray; secretary, E. Boys.
St. Aldwyn, Viscount, P.C., Coln St. Aldwyn, Fairford, Glos. (Telegs.: "Coln, St. Aldwyn.") Director Central London Railway Co.
St. Andrews Electricity Works, St. Andrews, Scotland. Electric Supply Corporation, Ltd., props. Engineer, B. G. Drummond.
St. Anne's-on-the-Sea U.D.C. Electricity Works. (Teleph. No. 12.) Engineer & manager, J. H. Clothier.
St. Austell & District Electric Lighting & Power Co., Ltd., 118, Queen Victoria-st., London, E.C.; & St. Austell, Cornwall. Registered June 27, 1901. Nominal capital: £10,000 in £1 ordinary shares. Issued: £2000, fully paid, £2000 debentures & £4000 loans. Directors: G. D. Handley, Esq.; W. L. Machell, Esq.; E. W. Oakley, Esq.; W. T. Pressland, Esq.; A. West, Esq. Engineer & manager, A. B. Child, A.M.I.E.E.; secretary, J. W. Cranfield.
St. David's College, Lampeter, South Wales. *See* SCHOOLS, &c.

St. George's Iron Works, Ltd., makers of wheels & pulleys, Hulme, Manchester. (Telegrams: "Ormerod Grierson, Manchester." Telephone No. 229.)

ST. HELENS CABLE & RUBBER CO., LTD., electric cables & general rubber goods, Warrington (Teles.: "Dialite, Warrington." Teleph. Nos. 202 & 228); & 32, Victoria-st., London, S.W. (Teleph. No. 4270, Gerrard.) *See advt.*, CABLES—ELECTRIC LIGHT.

St. Helen's Copper Co., Ltd., copper merchants, Ravenhead, St. Helens. (Telegrams: "Copper, St. Helen's.")

St. Helen's Corporation Electric Power Station & Tramways, Cropper's Hill, St. Helens. (Telegs.: "Electricity Works, St. Helens." Teleph. No. 212.) Engineer, E. M. Hollingsworth.

St. Helen's Electric Lighting Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.; & St. Helen's, Isle of Wight. (Teleph. No. 42, Ryde.) Registered Nov., 1900. Nominal capital: 2000 shares of £5 each. Directors: F. E. Gripper, Esq. (chairman); Capt. R. M. Alexander; W. T. Pressland, Esq.; Lieut.-Col. J. F. C. Hamilton; J. C. Wigham, Esq. Engineer, A. E. Mayes; secretary, C. H. Jones.

St. James' & Pall Mall Electric Light Co., Ltd. Offices: Carnaby-st., Golden-sq., W. Central Stations: Carnaby-st., W.; & Mason's-yard, Duke-st., St. James', London, S.W. (Telegs.: "Licensable, London." Teleph. Nos.: 5082, Gerrard; & 9383, Central.) Registered March 2, 1888. Nominal capital: £200,000 in £5 ordinary shares, £100,000 7 per cent. preference shares of £5 each, & £150,000 in 3½ per cent. debenture stock, all issued & fully paid. Frederic J. Walker, general manager & secretary; S. T. Dobson, M.I.C.E., chief engineer. Directors: Col. E. J. A. Balfour (chairman); Sir John H. Morris, K.C.S.I.; Bennett Fitch, Esq., M.I.C.E.; Walter Leaf, Esq. (vice-chairman); M. R. Pryor, Esq. Dividends on ordinary shares: 1903 & 1904, 14½ per cent.; 1905, 12½ per cent.; first half of 1906, at rate of 10 per cent. per ann.

St. John-Dixon, A. O., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

St. Marylebone Borough Council Electricity Works, 11, Manchester-st., London, W. (Teleph. No. 771, Paddington.) Electrical engineer & manager, F. A. Wilkinson.

St. Pancras Electricity & Public Lighting Department. Offices: 57, Pratt-st., St. Pancras, London, N.W. (Teleph. Nos. 512 & 513, Mayfair.) Central Stations: 47, Stanhope-st., N.W., & King's-rd., N.W. Chief clerk, A. E. Pycraft; chief engineer, Sydney W. Baynes; resident engineer, J. T. Baron. Present loan capital, £478,457.

St. Pancras Ironwork Co., Ltd., engineers, 171, Pancras-rd., London, N.W. (Telegrams: "Equitation, London." Telephone No. 519, North.)

Salanson, H., & Co., electricians & scientific instrument makers, 20, High-st., Bristol; & 23, High-st., Cardiff.

Sale, David, electrical engineer, 63, Fore-st., Devonport.

Sale, Harold B., A.I.E.E., resident electrical engineer, North Metropolitan Electrical Power Distribution Co., Ltd., Electricity Works, High Barnet, Herts.

Sale, M. T., Col., R.E., C.M.G., M.I.E.E., The Grange, Belvedere, Kent.

Sale Urban District Council Electricity Works, Sale, Cheshire. Resident engineer, C. J. Wood.

Salford Corporation Electricity Works (light & traction), Frederick-rd., Salford.

Salford Royal Technical Institute, Salford. *See* SCHOOLS, CLASSIFIED SECTION.

Salis, H. R. de, J.P., A.M.I.C.E., A.M.I.M.E., A.I.E.E., "Ivy Lodge," Iver Heath, Bucks. Director Windsor Electrical Installation Co., Ltd.

Salisbury, Albert Edward, A.I.E.E., 64, Pemberton Gardens, Highgate, London, N.

Salisbury Electric Light & Supply Co., Ltd., The Close, Salisbury. (Teleph. No. 35.) Registered June 21, 1894. Directors: W. M. Hammick, Esq. (chairman); W. Marlow, Esq.; F. E. Gripper, Esq.; W. Pinckney, Esq. Electrical engineer, A. B. Randall, M.I.E.E.; secretary, A. R. Malden. Nominal capital: £50,000 in £1 shares & 500 debentures of £100 each. Issued: 35,000 shares have been taken up, £35,000 has been paid, & £31,900 debentures, secured by trust deed of Jan. 1, 1899. Dividends: 1902 & 1903, 5 per cent.; 1904 & 1905, 5½ per cent.; & first half of 1906, 4 per cent.

Salisbury Electrical Engineering Co., Ltd., 143, New Kent-rd., London, S.E.

Salmon, Wm. Forrest, Rowantreehill, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

Salmon, J., & Son, scientific instrument makers, 169, Hampstead-road, London, N.W.

Salmony, H. M., electrical engineer, 70, Canfield Gardens, Finchley-rd., London, N.W

Salomons, Sir David, Bart., M.A., M.I.E.E., Broomhill, Tunbridge Wells, Kent (Telephone No. 52); & 49, Grosvenor-st., London, W. (Telephone No. 1052.)

Salopian Pottery Co., earthenware tubes & insulators of all kinds, &c., Broseley, Salop.

Salt, C. W., second assistant electrical engineer, Corporation Electricity Works, Bradford.

Salt, H. E., director City of Wellington Electric Light & Power Co., Ltd.

Saltburn-by-the-Sea Electricity Works, Saltburn-by-the-Sea (owned by Cleveland Trust, Ltd.). Engineer, W. Miriam; electrician, A. Raine.

Salter, A. J., A.M.I.C.E., electric traction engineer, Suffolk House, Laurence Pountney Hill, Cannon-st., London, E.C.

Salter, Glynn, engineer & manager Electric Light & Power Co., Ltd., Lymington.

Salter, J. R., M.I.E.E., engineer, Lancashire United Tramways, Ltd., Atherton, Lancs.

Salter, G., & Co., steam gauge & spring makers, 101, Leadenhall-st., E.C. (Telegrams: "Springbalance, London." Telephone No. 1573, Avenue.) Works: West Bromwich. (Telegrams: "Salters, West Bromwich." Telephone No. 16.)

Saltren-Willett, Capt. A. J., R.A., A.I.E.E., Petticombe, Torrington, N. Devon.

Saltrick, W. R., electrical engineer, Vulcan Works, 72A, St. Thomas-st., London, S.E.

Sambidge, James, A.M.I.E.E., electrical engineer, c/o J. H. Holmes & Co., 17, Soho-sq., London, W.

Sambidge, H. W., & Son, Ltd., manufacturers of electric light fittings, &c., Highgate-st., Birmingham. (Telegrams: "Sambidge, Birmingham." Telephone No. 848, Nat.)

Sample, W. S., manager, Sterling Varnish Co., Brougham-st., Blackfriars-rd., Manchester.

Sampson, T. W., A.M.I.E.E., electrical engineer, 18, Bute-st., Sheffield.

Sampson & Co., Ltd., manufacturers of Sampson's patent leather driving belts, Patent Belt Works, Stroud, Gloucestershire. (Telegrams: "Sampsons, Stroud." Telephone No. 14. A.B.C. Code, 4th edition.)

Sampson Low, Marston & Co., Ltd., technical publishers, St. Dunstan's House, Fetter-lane, London, E.C. (Telegrams: "Rivsam, London." Telephone No. 83, Holborn.)

Samuel, Wm. H., & Co., motor spirit & lubricants manufacturers, Highfield Works, Leeds-st., Liverpool. (Telegs.: "Machinery, Liverpool." Teleph. No. 882.)

Samuelson, F., engineer, Turbine Department, British Thomson-Houston Co., Rugby.

Samuelson, Godfrey B., M.I.E.E., director W. T. Glover & Co., Ltd., Parliament Mansions, Victoria-st., Westminster, S.W. Director Howard Asphalt Troughing Co., Ltd.

Samuelson & Co., Ltd., ironfounders, engineers & machinery manufacturers, Britannia Works, Banbury, Oxon. (Telegs.: "Samuelson, Banbury." P.O. Teleph. No. 17.)

Sandberg, C. P., M.I.C.E., consulting engineer, Palace-chbrs., 9, Bridge-st., Westminster, S.W. (Telegrams: "Sandberg, London.")

Sandberg, O. F. A., A.I.E.E., Palace-chbrs., 9, Bridge-st., London, S.W.

Sandeman, Lieut.-Colonel John Glas, M.V.O., F.S.A., A.I.E.E., Whin-Hurst, Hayling Island; & Engine-ct., St. James' Palace, London, S.W.

Sander, E. J., A.M.I.E.E., electrician, 80, Manor-rd., Stoke Newington, London, N.

Sanders, Alexander Gilbert, M.I.E.E., The Birches, Cheltenham.

Sanders, R. M. D., director Dundalk Electric Tramway Co., Ltd., 118, Grafton-st., Dublin.

Sanders, T., ship fittings for electric lighting, 71, Queen-st., London, E.C.

Sanders & Co., motor car engineers & electric lighting contractors, 22, Clarence-st., Cheltenham. (Telegrams: "Motors, Cheltenham." Telephone No. 199, Cheltenham.)

Sanders, W., & Co., manufacturers of switchboards, &c., Falcon Electrical Works, Wednesbury. (Telegs.: "Sanders, Wednesbury." Teleph. No. 65.)

Sanderson, Aymor H., Darfield, Cranborne-rd., Bournemouth. Director County of London Electric Supply Co., Ltd.; chairman Bournemouth & Poole Electricity Supply Co., Ltd.; director Richmond (Surrey) Electric Light & Power Co., Ltd.

Sanderson, C. L., electric light engineer, 109, Westborough, Scarborough. (Telephone No. 21 X.)

Sanderson, C. J., & Sons, electricians & electric bell fitters, 30, Featherstone-st., City-rd., London, E.C.

Sanderson, J., & Co., electrical engineers & contractors, 73, Easton-st., High Wycombe.

Sanderson & Robinson, Ltd., engineers & founders, Mansfield, Notts. (Telegrams: "Sandersons, Mansfield." Nat. Telephone No. 35.)

Sandgate & Hythe Electric Co., Ltd., 36, Victoria-st., London, S.W. *In voluntary liquidation.* Liquidator, D. C. Jolley, London Wall-bldgs., E.C.

Sands, S. H., Huncote, Carlisle-rd., Eastbourne, Sussex. Vice-president National Telephone Co., Ltd.

Sands, Geo., & Son, electrical & general engineers, 5, Holland-st., Goose Gate, Nottingham. (Teleph. Nos.: 309, Nottingham; & 977, Colwick.)

Sandycroft Foundry Co., Ltd., The, makers of electrical machinery, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C. (Telephone No. 815, Bank.)

Saner, J. A., M.I.C.E., Highfield, Northwich. (Nat. Teleph. No. 78.) Chairman Northwich Electric Supply Co., Ltd.

Sanford, C. H., 62, Gresham House, Old Broad-st., London, E.C. Director Anglo-Argentine Tramways Co., Ltd.; director Primitiva Gas & Electric Lighting Co. of Buenos Ayres, Ltd.

Sang, E. J. W., 29, Walsingham-rd., Hove. Director Brighton & Rottingdean Seashore Electric Tramroad Co.

Sangster, J., vulcanite manufacturer, 34, Moorfields, London, E.C. (Telegrams: "Centuplico, London.")

Sanitas Electrical Co., Ltd., light cure & electro-medical apparatus, 61, New Cavendish-st., London, W. (Telegs.: "Lumignons, London." Nat. Teleph. No. 4971, Paddington.)

Sankey, B., A.M.I.E.E., A.M.I.MECH.E., borough electrical engineer, Corporation Electricity Works, Whitehaven.

Sankey, Capt. H. R., R.E. (ret.), M.I.C.E., M.I.M.E., M.I.E.E., A.I.N.A., consulting engineer, 25, Victoria-st., Westminster, London, S.W. (Telegrams: "Fusible, London." Telephone No. 666, Westminster.)

Sankey, Lieut.-Gen. Sir R. H., K.C.B., R.E., 32, Grosvenor-pl., S.W. Chairman Leicestershire & Warwickshire Electric Power Syndicate, Ltd.; director Fife Electric Power Co., Ltd.; deputy-chairman South Wales Electrical Power Distribution Co.

Sankey, Percy W., A.M.I.E.E., 196, Victoria-rd., Old Charlton, S.E.

SANKEY, JOSEPH, & SONS, LTD. (R. Jenkins, agent), stampings for electrical purposes, 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Permeable, London." Teleph. No. 8205, Central.)

Sansom, C. I., electrical engineer, St. James's Gate Brewery, Dublin.

Santler, C., & Co., electrical & general engineers & motor car manufacturers, Malvern. (Telegrams: "Santler, Malvern Link.")

SANTONI, D., & CO. (1906), LTD., electrical manufacturers' agents, 15–17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Santonna, T. F., A.I.E.E., electrician, 34, Sidbury, Worcester.

Sargeant, A. F., agent for the Sunbeam Lamp Co., 51, Lincoln's Inn, 174, Corporation-st., Birmingham.

Sarney, Geo. Gladman, A.M.I.E.E., 102, Mayall-rd., Herne Hill, S.E.

Sassoon, Sir Ed., Bart., M.P., 12, Leadenhall-st., London, E.C. Chairman Bombay Electric Supply & Tramways Co., Ltd.

Satchwell, Fred., C.E., M.I.E.E., consulting engineer, Jesmond Dene, Prince's-rd., Wimbledon, S.W.

Satterthwaite, T., resident engineer, Dudley, Stourbridge & District Electric Traction Co., Ltd., Hart's Hill, Brierley Hill, Staffs.

Saunders, B. R., assistant engineer, Corporation Electricity Works, Hamilton, Scotland.

Saunders, E. S., A.I.E.E., 70, Connaught-rd., Roath Park, Cardiff.

Saunders, H. A. C., M.I.E.E., consulting electrician, Eastern Telegraph Co., Ltd.; Eastern & South African Telegraph Co., Ltd., Electra House, Moorgate, London, E.C.

Saunders, H. S., 15, Great St. Helen's, E.C. Director Marconi's Wireless Telegraph Co., Ltd.; director Marconi International Marine Communication Co., Ltd.

Saunders, J. Carr, director Metropolitan Electric Supply Co., Ltd., 16, Stratford-pl., W. Director Uxbridge & District Electric Supply Co., Ltd.; director National Electric Construction Co., Ltd.; director Rhondda Tramways Co., Ltd.; director Rhondda Tramways Construction Synd., Ltd.

Saunders, Wm., electrician, 205, St. George's-rd., Bolton.

Saunders, E. J., & Co., electricians, 81, Albany-st., Regent's Park, London, N.W. (Telephone No. 45, King's Cross.)

Saunders, J. B., & Co., electrical engineers & electric light contractors, White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Barry, Barrow-in-Furness, Barnstaple & Isle of Wight. (Telegs.: "Lightable, London." Teleph. No. 961, Victoria.)

Saunders, Todd & Co., iron, metal, & chemical merchants, exporters, &c., Maritime-bldgs., King-st., Newcastle-on-Tyne. (Telegs.: "Trio, Newcastle, Tyne." Teleph. No. 258, P.O.; & No. 2198, Nat.)

Saunderson, F., A.M.I.C.E., 8, Finch-rd., Douglas, Isle of Man.

Saunderson, Llewellyn, electrician, Kingstown, co. Dublin.

Saunderson, Philip Sydney, A.M.I.E.E., c/o Brown, Boveri & Co., Caxton House, London, S.W.

Saunderson, H. P., & Co., Ltd., makers of oil motors & pumps & wind motors, Elstow Works, Bedford.

Savage, C. E., resident engineer, Corporation Electricity Works, Dudley.

Savage, Henry, A.M.I.E.E., 14, Nadine-st., Charlton, S.E.

Savage, J., electrical engineer, 114, Westfield-st., St. Helens.

Savage Bros., Ltd., engineers, King's Lynn.

Savage, E. A., & Co., electrical engineers & contractors, 100, High-st., Putney, London, S.W. (Telephone No. 292, Putney.)

Savill, Arthur G., A.I.E.E., Boleyn, Braintree.

Saville, J. J., & Co., Ltd., makers of magnet steels, tool steel, files, &c., Triumph Steel Works, Shoreham-st., Sheffield. (Telegrams: "Saville, Sheffield." Telephone No. 163, Nat.)

Savory, F. E., Bourne, Farnham, Surrey. Director Richmond (Surrey) Electric Light & Power Co., Ltd.; director County of London Electric Supply Co., Ltd.; director Coatbridge & Airdrie Electric Supply Co., Ltd.; director Bournemouth & Poole Electricity Supply Co., Ltd.; director Brentford Electric Supply Co., Ltd.; director Hayward's Heath Electric Supply Co., Ltd.

Savory, H. R., 92, Glen Eldon-rd., Streatham, S.W. Chairman City of Wellington Electric Light & Power Co., Ltd.

Savory, Reginald, A.I.E.E., 92, Glen Eldon-rd., Streatham, London, S.W.

Saward, Arthur Allen, A.I.E.E., 14, Highland-rd., Upper Norwood, S.E.

Sawers, N. C., A.I.E.E., c/o India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 100–106, Cannon-st., London, E.C.

Sawtelle, Edmund Munroe, M.I.E.E., electrical engineer, British Westinghouse Co., 2, Norfolk-st., Strand, London, W.C.

Sawyer, E. Wm., A.I.E.E., 160, Bethune-rd., Stamford Hill, London, N.

Sawyer-Man Electric Co., incandescent lamp makers, 15, Fore-st.-ave., London, E.C.

Sax, Julius, & Co., Ltd., electrical engineers & manufacturing electricians, 10 & 11, Great Newport-st., London, W.C. (Telegrams: "Saxatile, London." Telephone No. 3266, Gerrard.)

Saxby & Farmer, Ltd., railway signal manufacturers, 53, Victoria-st., Westminster, London, S.W. (Telegrams: "Signalman, London.")

Saxby & Farmer (India), Ltd., 23, Victoria-st., London, S.W.

SAXON ENGINEERING CO., LTD., consulting & general engineers, Fenton, Stoke-on-Trent. (Telegs.: "Saxon, Stoke-on-Trent." A.B.C. Code.) *See advt. under* DYNAMO & ELECL. MACHINES.

SAXONIA ELECTRICAL WIRE CO., LTD., insulated wires, Roan Works, Roan-st., Greenwich, S.E. (Telegs.: "Saxonist, London." Nat. Teleph. No. 463, Deptford.)

Saye, K. N., A.M.I.M.E., assistant engineer, Electricity Works, Sutton, Surrey.

Sayer, E., A.M.I.E.E., chief assistant electrical engineer, Central Electric Light Station, Hampstead, London, N.W.

Sayer, G. H., A.M.I.E.E., 1, Alexandra-ter., Walmer, Kent.

Sayer, H. E., engineer-in-charge, Wallasey Urban District Council Electric Supply Works, Liscard.

Sayers, H. M., M.I.E.E., consulting engineer, 39, Victoria-st., Westminster, London, S.W. (Teleph. No. 1063, Victoria.)

Sayers, Josiah, M.I.E.E., telegraph superintendent, Midland Railway, Derby.

Sayers, J. A., electrician, 78, Hubert-grove, Clapham, London, S.W.

Sayers, J. E., M.I.E.E., consulting engineer & electrician, 157, West George-st., Glasgow.

Sayers, R. M., A.M.I.C.E., A.I.E.E., telegraph engineer, 49, Palace Mansions, Addison Bridge, London, W.

Sayers, W. B., M.I.E.E., consulting engineer & electrician, 189, St. Vincent-st., Glasgow. (Telegrams: "Winding, Glasgow." Nat. Telephone No. 166, Argyle; & Corp. No. 166o.)

Sayers, J., & Sons, electrical engineers, 94, North-rd., Brighton.

Sayers, James E., & Caldwell, consulting engineers & electricians, 157, West George-st., Glasgow. (Telegs.: "Schedule, Glasgow." Teleph. No. 471, Argyle.)

Scanlan, Horace E., electric bell fitter, Towngate-st., Poole.

Scarborough Electric Supply Co., Ltd., Seamer-rd., Scarborough. (Telegs.: "Electricity Works, Scarborough." Teleph. Nos.: 77, Office; 252, Works.) Nominal capital: £100,000 in £10 shares. All the shares have been taken up, with £10 paid upon 9000 & £7 paid on 1000. Directors: G. Alderson-Smith, Esq., J.P. (chairman); George Lord Beeforth, Esq., J.P.; John Bell Simpson, Esq., J.P.; Hon. C. A. Parsons, C.B., F.R.S.; Gilbert Wilkinson, Esq.; H. T. Ellis, Esq.; A. A. Campbell Swinton, Esq. (managing director). F. G. Holden, resident engineer; J. Hall, secretary. Dividends: 1900, 6½ per cent.; 1901, 1902 & 1903, 7 per cent.; 1904, 6 per cent.; 1905, 5 per cent.

Scarborough Tramways Co., Scalby-rd., Scarborough. (Telephone No. 294.) Authorized capital: £96,000 in shares, £32,000 loans. Directors: Dr. F. Dale; Ald. V. Fowler; F. E. Gripper, Esq.; W. B. Hopkins, Esq.; M. T. Whittaker, Esq.; J. C. Wigham, Esq. Consulting engineers, A. A. Campbell Swinton & J. E. Waller; manager, W. E. Nicoll.

Scarf, I. S., head of Electricity & Magnetism Dept., City of London College, White-st., Moorfields, E.C.

Scargill, S., A.I.E.E., electrical engineer, Corrie House, Thornton, Bradford.

Scattergood, B. P., M.A., M.I.E.E., 7, Cookridge-st., Leeds. (Nat. Telephone No. 2383.)

Schaefer, Carl W., A.M.I.E.E., electrician, c/o Eastern Telegraph Co., Ltd., Electra House, Moorgate, London, E.C.

Schaefer, Oscar, consulting electric cable engineer & expert, The "Crest," Kenley, Surrey. Expert adviser on the erection & equipment of factories for electric cable making.

Schäffer & Budenberg, Ltd., governor makers, steam & pressure gauges & tachometers, 31, Whitworth-st., Manchester. (Telegs.: "Manometer, Manchester." Teleph. Nos. 899 & 899T.)

Schall, Karl, electro-medical instrument maker, 75, New Cavendish-st., London, W. (Telegrams: "Schall, London." Telephone No. 1212, Mayfair.)

Schanschieff, A., C.E., A.I.E.E., chief engineer, Premier Accumulator Co., Military-rd., Northampton; & 8, Abington-ave., Northampton.

Scharina, W. E. H., M.I.E.E., 163, Hope-st., Glasgow.

Schattner, E. B., A.M.I.E.E., 48, Culmington-rd., Ealing, W.

Schenk, E., 1, Curzon-st., Mayfair, London, W. Director Manx Electric Railway Co., Ltd.; director Smithfield Markets Electric Supply Co., Ltd.; director Yorkshire (West Riding) Electric Tramways Co., Ltd.; chairman Electromobile Co., Ltd.

Schiele Union Engineering Co., Ltd., makers of the Schiele patent fans, air propellers, turbines, &c., Pollard-st.-east, Ancoats, Manchester; & 22, Walbrook, London, E.C. (Telegs.: "Schiele, Manchester." Teleph. No. 989.)

Schiff & Co., carbon makers, 67, Aldersgate-st., London, E.C. (H. G. Mayer & Co., agents). (Telegrams: "Gloriole, London.")

Schiller, F. W., M.I.E.E., A.M.I.MECH.E., 9, Charlton-rd., Blackheath, S.E.

Schlesinger, L. B., 21, Cornhill, London, E.C. Chairman National Electric Construction Co., Ltd.; director Musselburgh & District Electric Light & Traction Co., Ltd.; director Rhondda Tramways Co., Ltd.; director Rhondda Tramways Construction Syndicate, Ltd.; director Mexborough & Rawmarsh Construction Syndicate, Ltd.

Schmahl, W., managing director Armorduct Manufacturing Co., Ltd., 88, Woodstock-rd., Bedford Park, London, W.

Schmidt Stationary Engine Co., Ltd., 6, Duke-st., London Bridge, S.E. (Telegrams: "Enrich, London." Telephone No. 1626, Hop.)

Schneider, Adolph, M.A., M.I.E.E., manager Eversheds & Vignoles, Ltd., Acton Lane Works, Chiswick, W.

Schoen Bros., agents & importers of electrical accessories, 29, Cock-lane, Snow Hill, London, E.C. (Telephone No. 13530, Central.)

Schoepf, T. H., M.I.E.E., assistant engineer, British Westinghouse Electric & Mfg. Co., Ltd., Trafford Park, Manchester.

Schofield, B., maker of electric pushes & pulls, Diggle, near Oldham.

Schofield, J. E., A.I.E.E., 20, Portland-pl., Mottram-rd., Stalybridge.

Schofield, S. D., M.I.E.E., A.M.I.MECH.E., electrical engineer to the District Council, Shipley. (Telephone No. 190, Shipley.)

Schofield & Taylor, engineers, Turnbridge, Huddersfield. (Telephone No. 120.)

Scholefield, A., 17, Sandhill, Newcastle-on-Tyne. Director Newcastle & District Electric Lighting Co., Ltd.; director Cleveland & Durham County Electric Power Co.

Scholes, George H., A.M.I.E.E., Blantyre-st., Hulme, Manchester.

Scholes, George H., & Co., electrical engineers & contractors, Blantyre-st., Manchester. (Telegrams: "Kilowatt, Manchester." Telephone No. 4061, Nat.)

Scholes & Son, electrical & mechanical engineers & contractors, 168, Corporation-st., Manchester. (Telegrams: "Scholes, Corporation-st., Manchester.")

Scholey, Harry, A.I.E.E., Dick, Kerr & Co., Ltd., Abchurch Yard, Cannon-st., London, E.C.

Schölzig, Oscar, agent for tubes, accumulator boxes, reflectors, shades & carbons, 9, New Broad-st., London, E.C. (Telegrams: "Scholzig, London." Telephone No. 9059, London Wall.)

Schontheil, T., A.M.I.E.E., A.M.I.M.E., Western Mail-chbrs., Cardiff.

SCHOOLS, COLLEGES, UNIVERSITIES, &C.—For Professors, *see* CLASSIFIED SECTION.

Schram & Co., air compressor makers, Cannon-st. House, Cannon-st., London, E.C. (Telegrams: "Schram, London." Telephone No. 5814, Bank.)

Schreiber & Neffen (Vienna), electric light shade makers; agents, Kiesow & Co., 25, Fore-street-avenue London, E.C. (Telegrams: "Kiesows, London." Telephone No. 1871, London Wall.)

Schultz, A. H., A.M.I.E.E., Eccleston Park, Prescot.

Schultz, George, A.M.I.E.E., engineer & manager, Notting-hill Electric Lighting Co., Ltd., 140, High-st., Notting-hill, London, W.

Schultz, W. A., Uplands, Milford-on-Sea, Hants. Director Milford-on-Sea Electric Supply Co., Ltd.

Schultz, G., & Co., electrical engineering material, 22 & 23, Laurence Pountney-lane, London, E.C. (Telegs.: "Steelhead, London." Teleph. No. 5931, Bank.)

Schulz, Gustav F., electrical engineer, 9, Whitehall-rd., Thornton Heath.

Schuster, A., PH.D., SC.D., F.R.S., F.R.A.S., M.I.E.E., Victoria Park, Manchester.

Schuster, W. S. L., 6, Curzon-st., Mayfair, W. Director South Staffordshire Tramways (Lessee) Co., Ltd.

Schwarte & Hammer, electrical copper wire manufacturers, 3, East India-ave., Leadenhall-st., London, E.C. (Telegrams: "Schwartham, London." Telephone No. 4030, Avenue.)

Schwartz, Alfred, A.K.C., A.M.I.C.E., M.I.E.E., M.SC.TECH., professor of elec. engineering, Victoria University, & professor of physics & elec. engineering, Municipal School of Technology, Manchester.

Schwind, C. L., electrical apparatus manufacturer, Broomfield, Derby.

Science Abstracts (price 30*s.* post free per annum), Institution of Electrical Engineers, 92, Victoria-st., London, S.W. (Telegrams: "Voltampere, London." Telephone No. 911, Victoria.)

Science Gossip (monthly; illustrated, price 6*d.*), 110, Strand, London, W.C. (Teleph. No. 9264, Central.)

Science Siftings, The Inventor's Mart, a popular journal of scientific invention & progress (weekly, 1*d.*), 123, 124 & 125, Fleet-st., London, E.C. (Telephone No. 194, Holborn.)

Scientific Appliance Manufacturing Co., mfrs. of elec. instruments, 166, Pentonville-rd., London, N.

Sclater, A. W., A.M.I.C.E., M.I.E.E., electrical engineer, 182, Oxford-st., London, W. (Telegrams: "Eniteo, London." Telephone No. 5239, Central.)

Sclater, Guy Lutley, Com. R.N., M.I.E.E., The Admiralty, Whitehall, London, S.W.

Scorer, Arthur B., A.M.I.E.E., Coombe Hurst, Lincoln.

Scotcher & Sons, electrical engineers, High-st., Hampton Wick.

Scott, Alexander, M.A., D.SC., F.R.S., superintendent of the Davy-Faraday Research Laboratory of the Royal Institution, 20, Albemarle-st., London, W.

Scott, A. B., 10–11, Stonecutter-st., E.C. Director La Capital Tramways Co., Ltd.; La Capital (Extensions) Tramways Co., Ltd.; La Capital Traction & Electric Co. (Buenos Ayres), Ltd.; Buenos Ayres New Tramways Co., Ltd.; Buenos Ayres Grand National Trams Co., Ltd.

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Scott, Arthur, electrical engineer, 4, The Parade, Haven-green, Ealing.

Scott, A. W., M.A., professor of mathematics & physical science, St. David's College, Lampeter.

Scott, Claud, 28, Victoria-st., Westminster, S.W. (Telephone No. 548, Westminster.)

Scott, C. J. Cater, 109, Leadenhall-st., London, E.C. Chairman London United Tramways (1901), Ltd.

Scott, C. J., Hilgay, Claredon-rd., Guildford. Director Guildford Electricity Supply Co., Ltd.; director Great Northern, Piccadilly & Brompton Railway Co.

Scott, Ernest, A.N.A., engineer & director Ernest Scott & Mountain, Ltd., Close Works, Gateshead-on-Tyne.
Scott, F. M. C., mechanical draughtsman & patent agent, 89, Victoria-street, Liverpool, W.
Scott, G. A., Brechin. Director North of Scotland Electric Light & Power Co., Ltd.
Scott, J., district manager, National Telephone Co., 102, Portland-st., Manchester.
Scott, J., electrical contractor, 28A, Oriel-rd., Bootle, Liverpool.
Scott, J., secretary to the Cuba Submarine Telegraph Co., Ltd., 58, Old Broad-st., London, E.C.
Scott, Jas., A.I.E.E., 248, Primrose-rd., Bootle, Liverpool.
Scott, John, wiring contractor, 128, Main-st., Stirling.
Scott, John F. S., A.M.I.E.E., 11, Claremont-ter., Edinburgh.
Scott, John O., Oaklands, Riding Mill. Director Hexham & District Electric Supply Co., Ltd.
Scott, J. T., A.I.E.E., 28, Heathwood Gardens, Charlton, S.E.
Scott, J. W. P., A.I.E.E., Moorfield, Lenzie, N.B.
Scott, Prof. A. W., M.A., professor of mathematics & physical science, St. David's College, Lampeter, South Wales.
Scott, R. T., Belfast. Director Bessbrook & Newry Tramway Co.
Scott, Sir B., Colonel, R.E., K.C.I.E., A.I.E.E., 11, Bolton-gdns., South Kensington, London, S.W.
Scott, Sydney J. W., A.I.E.E., 98, Highbury Hill, London, N.
Scott, T. Laidlaw, A.M.I.M.E., A.I.E.E., Thomas L. Scott & Co., 3, London Wall-bldgs., London, E.C.
Scott, W. A., A.M.I.E.E., 102, St. Mary-st., Cardiff.
Scott, W. H., resident engineer, Chepstow Electric Light & Power Co., Nelson-st., Chepstow.
Scott, Wm., electrical engineer, 76, Stratford-st., Glasgow.
Scott, Wm., scientific instrument maker, 3, Bateman's-ct., High Skellgate, Ripon.
Scott, Wm. Bellhouse, A.I.E.E., Eversley Cottage, Middleton, near Manchester.
Scott, William, electrical engineer, agent for W. T. Glover & Co., Ltd., Evershed & Vignoles, Ltd., & The Howard Asphalt Troughing Co., Ltd., 196, St. Vincent-st., Glasgow. (Telegs.: "Conductors, Glasgow." Nat. Teleph. Nos.: 956, Argyle; Corp. 1174.)
Scott, W. H., M.I.E.E., electrical engineer & director of Laurence, Scott & Co., Ltd., Gothic Works, Norwich.
Scott, Ernest, & Mountain, Ltd., manufacturing electrical engineers (dynamos, &c.), Close Works, Gateshead-on-Tyne; Norfolk House, Laurence Pountney Hill, London, E.C. (Telegs.: "Esco, Gateshead-on-Tyne." Nat. Teleph. Nos. 311–312. Telegs.: "Escamotur, London"); & 8, Working-st., Cardiff. (Telegs.: "Escot, Cardiff.") Nominal capital: £150,000 in £1 shares & £50,000 debentures. 97,790 ordinary shares have been taken up & are fully paid, & 29,800 preferred ordinary shares fully paid. There are also £39,600 4½ per cent. first mortgage debenture stock issued. Directors: T. E. Forster, Esq. (chairman): W. C. Mountain, Esq. (managing); E. Scott, Esq.; J. E. Hodgkin, Esq.; O. W. Ellis, Esq.; & G. E. Henderson, Esq. Electrical engineer, Geo. Rolf; secretary, R. M. Petrie. Dividends: 1901, 5 per cent.; 1902, 6 per cent.; 1903, 4 per cent.; 1904, 3 per cent.
Scott & Hodgson, Ltd., engine makers, Guide-bridge Ironworks, Guide Bridge, nr. Manchester. (Telegrams: "Engines, Hooley-hill." Telephone No. 67, Ashton-under-Lyne.)
Scott, Hugh J., & Co., electrical engineers, Ravenhill-ave., Belfast. (Telephone No. 1600.)
Scott & Leggat, consulting engineers, 102, St. Mary-st., Cardiff.
Scott & Scott, electric light contractors, Poole-rd., Westbourne, Bournemouth.
Scott, Walter, Ltd., Leeds Steel Works, manufacturers of girders, channels, rails, &c., Leeds. (Telegrams: "Bessemer, Leeds." Telephone No. 510.)
Scott-Moncrieff, K. A., M.I.E.E., Electric Supply Corporation, Salisbury House, London Wall, London, E.C.
Scott-Moncrieff, K. M., engineer, The Electric Supply Corporation, Ltd., Dollar, N.B.
Scott-Russell, Norman, M.I.E.E., 39, Coleman-st., London, E.C.
Scotter, Sir Chas., Surbiton Park Hill, Surbiton. Chairman Waterloo & City Railway Co.
Scottish Central Electric Power Co., 34, North Bridge-st., Edinburgh. (Telegs.: "Farad, Edinburgh." Teleph. No. 594, Central.) Station at Bonnybridge. (Telegs.: "Unit, Bonnybridge." Teleph. No. 14, Bonnybridge.) Incorporated 1903. Nominal capital: £600,000 in £10 shares. Borrowing powers: £200,000. Directors: W. S. B. M'Laren, Esq. (chairman); D. Russell, Esq.; J. A. Hood, Esq.; J. H. Annandale, Esq.; C. H. McEuen, Esq.; W. Lyon Mackenzie, Esq. General manager, E. C. Churchward; chief engineer, W. D. Morgan; secretary, Jas. Walker, C.A.
Scottish Electrical Luminiscriptor Co., Ltd., 180, Hope-st., Glasgow.
Scottish Electro-Medical Institute, Ltd., 24, Blytheswood-sq., Glasgow.
Scottish Indiarubber Co., telegraph & telephone wires, electric light leads, &c., 12, Hanover-st., Glasgow. (Telegrams: "Proof, Glasgow." Telephone Nos.: 690, Nat.; & 2602, Corp.)
Scottish Vulcanite Co., Ltd., Edinburgh (Telegs.: "Vulcanite, Edinburgh." Teleph. No. 1417, Central); 67, Fore-st., London, E.C.; & 33, Piccadilly, Manchester.
Scottish Wireless Electric Synd., Ltd., electrical instrument manufacturers, 53, Bothwell-st., Glasgow.
Scovell Bros., electricians, 6, Thavies Inn, London, E.C.; & at Manor Park, E.
Scratchley, P. A., director Larne Electric Light Works, Ltd., Suffolk House, Laurence Pountney Hill, E.C.
Scriven & Co., engineers' tool makers, Leeds Old Foundry, Mill-st., Leeds. (Telegrams: "Scriven, Leeds." Telephone No. 1819.)

Scruby, R., A.I.E.E., British L. M. Ericsson Manufacturing Co., Ltd., Beeston, Notts.

Scupham & Wood, Ltd., wood blocks & turnings for electric work, Mill-st. Turning Mills, Leeds. (Telegs.: "Scuphams, Leeds." Teleph. Nos. 4110 & 4111.)

Scurfield, G. G., assistant engineer, Electricity Works, Carlisle.

Seabrook, Arthur Hugh, A.M.I.E.E., A.M.I.MECH.E., engineer & manager, West Ham Corporation Electricity Works Supply, 84, Romford-rd., Stratford, London, E.

Seabrook Bros., batteries, electrical specialties & apparatus, 32–34, Featherstone-st., City-rd., E.C. (Telegs.: "Seabrook, London." A.B.C., 4th edit., & Lieber's Codes. Teleph. No. 4134, Central.)

Seage, A., & Co., manufacturing electrical engineers, Cambridge Works, Cambridge-rd., Hammersmith, W. (Teleph. No. 610, Chiswick.)

Seager, F. P., engineer-in-charge, Municipal Electricity Works, Sheffield.

Seager, J. A., A.M.I.C.E., A.I.E.E., 164, Rye Hill, Newcastle-on-Tyne.

Seager, L., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness.

Seager, Laurance, electric light & telephone contractor, London-rd., Sittingbourne, Kent.

Seal, Walter, & Co., dealers in electrical supplies, 22, Church-st. & Lynn-st., West Hartlepool. (Telephone No. 198.)

Seale, Austen & Barnes, Ltd., electric light & power contractors, 86, High-st., Tonbridge.

Seaman, Arthur G., M.I.E.E., The Narrows, Altrincham, Cheshire.

Searle, G. F. C., M.A., F.R.S., lecturer & demonstrator in experimental physics, Cavendish Laboratory, Cambridge.

Sears, Arthur Holroyd, A.M.I.E.E., 63, Clarendon-rd., Lewisham, S.E.

Seaton, A. E., consulting engineer, 32, Victoria-st., London, S.W. (Telegrams: "Seaquake, London." Telephone No. 207, Victoria.)

Seaton, E. P., consulting elec. engineer, 8, Prince's-st., Westminster, S.W. (Teleph. No. 627, Westminster.)

Seaton, G. D., representative Willans & Robinson, Ltd., Northern Assurance-bldgs., Albert-sq., Manchester. (Telegrams: "Bedplate, Manchester." Telephone No. 5651.)

Seaton, W. Sharpey, A.M.I.C.E., consulting electrical engineer, Montague House, Richmond, Surrey.

Sechiari, P. A., Palmerston House, E.C. Director Southern Counties Mono-Rail Syndicate, Ltd.

Seddon, Edwin, shift engineer, Corporation Electricity Works, West Ham, London, E.

Seeck, Max, electrical accessories manufacturer, 6, Henrietta-st., Covent Garden, London, W.C. (Telegs.: "Seeck, London." Teleph. No. 11401, Central.)

Sefton-Jones, H., chartered patent agent, 322, High Holborn, London, E.C.; & at Dublin & Belfast. (Telegrams: "Discovery, London." Telephone No. 823, Holborn.)

Segundo, E. C. de, M.I.MECH.E., A.M.I.C.E., M.I.E.E., engineer & manager New Gutta Percha Co., Ltd., 267, Dashwood House, New Broad-st., E.C. (Telegs.: "Awesome, London." Teleph. No. 2686, Central.)

Selby, A. L., M.A., professor of physics, University College of South Wales & Monmouthshire, Cardiff.

Selby, E. J., consulting engineer, Ridding-lane, Wednesbury.

Selby-Bigge, D. L., A.I.E.E., 27, Mosley-street, Newcastle.

Selden & Son, electrical engineers & wholesale ironmongers, 180, King-st., Hammersmith, London, W. (Telegrams: "Selden, Hammersmith." Telephone No. 33, Hammersmith.)

Selenium Accumulator Co., 75, Beacon-lane, Liverpool.

Self-Winding Electric Clock Co., 113, Cheapside, London, E.C.

Selig, Sonnenthal & Co., engineers' tool makers, 85, Queen Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt. under* MACHINE TOOL MAKERS.

Selinger, M., manufacturers of lamp shades, 8, Nicholas-st., Mile End-rd., London, E.

Selkirk, A. A., manager Wm. McGeoch & Co., Ltd., 11, Charing Cross-rd., London, W.C. (Telegrams: "McGeoch, London." Telephone No. 1505, Gerrard.)

Selkirk, David B., A.I.E.E., "Norwood," Milngavie, N.B.

Seller, Frank Russell, A.I.E.E., 7, Cornhill, London, E.C.

Sellon, E. M., M.I.E.E., 4, Chandos-st., Cavendish-sq., London, W.

Sellon, John S., M.I.E.E., 78, Hatton Garden, London, E.C.

Sellon, R. Percy, M.I.E.E., Mansion House-bldgs., 4, Queen Victoria-st., London, E.C. (Telegrams: "Sellon, c/o Eminencies, London." Telephone No. 7234, Central.) Director County of London Electric Supply Co., Ltd.; director Electric Lighting & Traction Co. of Australia, Ltd. (managing); director Bournemouth & Poole Electricity Supply Co., Ltd.; director Lancashire Electric Power Co.; director Richmond (Surrey) Electric Light & Power Co., Ltd.; Associated Cos. of the British Electric Traction Co., Ltd.; & director Electric Adelaide Supply Co., Ltd.

Sellon, Stephen, M.INST.C.E., consulting engineer, 36, Victoria-st., Westminster, London, S.W. (Telegs.: "Altedel, London." P.O. Teleph. No. 457, Victoria.) Director Wemyss & District Tramways Co., Ltd.

Sells, Fred., A.I.E.E., General Electric Co., Ltd., Victoria Bridge, Manchester.

Selvey, Wm. M., A.I.E.E., electrical engineer, c/o C. H. Merz, Collingwood-bldgs., Newcastle-on-Tyne.

Sendall, W. F., & Co., electric lighting contractors, 18, East-st., Horsham.

Senier, Alfred, PH.D., M.D., F.I.C., F.C.S., professor of chemistry, Queen's College, Galway.

Senior, J., A.M.I.E.E., electrical engineer, Urban District Council, Mexborough, Yorks.
Sennett, A. R., M.I.M.E., M.I.E.E., A.M.I.C.E., electrical engineer, 15, Heath Mansions, Hampstead, London, N.W.
Sergeant, A. F., electrical engineer, Lincoln's Inn, Corporation-st., Birmingham.
SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt.*, SLATE TURNERS.
Seth Bros., installation contractors, 278, Uxbridge-rd., London, W.
Sevenoaks Motor Car & Electrical Co., Ltd., Tubs Hill, Sevenoaks, Kent.
Severn Electric Launch Co., Ltd., Stourport, Worcestershire.
Severs, J., A.M.I.E.E., electrical engineer, G.N. & City Railway, Drayton Park, London, N.
Seville Sulphur & Copper Co., Ltd., 30, George-sq., Glasgow. (Telegrams: "Seville, Glasgow." Telephone Nos.: 966, Royal, Nat.; & 966, Corp.)
Seward, A., wiring contractor, Market-st., Lancaster.
Sewell, T., A.I.E.E., teacher in electricity, Polytechnic Institute, 309 & 311, Regent's-st., W.; & 65, The Avenue, Bedford Park, London, W.
Sewill, J., ships' telegraph manufacturer & optician, 61, South Castle-st., Liverpool. (Telegrams: "Time, Liverpool." Telephone No. 658.)
Sexton, Prof. A. Humboldt, F.I.C., F.C.S., professor of metallurgy, Glasgow & West of Scotland Technical College, 204, George-st., Glasgow.
Seymour, William, A.I.E.E., electrician, &c., 55, Sloane-sq., S.W.; & Ballards-lane, Church End, Finchley, N. Works: 188, Walton-st., Chelsea, & Crescent-pl., Fulham-rd., London, S.W. (Teleph. No. 203, Victoria.)
Seymour & Co., electrical case fittings manufacturers, 1, St. James' Walk, Clerkenwell, London, E.C. (Telephone No. 11432, Central.)
Seymour-Jones, A., Pendower, Wrexham. Director North-Western Electricity & Power Gas Synd., Ltd.
Shackleton, J. M., A.M.I.E.E., National Telephone Co., Telephone House, Victoria Embankment, London, E.C.
Shackleton, John F., & Son, conduit makers, &c, Goole, Yorks. (Telegs.: "Shackleton, Goole." Teleph. No. 13.)
Shalders & Davis, electrical engineers & contractors, 17, High-st., Southampton. (Telephone No. 6.)
Shallcross, G. P., A.M.I.E.E., assistant engineer, Electricity Works, Birkenhead.
Shanahan, H. F., electrical engineer, Corporation Electricity Works, Blackpool.
Shanan, C. H., A.M.I.C.E., A.M.I.MECH.E., A.I.E.E., 142, Great Mersey-st., Liverpool.
Shand, Mason & Co., makers of steam & manual fire engines & all fire appliances, steam boilers, &c., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegrams: "Shand, London." A.B.C. Code.)
Shanghai Electric Construction Co., Ltd. Registered Dec. 9, 1905. Nominal capital: £320,000 in £1000 shares.
Shanklin Electricity Works. Isle of Wight Electric Light & Power Co., Ltd., proprietors. Engineer, A. E. Mayes, A.M.I.E.E.
Shanks, David, A.I.E.E., electrical engineer, 40, Great Charles-st., Birmingham. (Telegrams: "Illumine, Birmingham." Telephone No. 3093.)
Shanks, James, consulting engineer, 79, Mark-lane, London, E.C. (Telegrams: "Beriberi, London.")
Shanks, Alexander, & Son, Ltd., engineers, Arbroath; & Bush Lane House, Bush Lane, London, E.C. (Telegrams: "Shankson, London." Telephone No. 670, Bank.)
Shanks, Thos., & Co., tool makers, Johnstone, N.B.
Shannon Electric Power Syndicate, Ltd., 12, College Green, Dublin. Registered Dec. 8, 1897. Lien registered Nov. 17 for £1000, & lien registered Dec. 3 for £180 debentures, part of £8000. Nominal capital: £12,000. Issued: £10,500. Directors: V. W. Brown, Esq.; J. Chambré, Esq.; A. Lane Joynt, Esq.; H. H. Montague Smith, Esq. Secretary, A. H. Walkey.
Shannon Water & Electric Power Co., 36, College Green, Dublin. Incorporated 1901. Capital authorized: £360,000; debentures, £180,000. Directors: H. H. Montague Smith, Esq. (chairman); P. B. Bernard, Esq., J.P., D.L.; Alderman W. T. Cotton, J.P. Secretary, A. Klingner.
Shapley, Arthur Robert, A.M.I.E.E., Corporation Electricity Works, Bath.
Sharer & Young, Ltd., marine & electrical engineers, Alloa, N.B. (Telegs.: "Sharer, Alloa.")
Sharman, Hugh, A.M.I.E.E., Electric Light Co., Anchor-st., Chelmsford.
Sharman, Philip A., consulting engineer, 113, Cannon-st., London, E.C. (Telegrams: "Graftonian, London." Telephone No. 1147, Central.)
Sharman, R. T., electric bell fitter, 45, Beetwell-st., Chesterfield.
Sharman Bros., model makers, 6, Free-school-lane, Leicester.
Sharon Chemical Co., Ltd., manufacturing chemists, Little Chester, Derby. (Telegs.: "Sharon, Derby.") Established 1847. Registered 1892. Nominal capital: £7500 in ordinary shares of £10 & £300 deferred founders' shares. Issued: £6160 in ordinary shares, fully paid, & all the founders' shares.
Sharp, D., chief assistant engineer, Electricity Works, Falkirk, N.B.
Sharp, Geo., electrician, Tinsley Car Sheds, Sheffield.
Sharp, Sidney, M.I.M.E., M.I.E.E., consulting engineer, 34, Victoria-st., Westminster, London, S.W. (Telegrams: "Vivax, London.")

Sharp, T. B., electrical engineer, County-chbrs., Corporation-st., Birmingham.
Sharp & Co., electrical engineers, 17, Sloane-st., London, S.W. (Telephone No. 1604, Kensington.)
Sharpe, Arthur H., speciality: forgings for dynamos, 8, Eastcheap, London, E.C. (Telegrams: "Fossicker, London." Telephone No. 2640, Avenue.)
Sharpe, J. W., electrician, Woodroffe, Portarlington-rd., Bournemouth.
Sharpe & Co., Ltd, electrical engineers, 40, St. Aubyn-st., Devonport.
Sharpe & Son, electrical contractors, Huntley Grove, Peterborough.
Sharples, Hill & Co., electrical engineers & contractors, 7, Brazennose-st., Manchester. (Teleph. No. 3775.)
Shaw, A., electrical engineer, 94, Prospect-st, Hull.
Shaw, Arthur, tile manufacturer, Shelton Tile Works, Hanley, Staffs. (Teleph. No. 129.)
Shaw, A. H., M.I.E.E., resident electrical engineer, Electricity Works, Ley-st., Ilford.
Shaw, Cyril M., A.M.I.E.E., city electrical engineer, Worcester.
Shaw, E. V. F., A.I.E.E., Kenilworth House, Ealing, W.
Shaw, F. H., electrical engineer to the Lincoln County Hospital, Lincoln.
Shaw, Henry, A.M.I.E.E., 33, Johnson-st., Cheetham, Manchester.
Shaw, J., M.I.E.E., resident engineer, Mersey Railway Co., Central Station, Birkenhead.
Shaw, John, M.I.E.E., Fern Lea, Grosvenor-sq., Sale. (Telegrams: "Dielectric, Sale.")
Shaw, John, electrical engineer, c/o Mather & Platt, Ld., Salford Iron Works, Manchester. (Tel. No. 556.)
Shaw, Joseph, 36, Bryanston-sq., W. Director County of London Electric Supply Co., Ltd.
Shaw, J. B., A.R.C.SC., assistant engineering lecturer, Battersea Polytechnic, London, S.W.
Shaw, P. E., B.A., D.SC., lecturer on mathematics, physics & mechanics, University College, Nottingham.
Shaw, Robert, A.I.E.E., "Lynnwood," Ashton-on-Mersey.
Shaw, R., electrical engineer, British Insulated & Helsby Cables, Ltd., 2, Parsonage, Blackfriars, Manchester. (Telegrams: "Vigorous, Manchester." Telephone No. 2044.)
Shaw, Robert J., A.M.I.E.E., 14, Kells-gdns., Low Fell, Gateshead.
Shaw, Sir Eyre M., K.C.B., 114, Belgrave-rd., S.W. Director Metropolitan Electric Supply Co., Ltd.
Shaw, W., A.M.I.E.E., consulting electrical engineer, 105, Colmore-row, Birmingham. (Teleph. No. 10x.)
Shaw, E. J., & Co., electric light globe & shade manufacturers, Astral Works, Hatherton-st., Walsall.
Shaw, Giles, & Co., electric bell fitters, Manchester-st., Oldham.
Shaw, G. H., & Son, electricians, Exchange, Blackburn. (Telephone No. 0840.)
Shaw, H., & Son, magnet & ship compass needle manufacturers, 45 & 47, Monmouth-street, Sheffield.
Shaw, John, & Co., iron founders, Maryhill Iron Works, Glasgow. (Telegs.: "Shaw, Glasgow." Nat. & P.O. Teleph. Nos. 27, Maryhill.)
Shaw, Joseph, & Son, Ltd., steam valve manufacturers, Albert Works, Huddersfield. (Telegs.: "Governor, Huddersfield." Teleph. No. 201, Huddersfield.)
Shaw, Wm. A., & Co., electric light & telephone contractors, 10–16, Warren-st., Stockport. (Telephone No. 131.)
Shaw-Browne, W. D., local manager Pulsometer Engineering Co., Ltd., 76, Old Hall-st., Liverpool.
Shawcross, R. E., A.M.I.C.E., A.I.E.E., demonstrator in electrical engineering, King's College, Strand, W.C.
Shawfield, C. E. C., A.M.I.E.E., M.I.MECH.E., borough electrical & tramways engineer, Wolverhampton.
Shea, Wm., manager, National Telephone Co., Stockport. (Telephone No. 138.)
Sheardown, P. S., M.I.E.E., electrical engineer, Dublin United Tramway Co., Ringsend, Dublin.
Shearer, Robert, electrical engineer, 30, Gower-place, Gower-street, London, E.C.
Shearer, Wm., A.M.I.E.E., 19, Cargil-ter., Edinburgh.
Shearn, C. H., electrical engineer, Midsomer Norton.
SHEARS & SON, ELECTRICAL ENGINEERS & CONTRACTORS, EAST CENTRAL WORKS, BOURNEMOUTH. (TELEGRAMS: "SHEARS, BOURNEMOUTH." TELEPH. NO. 163.)
Shee, Wm. G., A.I.E.E., 31, West Hill-rd., Wandsworth, London, S.W.
Sheerness & District Electric Power & Traction Co., Ltd., Sheerness; & Donington House, Norfolk-st., Strand, London, W.C. (Telegs.: "Sheerness, c/o Tramways, London." Teleph. No. 6821, Gerrard.) Registered April 24, 1900, as the County of Kent Electrical Power Distribution Co., Ltd. Nominal capital: £50,000 in £10 shares, all issued & fully paid. Debentures issued: £15,000. Directors: W. L. Madgen, Esq. (chairman); Geo. Offor, Esq.; S. A. Sillem, Esq. P. N. Gray, secretary; A. A. Watkins, A.M.I.E.E., managing engineer; T. Hopper, chief assistant engineer.
Sheffield, T. W., A.M.I.M.E., A.M.I.E.E., district manager, Crompton & Co., Ltd., Woodall's-bldgs., 42, Deansgate, Manchester.
Sheffield Corporation Electric Supply Department. Office: Commercial-st., Sheffield. S. E. Fedden, M.I.C.E., M.I.M.E., general manager & engineer. (Telegs.: "Electricity, Sheffield." Teleph. No. 9.)
Sheffield Corporation Electric Tramways. (Telegrams: "Tramways Manager, Sheffield." Telephone Nos. 2470 & 3552, Sheffield.) Chief engineer, H. E. Yerbury, M.I.M.E.
Sheffield Nickel & Silver Plating Co. (E. G. Draper & Co.), Globe Works, Penistone-road, Sheffield. (Telephone No. 109 Y. 4.)
Sheffield Patent Office (Robert F. Drury), Rectory-chbrs., 24, Norfolk-row, Sheffield.
Sheffield Smelting Co., Ltd., platinum refiners & dealers, 1, Berry-st., Clerkenwell-rd., London, E.C. (Telegrams: "Cupelling, London." Telephone No. 590, Holborn); & at Sheffield & Birmingham.

Sheffield Wire Co., manufacturers of steel wire & springs, Arundel-st., Sheffield. (Telephone No. 714.)
Shelby & Co., Ltd., oil filter manufacturers, 58, Great Dover-st., London, S.E. (Telegs.: "Sheldaple, London.")
Sheldon Bush & Patent Shot Co., lead smelters & tin, zinc, solder, lead tubes, & chemical lead manufacturers, Cheese-lane, Bristol. (Telegrams: "Sheldon, Bristol." Telephone No. 347.)
Sheldon, Melloy & Co., electrotypers, 280, High Holborn, W.C.
Sheldrick, E., & Co., installation contractors, 19, Thurlestone-rd., West Norwood, London, S.E. (Teleph. No. 460, Streatham.)
Shenton, T. S., resident electrical engineer, Electricity Department, Benn-bldgs., High-st., Rugby.
Shephard, D. G., A.M.I.E.E., chief engineer, Otis Elevator Co. Ltd., 4, Queen Victoria-st., E.C.
Shephard, W. H., A.I.E.E., 47, Willingdon-rd., Eastbourne.
Shepheard, Hubert B., A.I.E.E., 24, Grange-rd., Ealing, W.
Shepherd, A., director Fort William Electric Lighting Co., Ltd., Fort William.
Shepherd, C. W., general manager, Edinburgh & District Tramways Co., Edinburgh. (Telegs.: "Cable, Edinburgh." Teleph. No. 1851.)
Shepherd, F., A.I.E.E., electrical engineer, 23, Thornbury-rd., Clapham Park, London, S.W.
Shepherd, J., M.I.E.E., A.M.I.C.E., assistant electrical engineer, L.C.C. Tramways, 62, Finsbury Pavement, London, E.C.; & 80, Prince of Wales Mansions, Battersea Park, S.W.
Shepherd, James H., manager & engineer, Dundee, Broughty Ferry & District Tramways Co., Ltd., Dundee. (Teleph. No. 24, Monifieth.)
Shepherd, R., A.M.I.E.E., 22, The Temple, Liverpool.
Shepherd, Wm., Leven. Director Wemyss & District Tramways Co., Ltd.
Shepherd & Haward, electrical metal trades valuers, 369, Birkbeck Bank-chbrs., Holborn, London, W.C. (Telegs.: "Justifico, London." Teleph. No. 4825, Holborn.)
Shepherd & Watney, civil & electrical engineers, Greek Street-chbrs., Leeds. (Telegrams: "Energy, Leeds." Telephone No. 2229.)
Sheppard, D., A.I.E.E., Siemens Bros., Ltd., Stafford.
Sheppard, E. G., A.M.I.E.E., electrical engineer, 72, Deodar-rd., London, S.W.
Sheppard, J., A.I.E.E., Trays-hill, Hornsey-lane, London, N.
Sheppard, S. G., 57, Old Broad-st., E.C. Director Mersey Railway Co.
Sheppard Bros., electric light contractors, Snake's-lane, Woodford Green. (Teleph. No. 510, Woodford.)
Sheppard & Co., electrical engineers, 21, North End-rd., London, W. (Teleph. No. 2090, Western.)
Sheppard & Co, electricians, 5, Grocers' Hall-ct., Poultry, London, E.C. (Telephone No. 7427, Central.)
Sheppee, Col. F. F., J.P., Holly Spring, Bracknell, Berks. Chairman Exchange Telegraph Co., Ltd.
Shepperd, A. H., A.I.E.E., electrician, Engineer in Chief's Office, G.P.O., London, E.C.
Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness. Registered July 16, 1902. Nominal capital: £12,000 in £1 shares, 5600 of which have been issued. Directors: F. R. Ramuz, Esq.; G. H. Wills, Esq.; L. Seager, Esq.; M. Pierson, Esq.; J. R. Bligh, Esq.; W. A. Benson, Esq.; G. F. Ramuz, Esq. Secretary, J. S. Bills.
Sherard Cowper-Coles & Co., Ltd., mechanical, consulting & electrical engineers, Grosvenor Mansions, 82, Victoria-st., S.W. (Telegrams: "Zincking, London." Telephone No. 748, Westminster.)
Sheridan, Phillip, electrical engineer, 43, Harder's-rd., Peckham, London, S.E.
Sherley-Price, Ernest A., A.I.E.E., Albert-chbrs., Albert-sq., Manchester (Telegrams: "Indicator, Manchester." Telephone No. 3218); & 46, Watling-st., Queen Victoria-st., London, E.C.
Sherley-Price, Henry, M.I.M.E., M.I.E.E., &c. (of Wheatley Kirk, Price & Co., electrical & mechanical auctioneers, arbitrators & valuers), 46, Watling-st., Queen Victoria-st., London, E.C.
Sherrin, J. Vaughan, A.I.E.E., Junior Athenæum Club, London, S.W.
Shield, James B., A.I.E.E., director & secretary, Anderson, Boyes & Co., Ltd., Flemington Electrical Works, Wishaw, N.B.
Shiels & Elliot, electric light engineers & contractors, 190, Bath-st., Glasgow.
Shildon Electricity Works, Shildon, Durham. (Telegs.: "Electric, Shildon." P.O. Teleph. No. 5.) Northern Counties Electricity Supply Co., Ltd., props. Engineer, T. Heron; electrician, S. Jago.
Shill, P. Richardson, A.M.I.E.E., Bassishaw House, Basinghall-st., London, E.C.
Shilston, T. P., B.SC., A.I.E.E., 1051, Chester-rd., Stretford, Manchester.
Shipley, Sir W., River Bank, Datchet, Bucks. Director Slough & Datchet Electric Supply Co., Ltd.; chairman Windsor Electrical Installation Co., Ltd.
Shipley Urban District Council Electricity Works. Engineer, S. D. Schofield, M.I.E.E., A.M.I.MECH.E. (Telegs.: "Electricity Works, Shipley." Teleph. No. 190, Shipley.)
Shipman, J., & Co., telegraph wire manufacturers, Attercliffe Steel Wire Works, Wire Mills, Sheffield. (Telegrams: "Shipman, Sheffield." National Telephone No. 465.)
Shippey Bros., American importers & electrical supply stores, 13 & 14, King-st., London, E.C. Agents for the Gordon Battery Co., The Knapp Electric Co., The Standard Dry Battery Co., & The American Motor Car Tyres & Motor Sundries.
Shiras, Oliver, A.M.I.E.E., electrical engineer, 2, Norfolk-st., London, W.C. (Telegrams: "Shiras, Multiphase, London." Telephone No. 3261, Gerrard.)

SHIRLEY & CO., DESIGNERS & METAL WORKERS, SPECIAL ELECTRIC LIGHT FITTINGS & SWITCHES IN IRON, BRASS, COPPER, BRONZE, &C., 2, Percy-st., London, W. (Teleph. No. 4475, Central.)

Shirley, F. C., & Co., electric lighting contractors, 10, Nightingale-parade, Blandfields-st., Balham, London, S.W.

Shirras, Laing & Co., Ltd., electrical engineers, 46, Schoolhill, Aberdeen. (Telegrams: "Lamps, Aberdeen." Telephone No. 176.)

Shoolbred, H. G., A.M.I.E.E., "Homelyn," Moor-st., Luton.

Shoolbred, J. N., M.I.C.E., M.I.E.E., consulting electrical engineer, 47, Victoria-st., London, S.W.

Shoolbred, W., St. Ann's, Bridge-st., Chepstow. Director Chepstow Electric Lighting & Power Co., Ltd.

Shoolbred & Connell, installation contractors, Thanet House, 231, Strand, London, W.C. (Teleph. No. 5315, Central); & 11, Cheapside, Luton. (Teleph. No. 249 Y. 3.)

Shoolbred, J., & Co., electric light engineers, 151–156, Tottenham Court-rd., London, W. (Telegrams: "Shoolbred, London." Telephone Nos.: 1956 & 1957, Gerrard; & 720, Bank.)

Shore & Co., electrical engineers, Bolton.

Shore & Son, engineers, Albion Foundry, Hanley.

Shoreditch Borough Electricity Supply Works & Refuse Destructor, Coronet-st., Pitfield-st., London, N. C. Newton Russell, A.M.I.C.E., M.I.E.E., borough electrical engineer. (Telephone No. 1157, London Wall.)

Shoreditch Technical Institute, London County Council, Pitfield-st., Hoxton, N. S. Hicks, secretary.

Shorrock, L., A.I.E.E., Low-hill, Darwen, Lancashire.

Shorrocks, F. W., A.M.I.E.E., Telephone House, Victoria Embankment, London, E.C.

Short, Albert Edward, A.M.I.E.E., Kimberley Villa, Lower Edmonton.

Short, Edward A., A.M.I.E.E., 75, Onslow-sq., London, S.W.

Short, J., & Co., lightning conductor erectors, 46, East Crawford-street, Glasgow.

Shorthouse, Joseph, & Sons, manufacturing chemists, 48, Great Charles-st., Birmingham. (Telegrams: "Lacquer, Birmingham.")

Shotts Iron Co., Ltd., lamp post manufacturers, 130, George-st., Edinburgh. (Telegrams: "Shotts, Edinburgh." Telephone No. 383.)

Shoults, E. S., A.M.I.E.E., Rowsley, North Finchley, N.

Shrewsbury Corp. Electricity Supply Works, Shrewsbury. (Telegs.: "Johnston, Electrical Engineer, Shrewsbury." Teleph. Nos. 36E & 37E.) C. M. Johnston, M.I.E.E., M.I.MECH.E., borough elec. & consulting engineer.

Shrivell, W., electrical engineer, 49 & 50, George-st., Brighton.

SHROPSHIRE IRON CO., LTD., telegraph wire manufacturers, Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt. under* WIRE MANUFACTURERS—TELEGRAPH.

Shropshire, Worcestershire & Staffordshire Electric Power Co., 53, Victoria-st., London, S.W. Capital authorized: £300,000 in £5 shares. Directors: W. A. Buchanan, Esq.; A. D. Wilde, Esq.; W. B. Martin, Esq.; C. H. Binney, Esq.; G. L. Addenbrooke, Esq. Secretary, A. J. L. Tottenham.

Shropshire, Worcestershire & Staffordshire Syndicate, Ltd., 53, Victoria-st., Westminster, London, S.W. Registered Dec. 16, 1904. Nominal capital: £10,000 in £10 ordinary shares, of which £5750 has been issued. Directors: W. A. Buchanan, Esq.; A. D. Wilde, Esq.; G. L. Addenbrooke, Esq. (electrical engineer). Secretary, A. J. L. Tottenham.

Shrubb, J. P. C., director Freshwater & Totland (Isle of Wight) Electricity Supply Co., Ltd.

Shurlock, F. W., B.A., B.SC., principal Municipal Technical College, Derby.

Shuter, Wm., chairman, Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-st., London, E.C.

Shutes, H. B., A.I.E.E., senior engineer-in-charge, Borough Council Electricity Works, Neckinger, Bermondsey, S.E.

Shuttleworth, H., electrical contractor, Cross-ct., Briggate, Leeds.

Sibbering, G. T., M.I.C.E., engineer, Taff Vale Railway Co., Cardiff. (Teleph. Nos.: 540, Nat.; & 566, P.O.)

Sibson, A., F.C.S., consulting chemist, 23, St. Mary Axe, London, E.C.

Siddalls, J., borough electrical engineer, Town Hall, Tiverton.

Siddeley, Herbert C., A.I.E.E., The Croft, Purley; & 28, Victoria-st., S.W. (Telegs.: "Umformer, London." Teleph. No. 839, Westminster.)

Siebe, Gorman & Co., submarine & electrical engineers, 187, Westminster Bridge-road, London, S.E. (Telegrams: "Siebe, London." Telephone No. 251, Hop.)

Siemens, Alexander, M.I.C.E., M.I.E.E., 12, Queen Anne's-gate, Westminster, London, S.W. (Telegs.: "Siemens, London." Teleph. No. 840, Westminster.) Director Siemens Bros. & Co., Ltd.; director Siemens Bros. Dynamo Works, Ltd.

SIEMENS BROS. & CO., LTD., electrical engineers & contractors, 12, Queen Anne's Gate (Telegs.: "Siemens, London." Teleph. No. 840, Westminster); & Queen Anne's-chbrs., Broadway, Westminster, London, S.W. (Telegs.: "Siemable, London." Teleph. No. 856, Westminster.) Registered Dec. 28, 1880. The subscribed capital is £600,000 in shares of £5, fully paid, & £150,000 debentures. A. Sabine, secretary. Directors: Arnold W. von Siemens, Esq. (chairman); Alex. Siemens, Esq.; G. W. von Siemens, Esq.; C. F. von Siemens, Esq.; G. von Chauvin, Esq. (managing). The accounts are made up annually to December 31, & submitted in or about May.

SIEMENS BROS. DYNAMO WORKS, LTD., electrical engineers & contractors, York Mansion, York-st. (Telegs.: "Siembralos, London." Teleph. No. 452, Westminster); & Queen Anne's-chbrs., Broadway, Westminster, London, S.W. (Telegs.: "Siemable, London." Teleph. No. 856, Westminster.) Registered May 25, 1906. Capital: £300,000 in shares of £10 each. Directors: G. von Chauvin, Esq. (chairman); Alex. Siemens, Esq.; C. F. von Siemens, Esq.; Dr. A. Berliner; H. Natalis, Esq.; Sir W. R. Lawrence, Bart. Secretary, W. H. Stafford. The accounts are made up annually to Dec. 31 & submitted in or about May.

Silcock, Charles, electrician, Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, London, S.E.

Silcock, E. J., M.I.C.E., F.G.S., A.I.E.E., consulting electrical engineer, &c., 10, Park-row, Leeds. (Telegrams: "Theodolite, Leeds." Telephone No. 2135, Leeds.)

Silcox, H., wiring contractor, Fountain-bldgs., Bath.

Silicate Paint Co. (J. B. Orr & Co., Ltd.), manufacturers of insulating material, 46, Cannon-street, E.C.; & Charlton, London, S.E. (Telegrams: "Orr, London." Telephone No. 1948, Bank.)

Sill, G., wiring contractor, Market-pl., Yarmouth.

Sillar, Alfred R., M.I.E.E., A.M.I.MECH.E., borough electrical engineer, Electricity Works, Colchester. (Teleph. No. 87.)

Sillar, Arthur Molyneux, M.I.C.E., M.I.E.E., M.I.MECH.E., 2, Queen Anne's-gate, Westminster, London, S.W. (Teleph. No. 76, Victoria.)

Sillar, G. C., M.I.E.E., 35, Poolbeg-st., Dublin. (Telegs.: "Resolute, Dublin." Teleph. No. 35.)

Sillar, H. McK., A.M.I.E.E., mains engineer, Yorkshire Electric Power Co., Thornhill, nr. Dewsbury, Yorks.

Sillem, S. A., director Associated Cos. The British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.

Sillem, Wm., A.M.I.C.E., 116, Great Portland-st., London, W.

Sillery, W., A.M.I.E.E., borough electrical engineer, Wrexham.

Silva, A. da, director Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C.

Silver, H. Christopher, A.I.E.E., 23, Redcliffe-sq., London, S.W.

Silvester, Harry, F.C.S., metallurgical chemist, Holyhead-road, Handsworth, Staffs.

Silvester, Fred., & Co., electric & general engineers, Castle-hill Works, Newcastle, Staffs.

Simkins, A. R. M., M.I.E.E., electrical engineer, works manager Marconi's Wireless Telegraph Co., Ltd., Dalston, London, N.E.

SIMMONDS BROS., LTD., makers of couplings, 4, 6 & 8, Newton-st., High Holborn, W.C. (Telegs.: "Niphon, London." Teleph. Nos.: 2600, Gerrard; & 12061, Central.) *See advt. under* COUPLINGS.

Simmons, Harold H., A.M.I.E.E., lecturer in electrical engineering, Finsbury Technical College, London, E.C.; & St. John's House, Sevenoaks.

Simms Manufacturing Co., Ltd., motor car builders, Welbeck Works, Kimberley-rd., Kilburn, London, N.W. (Telegs.: "Expansible, London." Teleph. Nos. 809 & 8, Paddington.)

Simms, W., & Co., electrical engineers, Felixstowe, Suffolk (Telegs.: "Simms, Felixstowe." Nat. Teleph. No. 2 Y. 4); & Burgess Hill, Sussex.

Simon, Sidney Arthur, B.A., A.M.I.E.E., c/o Electrical Co., Ltd., 122–124, Charing Cross-rd., London, W.C.

Simpkin, Frederick, A.I.E.E., electrical engineer, St. Anne's Electrical Works, Leeds.

Simpkin, Marshall, Hamilton, Kent & Co., Ltd., publishers, 4, Stationers'-hall-court, E.C. (Telegs.: "Simpkin Marshall, London"); 31 & 32, Paternoster-row (Telegs.: "Vitrixa, London"); 23, Paternoster Row; & 16, James-st., Haymarket, W.C. (Telegs.: "Catapult, London.")

Simpkin, Wilkinson & Gibson, manufacturing electrical engineers & contractors, Standard Works, 66, Kirkstall-rd., Leeds. (Telegrams: "Generator, Leeds." Telephone No. 471.)

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham; & Works: Maxstoke-st., Birmingham (Telegs.: "Economy, Birmingham." Teleph. No. 2955); & at Mansion House-chbrs., Queen Victoria-st., London, E.C. (Telegs.: "Audiphone, London." Teleph. No. 6052, Bank); 6, Bull's Head-yard, Corporation-st., Manchester (Telegs.: "Economical, Manchester." Teleph. No. 4870); & 165A, West George-st., Glasgow. (Telegs.: "Simplex, Glasgow." Corp. Teleph. No. 5177.) Registered April 4, 1906. Nominal capital: £100,000 in 10,000 6 per cent. cumulative preference shares of £5 each, & 50,000 ordinary shares of £1 each. L. M. Waterhouse, Esq., A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. (Telegs.: "Disclosure, London." Teleph. No. 8101, Central); D. G. Brooks, A.I.E.E., secretary & sales manager. *See inset advt.*, CONDUIT SYSTEMS OF HOUSE WIRING.

Simplified Underground Conductor Co., Ltd., 180, Crown-st., Liverpool. (Telegs.: "Simplified, Liverpool." Teleph. No. 174, Royal.)

Simpson, A. P., 2, Princes-st., E.C. Director Indian Electric Supply & Traction Co., Ltd.

Simpson, F. A., engineer, Newmarket Electric Light Co., Ltd., Newmarket.

Simpson, G. P., B.SC., M.I.E.E., Mather & Platt, Ld., Salford Iron Works, Manchester. (Telegs.: "c/o Mather, Manchester." Teleph. Nos. 5781, 5782 & 5783.)

Simpson, J. B., Bradley Hall, Wylam-on-Tyne. Director Cambridge Electric Supply Co., Ltd.; director Scarborough Electric Supply Co., Ltd.; director Newcastle & District Electric Lighting Co., Ltd.

Simpson, Jos. F., M.I.E.E., borough engineer & tramways manager, Corporation, Preston.

Simpson, J. W., electric bell manufacturer, King-st., Margate.

Simpson, P. C., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Kingston-upon-Thames.
Simpson, R., resident engineer, L.C.C. Generating Station, Victoria Embankment, W.C.
Simpson, Robert, engineer & general manager, North Shields, Tynemouth & Whitley Tramways, John-st., Cullercoats, Northumberland. (Telegs.: "Tram Co., Cullercoats." Nat. Tel. No. 17, Whitley.)
Simpson, R. G., borough electrical engineer, Corporation Electricity Works, Weymouth.
Simpson, R. P., director Associated Cos. The British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.
Simpson, Walter, electric light & power engineer, 446, Union-st., Aberdeen. (Telephone No. 707.)
Simpson, W., A.M.I.MECH.E., A.I.E.E., secretary, West Cumberland Electric Tramways Co., Bank-chbrs., St. Helens, Lancs.; & 9, Boardman-st., Eccles, nr. Manchester.
Simpson Bros., electrical engineers, Hapton, nr. Burnley. (Telegs.: "Simpson, Hapton." Teleph. No. 14, Padiham.)
Simpson, C., & Sons, copper, iron & metal merchants, 15, Park-row, Leeds.
Simpson, James, & Sons, manufacturers of bolts, nuts, rivets, &c., Darlaston, Staffs.
Simpson, Strickland & Co., Ltd., makers of electric light engines, high pressure & condensing, Dartmouth, South Devon. (Telegrams: "Engineers, Dartmouth." Telephone No. 2.)
Sims, P. J., A.I.E.E., 17, Montague-st., Glasgow.
Sims, R. Percy, A.M.I.E.E. (R. Cort & Son), 21, Lower Bland-st., Great Dover-st., London, S.E.
Sinclair, Alex., A.M.I.C.E., M.I.E.E., Hafod Works, & 6, Richmond-villas, Swansea.
Sinclair, Dane, M.I.E.E., general manager British Insulated & Helsby Cables, Ltd, Prescot, Lancs. (Telephone No. 8, Prescot.)
Sinclair, F. C., A.M.I.E.E., 3, Crown Office Row, Temple, London, E.C.
Sinclair, John, engineer & machine maker, 26, Beaver Bank-pl., Edinburgh.
Sinclair, Wm., electrician, 60, Thistle-st., Edinburgh.
Sinclair, Geo., & Sons, boiler makers, Leith. (Telegs.: "Sinclair, Leith." Teleph. No. 537.)
Sing, A. M., 26, Exchange-st. East, Liverpool. Director Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Lighting Co., Ltd.
Singapore Electric Tramways, Ltd, 19, St. Swithin's-lane, E.C. Registered March 29, 1905. Nominal capital: £400,000 in £1 shares.
Singer, Brown & Co., electrical engineers & contractors, Wyndham-st., Bridgend. (Telegrams: "Singer, Ironmonger." Telephone Nos.: 15, Nat.; 28, P.O.)
Singer, J. W., & Sons, Ltd., manufacturers of electric light fittings, Frome (Telegs.: "Singers, Frome." Tel. No. 10); & Effingham House, Arundel-st., Strand, W.C. (Telegs.: "Metallifacture.")
Sinnott, John, A.I.E.E., electrician, "Roscrea," 74, Lincoln-rd., East Finchley, London, N.
Sirius-Werke Electrical Carbon Manufacturing Co., Baden, nr. Vienna. London office: 6, Henrietta-st., Covent Garden, London, W.C. (Teleph. No. 11401, Central.)
Sisling, W. B., engineer & director Laurence, Scott & Co., Ltd., Gothic Works, Norwich.
Sisson, W. H., electrical engineer, Kearsley Spinning Co., Ltd., Kearsley.
SISSON, W., & CO., LTD., high speed engines, Gloucester. (Telegs.: "Sisson, Gloucester." Tel. No. 57.)
Sisterson, E., 26, Side, Newcastle-on-Tyne. Director Yorkshire District Light Railway Syndicate, Ltd.
Sitch, W., & Co., fittings manufacturers, 48, Berwick-st., London, W. (Telephone No. 3776, Central.)
Sivewright, Hon. Sir J., K.C.M.G., LL.D., M.I.E.E., Tullialan, Kincardine-on-Forth. Director Bath Electric Tramways, Ltd.
Skaife, Wilfrid, A.M.I.E.E., Holly Bank, St. Clements-rd., Chorlton-cum-Hardy, Manchester.
Skelding & Co., Ltd., electrical engineers, Burnt Tree Works, Tipton.
Skelton, C. E., A.M.I.E.E., 70, Finsbury Pavement, E.C. (Teleph. No. 978, London Wall); & 8, Manstone-rd., Cricklewood, London, N.W.
Skelton, H. A., A.M.I.E.E., engineer, British Aluminium Co., Foyers, N.B.
SKELTON, WILLIAM, & CO., sole importers of Calmans Insulating Varnishes. Stick Lac for mica sheets, &c., lacquer manufacturers, Hay Mills, Birmingham. (Telegs.: "Skelton, Hay Mills, Birmingham." Teleph. No. 16, Small Heath.)
Skerritt, John, A.M.I.E.E., The Nook, Spinney Hill, Addlestone, Surrey.
Skidmore, Wm., & Co., Ltd., magneto electric machine makers, 59, Cemetery-rd., Sheffield.
Skinner, Edward, electrical engineer, Fairfield Shipbuilding & Engineering Co., Govan, N.B.
Skinner, Thomas, 77–81, Gresham House, London, E.C. Chairman The Halifax & Bermuda Cable Co., Ltd.; director Commercial Cable Co., Ltd.; & chairman Direct West India Cable Co., Ltd.
Skinner, T. W., A.M.I.E.E., electrical & mechanical engineer, 9, Silchester-rd., St. Leonard's-on-Sea. (Teleph. No. 22 X.)
Skipsey, C., engineer, Meter, Testing & Statistical Department, Newcastle-upon-Tyne Electric Supply Co., Ltd., Royal Exchange-bldgs., Hood-st., Newcastle-on-Tyne.
Skipwith, H., director & general manager, British Prometheus Co., Ltd., Salop Street Works, Highgate, Birmingham.
Skipwith, R. E., electrician, Thorneywood, Woodborough, Notts.
Slack, D. H., A.I.E.E., 9, Ernest-st., Prestwich, Manchester.
Slacke, R. B., A.M.I.E.E., electrical engineer, c/o Key Engineering Co., Ltd., 38, Deansgate, Manchester.

Slark, Henry John, electrical & mechanical engineer, Stanley House, Walham-green, London, W. (Telegrams: "Slark, Walham-green.")

Slater, A., electric light engineer, The Free Libraries, Edinburgh.

Slater, A., electrical engineer, J. & P. Coats, Ltd., Paisley.

Slater, C. A., A.M.I.E.E., M.I.MIN.E., 13, Bridge-st., Hitchin, Herts.

Slater, Ernest, M.I.E.E., A.M.I.MECH.E., editor of the *Electrical Times*, 8, Breams-bldgs., Chancery-lane, London, W.C.

Slater, Wm. P., A.I.E.E., Buen Retiro, The Avenue, Southampton.

Slater Bros., electrical engineers & contractors, 25, Dickinson-st., Manchester. (Teleph. No. 86 X.)

Slater, James, & Co., electrical engineers, 251, High Holborn, London, W.C. (Telegrams: "Triad, London." Telephone No. 369, Holborn.)

Slater, W. H., & Co., electrical supplies, Eagle Works, 52, Blackstock-rd., London, N. (Telegs.: "Slateria, London." Teleph. No. 166, North.)

Slatter, Alfred, M.I.E.E., consulting electrical engineer, 30 & 31, New Bridge-st., Ludgate Circus, E.C. (Teleph. No. 7445, Central.) Chairman Wycombe (Borough) Electric Light & Power Co., Ltd.

Slatter, F. V., electrical engineer, 56, Fann-st., London, E.C. (Teleph. No. 9123, London Wall.)

Slaughter, T. E., A.I.E.E., London Electric Supply Corporation, 25A, Cockspur-st., London, S.W.

Sleaford Urban District Council Electricity Works, Sleaford. Engineer, W. Henry Wilson. (Telegs.: "Wilson, Engineer, Sleaford.")

Sleigh, J. P., A.I.E.E., 60, Oxford-st., Whitley Bay, Northumberland.

Sleigh & Wood, electrical & mechanical engineers, Milburn House, Newcastle-on-Tyne. (Telegs.: "Cosmic, Newcastle-on-Tyne." Teleph. No. 2940, Central.)

Slevin, Jas., borough electrical & tramway engineer, Bradford-pl., Wigan. (Telegrams: "Trolley, Wigan." Telephone No. 162.)

Slingo, W., superintending engineer of postal telegraphs, Liverpool.

Sloan, R. P., Royal Exchange-bldgs., Newcastle-on-Tyne. Director County of Durham Electrical Power Distribution Co., Ltd.; director County of Durham Electric Power Supply Co.

Sloan, W. A., Larkfield, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

Sloan Electrical Co., Ltd., agents for Conradty's carbons, 15 & 11, Fore-st.-ave., London, E.C. (Telegs.: "Conradtys, London." Teleph. No. 858, London Wall.)

Sloan & Lloyd Barnes, chartered patent agents, consulting electrical engineers, 34, Castle-st., Liverpool. (Telegrams: "Technical, Liverpool." Telephone No. 6080.)

Sloane, W. Jay, consulting mechanical & electrical engineer, 15, Back Goree, Liverpool. (Telegrams: "Armature, Liverpool." Telephone No. 8014, Central.)

Sloper, Chas., & Son, electric bell & telephone fitters, 11, 12, 14 & 15, Brittox, Devizes. (Telegrams: "Charles Sloper, Devizes." Telephone No. 22.)

Slough & Datchet Electric Supply Co., Ltd., Windsor. (Telegrams: "Electric, Windsor." Telephone No. 29, Windsor.) Works: Slough, Bucks. (Telephone No. 22, Slough.) Registered Aug. 12, 1902. Nominal capital: £50,000 in £1 shares. Issued: £35,000. Directors: T. Mosley, Esq., J.P., D.L. (chairman); H. L. Prior, Esq., J.P.; A. A. Somerville, Esq., M.A.; Sir W. Shipley; C. J. Jackaman, Esq.; Captain C. C. Higgins, J.P. Engineer, A. E. Farrow, A.M.I.E.E.; secretary, R. G. Rawkins, F.C.I.S.

Small, James C., A.I.E.E., inspector of Technical Instruction, Department of Agriculture & Technical Instruction, Dublin.

Small, J. Miln, consulting engineer, 17, Victoria-st., London, S.W. (Telegrams: "Eudiometer, London." Telephone No. 75, Westminster.)

Small Power Dynamo & Motor Co., dynamo & motor manufacturers, Old-lane, Higher Openshaw, Manchester.

Smallpiece, H. P., Crosshaven, Guildford. Director Guildford Electricity Supply Co., Ltd.

Smallwood, G. H., & Co., electrical & mechanical engineers, 10, Milk-st., Shrewsbury. (Telegs.: "Smallwood, Shrewsbury.")

Smart, Campbell, A.M.I.E.E., electrical engineer, 27, Mirador-cres., Swansea. (Teleph. No. 335 X.)

Smart, J., acid manufacturer, Eagle Chemical Works, Barchester-st., Poplar, E. (Tel. No. 8, Eastern.)

Smart, Lewis A., consulting engineer, 372 & 373, Birkbeck Bank-chbrs., Southampton-bldgs., London, W.C. (Telegrams: "Uncanny, London." Telephone No. 4982, Holborn.)

Smart, W. Chas., A.I.E.E., electrical engineer, Thorncroft, Prospect-rd., Moseley, Birmingham.

Smart, A., & Co., asbestos manufacturers & merchants, Rockcliffe Mills, Collyhurst, Manchester.

Smedley Bros., Ltd., engineers, boiler makers & iron founders, Belper. (Telegrams: "Smedleys, Belper." Telephone No. 12.)

Smeeton, E. E., A.M.I.E.E., electrical engineer, G. N. Haden & Sons, Trowbridge, Wilts.

Smeeton & Page, electrical engineers & contractors, 63, Queen Victoria-st., London, E.C. (Telegrams: "Iolanthe, London." Telephone No. 5848, Bank.)

Smellie, J. A., electrical engineer, 59, Clancarty-rd., Fulham, London, S.W.

Smellie, James, Ltd., art metal workers, Ivanhoe Works, Dudley. (Telegs.: "Smellie, Dudley.")

Smetham, A., F.C.S., F.I.C., analytical & consulting chemist, 16, Brunswick-st., Liverpool. (Tel. No. 5452.)

Smethurst, A., J.P., Newfield, Haslingden. (Tel. No. 090.) Director Elec. Light, Power & Hiring Co., Ltd.
Smethurst, Wm., A.M.I.E.E., electrical engineer, 194, Kay-st., & 18, Eckersley-rd., Bolton.
Smethurst & Co., makers of electric light fittings, 74, Duke-st., Grosvenor-sq., London, W.
Smethurst & Co., installation contractors, 16, Bernard-st., Southampton. (Teleph. No. 2727.)
Smethurst, H., & Co., valuers to electrical engineering & allied trades, 37, Ommaney-rd., New Cross, S.E.
Smethwick Technical School, Smethwick, nr. Birmingham.
Smillie, Samuel, mechanical engineer, Havelock Copper Works, 71, Lancefield-street, Glasgow.
Smith, A. C., electrical engineer, 271, Top of High-st., & 406, Gowts Bridge, Lincoln.
Smith, Albert J., A.I.E.E., "Parkstone," Morland-rd., Croydon.
Smith, Archer W., A.M.I.E.E., National Telephone Co., Wolverhampton.
Smith, Armistead, electrical engineer, Lord-st., Keighley.
Smith, A. C. Imrie, electrician, 12, York-st., Glasgow. (Telegrams: "Ahoy, Glasgow." A.B.C. Code, 5th edition. Nat. Telephone No. 467, Argyle; No. 5467, Corp.)
Smith, Arthur Denby, A.M.I.E.E., Keighley Electrical Engineering Co., Ltd., Keighley.
Smith, A. F., dealer in electrical sundries, 58–68, Duncan-rd., Gillingham, Kent (Teleph. Nos. 8 & 8A); & High-st., Rochester. (Teleph. No. 313.)
Smith, A. T., A.M.I.E.E., borough electrical engineer, Leigh, Lancs.
Smith, B. G., electric lift maker, Stannery-st., Halifax.
Smith, B. L., electrician, Scalands, Robertsbridge, Sussex.
Smith, C. Alf., B.SC., A.M.I.E.E., Engineering Dept., King's College, London, W.C. (Tel. No. 2932, Gerrard.)
Smith, Charles A., electrician, 4, Eastgate, Louth.
Smith, C. Bottomley, M.I.E.E., resident engineer, The Hove Electric Lighting Co., Ltd., Davigdor-rd., Hove. (Telegrams: "Electricity Works, Hove." Telephone Nos.: 2599, Nat.; & 1599, Corp.)
Smith, C. E., electrical engineer, Messrs. Christy Brothers & Co., Ltd., Broomfield-rd., Chelmsford.
Smith, C. F., WH.SC., A.M.I.C.E., A.M.I.E.E., senior lecturer in electrical engineering, Municipal Technical College, Manchester.
Smith, C. L., engineer, Dorking Electricity Supply Co., Dorking, Surrey.
Smith, Col. Sir Chas. Euan, K.C.B., C.S.I., 51, South-st., Mayfair. Chairman Marconi's Wireless Telegraph Co., Ltd.; chairman Cape Electric Tramways, Ltd.; chairman Lisbon Electric Tramways, Ltd.; director Chilian Electric Tramway & Light Co., Ltd.; director Mexico Electric Tramways, Ltd.
Smith, David, A.M.I.E.E., Electricity Works, Stanley-rd., Tunbridge Wells (Teleph. No. 564); & 3, Southfield-rd., Tunbridge Wells.
Smith, E., iron telegraph pole manufacturer, Brunswick Tube Works, Potters-lane, Wednesbury. (Telegrams: "Brunswick, Wednesbury.")
Smith, Edwin, dynamo, motor, & gas & oil engine maker, 53, Darwen-st. & Mount-st. Works, Blackburn. (Telephone No. 31.)
Smith, E. B., director Llangollen & District Electric Light & Power Co., Ltd., Bridge-st., Llangollen.
Smith, Edwin C., electro-chemist, 80, Mildenhall-rd., Clapton, N.E.
Smith, E. J., electric light engineer, 35, High-st., Bedford (Telegrams: "Bacchus, Bedford." Nat. Telephone No. 6); & 56, Bute-st., Luton.
Smith, E. J., installation contractor, 58, Nunhead-lane, Peckham, London, S.E.
Smith, E. L., A.M.I.E.E., 44, Dalhousie-st., Glasgow.
Smith, E. W., A.I.E.E., 68, College-st., Chelsea, London, S.W. (Telegrams: "Smuts, London.")
Smith, Frederic, M.I.E.E., Anaconda Works, Salford, Manchester.
Smith, F. A., electrical & general engineer, De Bohun-rd., Reading. (Telegrams: "Engines, Reading." Telephone No. 472.)
Smith, F. H., electrical engineer (Thomas Smith & Sons), Steam & Electric Crane Works, Rodley, nr. Leeds.
Smith, F. J., electrician, South Staffordshire Tramways (Lessee) Co., Ltd., James Bridge, South Staffs.
Smith, F. J., engineer, Leamington & Warwick Electrical Co., Ltd., Emscote-rd., Warwick.
Smith, F. W., electric light contractor, 64, Heath-st., Hampstead, London, N.W.
Smith, F. W., M.I.E.E., 33, Chapel-st., Southport.
Smith, George A., electrical & mechanical engineer, 18, Regent-rd., & 27, 29 & 31, Dublin-st., Liverpool. (Telegs.: "Positive, Liverpool." Teleph. No. 1561, Central.)
Smith, G. E., resident engineer, Urban Electric Supply Co., Ltd., Dartmouth. (Teleph. No. 3.)
Smith, G. E., consulting electrician, 1, Spence-yd., Sherwood-st., Nottingham.
Smith, G. J., electrical instrument jeweller, 17, Malta-street, Clerkenwell, London, E.C.
Smith, G. W., electric bell fitter & contractor, 15, Middle-street, Brighton.
Smith, Harold, electrical engineer, Netherheys, Colne, Lancs. (Telegrams: "Harold Smith, Colne. Telephone No. 11.)
Smith, Harold A., resident engineer, Cults Electricity Works, Cults, Aberdeen.
Smith, H. Babington, C.B., C.S.I., secretary to the Post Office, St. Martin's-le-Grand, London, E.C.
Smith, H. H. Montague, 28, Victoria-st., S.W. Director Shannon Electric Power Syndicate, Ltd.; chairman Shannon Water & Electric Power Co.; director Lyndhurst Electric Lighting & Traction Co., Ltd.

Smith, Harold King, A.I.E.E., "Kingscroft," 14, Hillcrest-rd., Acton Hill, London, W.
Smith, H. Sidney, A.M.I.E.E., c/o Acetylene Illuminating Co., 268, South Lambeth-rd., London, S.W.
Smith, Hubert Elwell, A.M.I.E.E., consulting electrical engineer, 1B, Hill-st., Edinburgh. (Telegrams: "Deserving, Edinburgh." Telephone No. 1541.)
Smith, John, Adderley, Monifieth. Director Dundee, Broughty Ferry & District Tramways Co., Ltd.
Smith, John, superintendent, Commercial Cable Co., 18c, George-st., Edinburgh (Teleph. No. 384); & 5, Bernard-st., Leith. (Teleph. No. 589.)
Smith, J. Ciceri, patentee of the Direct-Reading Micrometer, caliper wire gauge, 6, Holborn Viaduct, London, E.C. (Telegs.: "Pulsate, London.")
Smith, J. J., A.M.I.E.E., borough electrical engineer, Stockton-on-Tees. (Nat. Telephone No. 190.)
Smith, John Meadows, A.M.I.E.E., 18, Kingscliffe-gdns., Wimbledon Park, S.W.
Smith, John Robert, A.M.I.E.E., Heath View, Shepherd's-lane, Dartford, Kent.
Smith, Alderman J. P., A.I.E.E., Arndene, Barrow-in-Furness. (Telephone No. 63.)
Smith, Jas. S., A.I.E.E., electrician, lecturer in telegraphy, &c., at the Heriot-Watt College, Edinburgh.
Smith, J. S., electrical engineer, Parliament-st., Nottingham.
Smith, J. W., electrical engineer & electric lighting contractor, 6, Low-pavement, Nottingham. (Telephone No. 92 Y.)
Smith, L., resident engineer, Dorking Electricity Supply Co., Dorking, Surrey.
Smith, Laurence Willoughby, A.M.I.E.E., 4, St. John's Park, Blackheath, S.E.
Smith, Norman, A.M.I.E.E., electrical engineer, 8, George-st., Manchester-sq., London, W.
Smith, P., electrical contractor, 9, Legh-st., Warrington.
Smith, Prof. R. H., A.M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer, 3, Thirlmere-rd., Streatham, S.W.
Smith, R., mains superintendent, Corporation Electricity Works, Wakefield.
Smith, R. A., M.I.M.E., M.I.E.E., c/o Dorman & Smith, Ordsal Electrical Works, Salford, Manchester. (Telegrams: "Current, Manchester." Telephone No. 1741.)
Smith, Robert A., M.I.E.E., consulting engineer, 78, Palace-chbrs., 9, Bridge-st., Westminster, S.W.; & Monnymusk, Highbury-rd., Wimbledon, London, S.W. (Telegs.: "Emissivity, London." Teleph. No. 3795, Gerrard.) Managing director Power & Traction, Ltd.
Smith, Robert J., A.M.I.E.E., 76, Tollington-rd., Holloway, London, N.
Smith, Roger T., B.SC., A.M.I.C.E., M.I.M.E., electrical engineer, Great Western Railway, Paddington, London, W.
Smith, R. W., director Harwich Electric Lighting & Tramways Co., Ltd.
Smith, Sydney Cummins, A.M.I.E.E., 18, Willoughby-rd., Ipswich.
Smith, S. F., assistant engineer, Corporation Electricity Works, Portsmouth.
Smith, Sidney Gilchrist, A.M.I.E.E., 4, South-pl., London, E.C.
Smith, S. J., district manager, National Telephone Co., 40, Earl-st., Maidstone.
Smith, S. L., A.I.E.E., St. Paul's Vicarage, Bunhill-row, London, E.C.
Smith, Thomas, A.I.E.E., Spaldwich House, Torquay.
Smith, T., mains superintendent, Mains Department, School Treat, Wolverhampton. (Teleph. No. 321.)
Smith, T. E., 9, Stone-bldgs., Lincoln's Inn, W.C. Director Burma Tramways Construction Co., Ltd.
Smith, Thomas Gregory, A.I.E.E., British Westinghouse Co., Trafford Park, Manchester.
Smith, T. M., director Blackpool, St. Anne's & Lytham Tramways Co., Ltd., 30, Birley-st., Blackpool.
Smith, T. Robert, A.M.I.E.E., electrical engineer, Corporation Tramways, Leicester.
Smith, W., manager Taunton Electric Traction Co., Ltd., Tramway Office, East Reach, Taunton.
Smith, Walter, electric cable representative (Glover's), 320, Edward-rd., Edgbaston, Birmingham.
Smith, Wm., electrical engineer, Municipal Technical School, Birmingham.
Smith, Willoughby, Gutta-percha Co., Wharf-rd., City-rd., N.
Smith, W. A., 6, Hanover-st., Glasgow. Director National Telephone Co., Ltd.
Smith, W. F., director Cumberland Power Syndicate, Ltd.
Smith, Wm. G., A.I.E.E., 137, High-st., Sydenham, S.E.
Smith, W. H., electric bell fitter, 28, Queen-st., Gravesend.
Smith, Wm. H., A.M.I.E.E., Platinotype Works, Penge, S.E.
Smith, W. J., electrical engineer, 110, Cecil-st., Whitworth Park, Manchester.
Smith, Wm. O., M.I.E.E., Elliott Bros., Century Works, Lewisham; & 36, Leicester-sq., London, W.C. (Telegrams: "Ohm, London." Telephone No. 218, Deptford.)
Smith, W. S., B.SC., M.I.E.E., 13, Courtfield-road, South Kensington, London.
Smith, Walter T., elec. engineer (Thos. Smith & Sons), Steam & Elec. Crane Works, Rodley, nr. Leeds.
Smith, A. J., & Co., electrical engineers, 37, Walbrook, London, E.C. (Teleph. No. 3785, Central.)
Smith, Alex., & Son, indiarubbber & gutta-percha telegraph goods agents, 12, Hanover-st., Glasgow. (Telegrams: "Proof, Glasgow." Telephone Nos.: 690, Nat.; & 2602, Corp.)
Smith, A., & Stevens, electrical engineers & passenger lift makers, Janus Works, Queen's-rd., Battersea, London, S.W. (Telegrams: "Hydraulics, London." Telephone No. 115, Battersea.)
Smith, A. W., & Co., electric light engineers, London-rd., Barking.
Smith Bros., lamp post manufacturers, Abbey-street, Derby.
Smith Bros., Rotherham, Ltd., motor engineers, 14, High-st., Rotherham. (Teleph. No. 114.)

Smith & Co., electrical engineers, 25, Lower Clapton-rd., Hackney, N.E. Works: Oriel-rd., Homerton, London, N.E.

Smith & Coventry, Ltd., lathe & tool makers, Ordsal-lane, Salford, Manchester (Telegrams: "Gresley, Manchester." Telephone No. 564); & 5, Laurence Pountney-hill, London, E.C. (Telegrams: "Bevilways, London.")

Smith & Croft, electrical engineers & contractors, Providence-st., Westgate, Bradford. (Tel. No. 02399.)

Smith, E. A., & Co., Ltd., steel wire manufacturers & wire drawers, Phœnix Works, Cleckheaton.

Smith, E. J., & Co., electrical contractors, 58, Nunhead-lane, Peckham, London, S.E.

SMITH, FREDERICK, & CO., WIRE MANUFACTURERS, LTD., telegraph line wire, Caledonia Works, Halifax; copper wire & bronze wire for all electrical purposes, Salford, Manchester. (Telegrams: "Smith, Halifax;" "Anaconda, Manchester." Telephone No. 31.) Registered March 17, 1897. Directors: George Henry Smith; Frederic Smith. Secretary, J. E. Cox. *See* WIRE MANUFACTURERS—COPPER.

SMITH, FREDERICK T., & CO., 2, Ranelagh-rd., East Ham, London, E. (Telegs.: "Lamentop, London." Teleph. No. 555, Barking.) Cash buyers of old electric lamps, lamp ends, cable, wire, scrap platinum, copper, brass, old lead & zinc, old electric fittings, accessories, &c., &c., in large or small quantities. Prompt cash remittances on receipt of goods.

Smith, F. W., & Co., electrical engineers, Chapel-st., Salford.

Smith & Grace Screw Boss Pulley Co., Ltd., pulley makers, Thrapston; & 35, Queen Victoria-st., London, E.C. (Telegrams: "Grace, Thrapstone." Telephone No. 152, Bank.)

Smith, Henry, & Co. (Kieff), Ltd., telegraph, elec. & general engineers, 96 & 98, Leadenhall-st., E.C.

Smith, Herbert, & Co., motor makers & agents, 29, Finsbury Pavement, London, E.C.

Smith, H. W., & Co., electrical wire & cable manufacturers, Lydbrook, Glos.

Smith, J., & Co., gear cutters, Carshalton, Surrey. (Telegrams: "Smith, Engineers, Carshalton." Telephone No. 56, Sutton.)

Smith, J., & Co. (Derby), Ltd., brass finishers, Cotton-lane, Derby. (Telegrams: "Ottewell, Derby." Telephone No. 51.)

Smith, J. F., & Co., electrical engineers, 10, Edmund-st., Birmingham.

Smith, J. J., & Co., electric light fittings manufacturers & hardware merchants, 46A, Holborn Viaduct, London, E.C. (Telegs.: "Repousse, London." Teleph. No. 151, Holborn.) Works: Farm-st., Birmingham.

Smith, J., & Son, electric light engineers, 33 & 34, North-rd., Brighton. (Telephone No. 332.)

Smith, J. & W. B., makers of glass globes for electric lighting, 19-23, Farringdon-rd., London, E.C. (Telegrams: "Glassware, London." Telephone Nos.: 1736, Holborn; & 2269, Central.)

Smith, Jonas, & Co., makers of casings for electric wires, 98, Belvedere-rd., Lambeth, London, S.E. (Telegrams: "Moulding, London." Telephone No. 4695, Hop.)

Smith, Parfrey & Co., Ltd., electric welders, Fulham Palace-rd., Hammersmith, London, W. (Telegrams: "Wheelworks, London." Telephone No. 148, Hammersmith.)

Smith, Savory & Co., electrical engineers, London-rd., S. Lowestoft. (Telegs.: "Motors, Lowestoft." Teleph. No. 0130.) Works: Horn Hill.

Smith & Sons, brass & German-silver merchants, brassfounders, &c., 18, 22, 23 & 24, St. John's-sq., London, E.C.

Smith, Sydney, & Sons, brass founders, steam gauge manufacturers, Basford Brass Works, Nottingham.

Smith, T., & Co., electro-platers, 10, Percival-st., Clerkenwell, London, E.C. (Teleph. No. 1608, Central.)

Smith, M., & Co., electrical contractors, Keighley.

Smith, T. H., & Co., electrical engineers, 8, East-parade, Leeds; Harrogate; & Knaresborough.

Smith, Thomas, & Sons, electric crane engineers, Steam & Electric Crane Works, Old Foundry, Rodley, Leeds. (Telegrams: "Smith, Rodley." Telephone Nos. 18 & 12, Stanningley.) London office: 9, Victoria-st., S.W. (Telegrams: "Accrocher, London." P.O. Telephone No. 64, Victoria.)

Smith, Warren & Co., electrical engineers, 66, College-st., Chelsea, London, S.W. (Telegs.: "Smuts, London." Nat. Teleph. No. 1108, Kennington.)

Smith, Wm., & Co., domestic electricians, dealers in electrical supplies, 243, Broad-st., Pendleton, Manchester. (Telephone No. 96, Pendleton.)

Smith & Wilshaw, speciality in lathes, Kingston Works, Hopwood-lane, Halifax, Yorkshire.

Smith-Saville, R. W., A.M.I.C.E., A.M.I.E.E., chief engineer & manager, Corporation Tramways, Darwen. (Telephone No. 122.)

Smithers, T., electrician, 33, Borough-st., Brighton.

Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., London, E.C. (Telephone No. 682, Holborn.) Registered July 16, 1897. Nominal capital: £100,000 in ordinary £5 shares, £50,000 4 per cent. debenture stock & £8000 5 per cent. 2nd mortgage debentures. Issued: 12,000 ordinary shares, fully paid, & all the 4 per cent. debenture stock & 5 per cent. 2nd mortgage debentures. Directors: H. S. Leon, Esq.; J. Browne Martin, Esq.; E. Schenk, Esq. Electrical engineer, E. Dowling; manager & secretary, G. M. Powell. Dividends: 1899, 1900 & 1901, *nil*; 1902, 2½ per cent.; 1903, 1904 & 1905, 4 per cent.

Smithson, H., electrical engineer, 18, Park-ave., Alexandra Park, Manchester.

Smithson, Sharpe & Co., arc lamp manufacturers, Sykes-st., Hulme, Manchester. (Telepb. No. 4987.)
Smout, Alan, A.M.I.E.E., 31, Connaught-st., Hyde Park, London, W.
Smyth, Alfred, A.I.E.E., 51, Murray-st., Higher Broughton, Manchester.
Smyth, J. M., A.M.I.C.E., M.I.E.E., borough electrical & tramways engineer, Keighley.
Smyth, M. G., A.M.I.E.E., engineer & manager, Central Station, Larne, co. Antrim.
Smyth Bros., electric bell fitters, 56, Fore-st., Ipswich.
Smyth, J., & Sons, manufacturers of electric light fittings, 17, Wicklow-st., Dublin.
Snaefell Mountain Railway, Laxey, Isle of Man. *Owned by* Manx Electric Railway Co. F. Edmondson, A.M.I.E.E., engineer. (Telegrams: "Electric, Douglas, Man." Telephone No. 61, Nat.)
Sneath, J. G., electrical engineer, 23, Acland-st., Limehouse, London, E.
Snell, Albion T., M.I.C.E., M.I.E.E., Suffolk House, Cannon-st., E.C. (Telegrams: "Illawarra, London." Telephone No. 8173, Bank.)
Snell, C. Scott, electrical engineer & electrician, 53, Victoria-st., Westminster, London, S.W.
Snell, John F. C., M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer, Caxton House, Westminster. (Telegs.: "Sned, London." Teleph. No. 5194, Westminster.)
Snell & Moore-Ede, consulting engineers, Caxton House, Westminster. (Telegs.: "Sned, London." Teleph. No. 5194.)
Snowball & Co., mechanical & machinery valuers, Prudential-bldgs., Mosley-st., Newcastle-on-Tyne.
Snowden, C., electrical engineer, 129, Arundel-st., Landport, Hants.
Snowden & Son, electrical engineers, Market-st., Barnsley.
Snowdon, Harry, A.M.I.E.E., manufacturer of the Nodon patent electric valve, Balfour House, Finsbury Pavement, E.C. (Telegs.: "Snowdrift, London." Tel. No. 9960, London Wall.) Works: Millwall, E.
Snowdon, Wm., consulting mechanical engineer, 24, Basinghall-st., Leeds. (Telegs.: "Snowdon, Leeds.")
Snowdon Mountain Tramroad & Hotels Co., Ltd., Llanberis, N. Wales. Registered Nov. 16, 1894. Issued capital: £70,000 in ordinary shares of £10 each, fully paid, & £19,000 debenture bonds of £100 each, fully paid. Directors: J. S. Harmood Banner, Esq. (chairman); A. H. Holme, Esq.; Lt.-Col. W. W. Cragg; Major Turner; H. Clegg, Esq. Engineer & secretary, G. C. Aitchison.
Snowdon, Sons & Co., Ltd., oil & lubricant manufacturers, West Ferry-rd., Millwall, London, E.
Sobbe, Th. A. von, 3, Belvedere-rd., Liverpool. Director Liverpool District Lighting Co., Ltd.
Société Française des Câbles Télégraphiques, 24, Royal Exchange, London, E.C. (W. W. Howell, representative in England); 5, New Bridge-st., E.C. (Teleph. No. 5952, Central); Baltic & Shipping Exchange, E.C. (Teleph. No. 7335, Central); & 24, Hop Exchange, S.E. (Teleph. No. 12007, Central.)
Société Gramme, multipolar machines, 144, Gray's Inn-rd., London, W.C. (Teleph. No. 1511, Holborn.)
Society of Arts (society for the encouragement of arts, manufactures & commerce, Sir Henry Trueman Wood, M.A., secretary; H. B. Wheatley, F.S.A., assistant secretary), 18 & 19, John-st., Adelphi, London, W.C. (Telegrams: "Praxiteles, London." Telephone No. 110, Westminster.)
Society of Arts Journal (price 6*d.*), 18 & 19, John-street, Adelphi, London, W.C.
Society of Chemical Industry (Eustace Carey, president; Charles G. Cresswell, secretary), 9, Bridge-st., Westminster, London, S.W. (Telegs.: "59, Palatable, London." Teleph. No. 715, Victoria.)
Society of Engineers, 17, Victoria-st., London, S.W. Perry F. Nursey, secretary.
Society of Model Engineers, 37, Minard-rd., Hither Green, London, S.E.
Sol Manufacturing Co., Ltd., dry battery manufacturers, 28, Marshalsea-rd., London, S.E. *In voluntary liquidation.* Liquidator, E. Hobbs, 27 & 28, Old Jewry, E.C.
Solomon, H. G., A.M.I.E.E., electrical engineer, 5, Victoria-st., London, S.W.
Solomon, M., A.M.I.E.E., 45, Newhall-st., Birmingham.
Somers, R. Mousley, A.I.E.E., A.M.I.MECH.E., electrical engineer, 37, Lyddon-ter., Leeds.
Somerset & District Electric Power Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W. Directors: P. N. Miles, Esq.; F. Armstrong, Esq.; E. T. Glyn, Esq.; H. Conquest, Esq. Secretary, A. J. Fippard. Proposed capital: £750,000 in shares & £250,000 in loans.
Somerset Eccles & Co., electric light & power contractors, 22, Stanhope-st., London, N.W.
Somerville, A. A., M.A., Eton College. Director Windsor Electrical Installation Co., Ltd.; director Slough & Datchet Electric Supply Co., Ltd.
Somerville, G. J., A.I.E.E., director Associated Cos. The British Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C.; director Brockie Pell Arc Lamp, Ltd.
Somerville, Geo. Wm., A.I.E.E., 68, Owen-st., Accrington.
Somerville, James, electric lighting contractor, 27, Harmony Row, Govan, Glasgow.
Sommerville, Alfred, A.M.I.E.E., A.M.I.MECH.E., outside superintendent, Paisley District Tramway Co., Paisley.
Sommerville, Gordon, A.M.I.E.E., engineer, Corporation Electricity Works, Faversham, Kent.
Soper, H. E., M.A., A.I.E.E., 5, Blenheim Parade, Cheltenham.
Sotheby, W. E., B.A., A.M.I.E.E., 28, Victoria-st., S.W. (Telegs.: "Linigerous, London." Teleph. Nos. 379 & 58, Westminster.)

Sotheby & Co., electrical engineers, 28, Victoria-st., London, S.W. (Telegrams: "Linigerous, London." Telephone Nos. 379 & 58, Westminster.)

Souper, P., electrical engineer, British Westinghouse Electric & Manufacturing Co., Ltd., Trafford Park Works, Manchester. (Telegrams: "Westinghouse, Manchester." Telephone No. 4109.)

Soutar, G., electrical engineer, Greyfriars Foundry, Elgin. (Teleph. No. 9 X. 4.)

Soutar, J. S., A.I.E.E., Greyfriars Foundry, Elgin.

South, Alfred, maker of electric engraving & tattooing machines, 22, Cockspur-st., Pall Mall, London, S.W. (Telegs.: "Tattooing, London.")

South African Engineer (monthly, 6*d.*; ann. sub., 7*s.* 6*d.*), 5, Hatton Garden, London, E.C.; & at Manchester & Johannesburg.

South African Engineering (monthly, 6d.; ann. sub. 6*s.*), 392, Strand, W.C. (Tel. No. 6341, Gerrard.)

South African Lighting Association, Ltd., 90, Cannon-st., London, E.C. (Telegs.: "Cashbook, London." Teleph. No. 937, Bank.) Registered Oct. 27, 1888. Directors: D. Ford Goddard, Esq., M.P., J.P. (chairman); A. L. Don, Esq.; H. Woodall, Esq.; Jas. Macalister, Esq. Engineers, Corbet Woodall & Son; secretary, W. Cash, F.C.A. Nominal capital: £100,000 in ordinary shares of £10 each, in addition to which there is £20,000 debentures in multiples of £10 & upwards. Issued: 8000 ordinary shares, fully paid, & all the debentures. Reissue on May 24, 1905, of £400, & on May 31 of £1400 debentures, on Aug. 1 of £1000, & on Nov. 13 of £1200 debentures. Dividends: 1898 to 1905, 10 per cent. free of income-tax per ann.; in 1903, 1 per cent. bonus was paid.

South American Cable Co., Ltd. Offices: 106, Cannon-st., London, E.C. (Telegrams: "Relampago, London.") Registered July 4, 1891. Nominal capital: £500,000 in 50,000 ordinary shares of £10 each. Issued: £247,070, fully paid; & £300,000 debentures, paid off. Directors: Robert Kaye Gray, Esq., M.I.C.E. (chairman); A. A. Roux, Esq.; E. Karminski, Esq. Secretary & manager, Jas. Jeffery.

South American Light & Power Co., Ltd., 37, Lombard-st., London, E.C. Registered July 24, 1902. Nominal capital: £100,000 in £1 shares. All issued & fully paid, & £50,000 in 5 per cent. debentures, £33,000 issued. A trust deed, dated March 11, 1903, to secure £52,500, has been registered. Directors: F. H. Jackson, Esq. (chairman); C. M. Wilkins, Esq.; J. Young, Esq.

South American Syndicate, Ltd., St. George's House, Eastcheap, London, E.C. Registered June 17, 1901. Nominal capital: £1500 in £1 shares, of which 50 are preference. Director: F. M. Crisp, Esq. Secretary, T. H. Evans.

South American Traction Co., Ltd. Registered Nov. 1, 1905. Nominal capital: £10,000 in £1 shares.

South of England Development Co., Ltd., electrical engineers & contractors, 3, King's-ter., Southsea. Registered Aug. 20, 1901. Nominal capital: £1000 in £1 shares. Directors: J. M. Brown, Esq.; W. S. Brewer, Esq.; P. Gaskell, Esq.; P. H. Goodman, Esq.; J. F. Hooper, Esq.

South Lancashire Electric Supply Co., Ltd., Atherton, Lancs. Registered June 29, 1900. Nominal capital: £10,000 in £1 ordinary shares. Directors: Hon. Arthur Stanley, M.P. (chairman); J. Beecham, Esq.; J. M. Henderson, Esq., M.P.; A. Adam, Esq.; R. Watson, Esq., J.P.; J. S. Austen, Esq. Secretary, H. P. Conibear.

South London Electric Supply Corporation, Ltd., Bengeworth-rd., Loughborough Junction, London, S.E. (Telegrams: "Southerner, London." Telephone No. 1096, Hop.) Registered Dec. 4, 1896. Capital: £325,000 in £5 shares, all of which have been issued & paid, & £50,000 debentures. Directors: J. Atherton, Esq. (chairman); Geo. Ellis, Esq., J.P.; Capt. E. Ironside Bax; Algernon Turnor, Esq., C.B.; F. J. Leslie, Esq. Chief engineer & manager, H. W. Sprunt; secretary, H. H. Boyer. Dividends: 1901, *nil*; 1902, 1¾ per cent.; 1903, 3 per cent.; 1904 & 1905, 4 per cent.

South Metropolitan Electric Light & Power Co., Ltd., The. Registered office: 37, Tranquil Vale, Blackheath, S.E. (Teleph. No. 31, Lee.) Power Houses: Blackwall Point, East Greenwich; & Wells-rd., Upper Sydenham, S.E. (Teleph. Nos.: 240, Deptford; & 59, Sydenham.) Registered May 11, 1896. Nominal capital: £300,000 (£150,000 in £1 ordinary shares, £150,000 in £1 preference shares), borrowing powers up to amount of issued & paid-up share capital. Issued: 120,000 ordinary & 117,968 preference shares, fully paid. Debentures issued: £200,000. Dates of trust deeds, Aug. 3, 1900, June 3, 1904, & July 5, 1906. Directors: H. St. J. Winkworth, Esq. (chairman); Hy. W. Bowden, M.I.C.E., M.I.E.E., Esq. (managing); W. May, Esq. Secretary, G. Frederic Fox; resident engineers, J. A. Constable (generating dept.) & W. J. Allbright (distribution dept.). Dividends: 7 per cent. per annum on preference shares; 1905, 2½ per cent. on ordinary shares.

South Metropolitan Electric Tramways & Lighting Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. (Telegrams: "c/o Tramway, London.") Registered as the County of Surrey Electrical Power Distribution Co., Ltd., April 19, 1899. Capital: £200,000 in £1 ordinary shares, £200,000 in £1 6 per cent. cumulative preference shares & £200,000 debenture stock. Issued: 176,300 ordinary shares, fully paid, 169,570 preference, 19,570 fully paid & 150,000 with 15*s.* paid, final instalment of 5*s.* per share to be paid on Feb. 28, 1907, & £150,000 debenture stock. Directors: C. G. Tegetmeier, Esq. (chairman); E. Garcke, Esq.; J. Devonshire, Esq.; Geo. Offor, Esq.; R. P. Simpson, Esq. General manager, G. R. Hulme; engineer, C. W. Durnford; secretary, E. Hopwood.

South Shields Corporation Electricity Works. Engineer, J. H. Cawthra, M.I.E.E., A.M.I.E.E. (Teleph. No. 191.)

South Staffordshire Tramway Co. (The), Wednesbury (Telegs.: "Tramways, Darlaston"); & Donington House, Norfolk-st., W.C. (Telegs.: "Tramways, London.") Registered March 28, 1882. Formerly the South Staffordshire & Birmingham District Steam Tramways Co., Ltd., & title changed to present one in 1889. Directors: C. S. B. Hilton, Esq. (chairman); S. R. Blundstone, Esq.; J. A. Lycett, Esq. Secretary, W. F. Cox. Nominal capital: £129,650 in ordinary stock, £86,580 in preference shares of £10 each. Issued: all the ordinary stock all paid, except £2004 7*s.* 3*d.* calls in arrears, & 7600 preference, all fully paid. Dividends on preference shares: 1901, 2*s.* 3*d.* per share; 1902, 5*s.* 2*d.* per share; 1903, 2*s.* 10*d.* per share; 1904, 3*s.* per share.

South Staffordshire Tramways (Lessee) Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. (Telegs.: "c/o Tramway, London." Teleph. Nos. 6821 & 6822 Gerrard); & Tramways Depot, Darlaston. Registered July 31, 1899. Nominal capital: 15,000 ordinary & 15,000 6 per cent. cumulative preference shares, both of £5 each, & 220,000 deferred shares of 5*s.* each. Issued: 10,000 ordinary shares, 10,000 preference & 147,293 deferred shares, all fully paid, & £41,714 debenture stock. A trust deed, dated Nov. 1, 1904, to secure £54,700 debenture stock (with power to issue further stock ranking *pari passu* up to a total of £100,000), has been registered. Directors: E. Garcke, Esq. (chairman); W. L. S. Schuster, Esq.; S. R. Blundstone, Esq.; Sir Ernest Spencer; J. A. Lycett, Esq. (managing). Secretary, B. Kingsford. Dividends: 1901, 8 per cent. on ordinary shares; 1902, 7 per cent.; 1903, 5 per cent.; 1904, *nil.*

South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff. (Telegrams: "Unit, Cardiff." Telephone Nos.: Nat., 1251; P.O., 573.) Nominal capital: £750,000 in £10 ordinary shares & £250,000 debentures. Issued: £574,580, fully paid; £31,360 £5 fully paid; £200,000 debentures, fully paid. Directors: R. Forrest, Esq. (chairman); Lieut.-Gen. Sir R. H. Sankey, K.C.B., R.E. (deputy-chairman); W. W. Hood, Esq.; W. S. B. McLaren, Esq.; Hugh Watts, Esq.; H. Ruffer, Esq.; T. Hugh Weguelin, Esq. General manager, W. A. Chamen; secretary, Geo. P. Tutcher; chief engineer, C. A. Holbrow. Generating stations: Pontypridd (Telegs.: "Unit, Treforest." Teleph. No. 28, Pontypridd); Cwmbran (Telegs.: "Unit, Cwmbran." Teleph. No. 16, Llantarnam); Bridgend (Telegs.: "Unit, Bridgend." Teleph. No. 29, Bridgend); & Neath. (Telegs.: "Unit, Neath." Nat. Teleph. No. 782, Briton Ferry.)

South Wales Glass Manufacturing Co., Ltd., manufacturers of glass battery jars, Crindau, Newport, Mon. (Telegrams: "Bottles, Newport." Telephone No. 270.)

South-Western Brass Foundry, Ltd., electric fittings & accessories, Mill-st. & Russell-st., Plymouth.

South-Western Polytechnic, Manresa-rd., Chelsea, London, S.W. *See* SCHOOLS.

South Yorkshire Glass Bottle Co., manufacturers of battery glass jars, &c., Swinton, near Rotherham, Yorks. (Telegrams: "Wilkinson, Swinton, Yorks.")

Southall, Hy., director Ross Electric Light & Power Co., Ltd., Bank Offices, Ross.

Southall Bros. & Barclay, manufacturers of electrical apparatus, Broad-st., Birmingham. (Telegrams: "Southall, Birmingham.")

Southampton Corporation Electricity Department & Electric Tramways. (Telegs.: "Electricity Works, Southampton." Teleph. No. 178.) Borough electrical engineer, H. F. Street.

Southee, T. W., wiring contractor, 19, Brockman-rd., Folkestone.

Southend Corporation Pier Electric Railway, Southend. Engineer, C. R. Norton.

Southend Electrical Engineering Co., Weston-rd., Southend-on-Sea.

Southend-on-Sea & District Light Railways & Electricity Works, Southend-on-Sea. (Teleph. No. 96.) R. Birkett, A.I.E.E., engineer.

Southend-on-Sea Municipal Technical School. Principal, J. Hitchcock.

Southern Counties Monorail Syndicate, Ltd., 7, St. Helen's-pl., London, E.C. Registered July 23, 1902. Nominal capital: £50,025 in 500 ordinary shares of £100 each & 500 preference shares of 1*s.* each. Directors: P. A. Sechiari, Esq.; A. Grove, Esq., J.P.; G. E. Raine, Esq.; W. J. Fraser, Esq.; N. P. W. Brady, Esq. Secretary, A. S. Chetwood.

Southey, E., electric light contractor, Ramsgate.

Southey, E., installation contractor, Pembroke House, Guildhall-st., Folkestone.

Southey, George, electric inspector, 156, Richmond-rd., Cardiff.

Southey, H. E., electrician & electrical engineer, 40, Crouch End-hill, London, N.

Southey, Ltd., electrical engineers, 43, King's-rd., Southsea. (Teleph. No. 176.)

Southgate, Hugh McLellan, M.I.E.E., 5, Cross-st., Manchester.

Southport Corporation Electricity Supply & Electric Tramways, Eastbank-st., Southport. Works: Crowlands, Southport. Electrical engineer, R. S. Downe. (Teleph. Nos.: Office, 264; Works, 366.)

Southport Electric Lighting Co., electrical contractors, 2, Bold-st., Southport. (Teleph. No. 235.)

Southport Tramways Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. (Telegrams: "Southport, c/o Tramway, London." Telephone Nos. 6821 & 6822, Gerrard.) Nominal capital: £19,500 in £5 shares. All issued. Directors: J. S. Raworth, Esq. (chairman); J. V. Kitchener, Esq.; J. Platt, Esq.; Lord Vaux of Harrowden. Secretary, S. Neville Wells. Dividends: 1899, 4 per cent.; 1900–1905, *nil.*

Southwark Borough Electricity Works, Penrose-st., Walworth, S.E. (Telephone No. 2697, Hop.) Chief engineer & manager, D. M. Kinghorn.

Southwold Electricity Supply, Southwold, Suffolk. Coast Development Corp., Ltd., proprietors. F. R. Hunter, resident engineer.

Soutter, A. C., A.I.E.E., 2, Wolseley-gdns., Gunnersbury, W.

Soutter, Wm., & Sons, Ltd., art metal workers, Farm-st., Hockley, Birmingham ; & 47, Holborn Viaduct, London, E.C.

Soward, A. W., A.I.E.E., 28, Therapia-rd., Honor Oak, London, S.E.

Sowden, David, & Sons, manufacturers of boxes & feeder pillars for electrical work, Shipley. (Telegs. : "Sowden, Shipley." A.B.C. Code, 5th ed. Teleph. No. 16, Shipley, Bradford.)

Sowerbutts & Rogers, electrical engineers & contractors, 17, High-rd., Kilburn, London, N.W. (Teleph. No. 1418, P.O. Hampstead.)

Sowerby's Ellison Glass Works, Ltd., Gateshead-on-Tyne. (Telegrams : "Sowerby, Gateshead." Telephone No. 130, Nat.)

Sowter, W. J. U., A.M.I.E.E., chief engineer, Urban District Council Electricity Works, Bray, Ireland.

Spagnoletti, C. E., M.I.C.E., M.I.E.E. (past president), 16, Frognal-lane, Hampstead, London, N.W.

Spagnoletti, J. E., M.I.E.E., Kensington Palace Mansions, De Vere-gdns., London, W.

SPAGNOLETTI, JAS. E., & CO., electrical & mechanical engineers & electric light contractors, Goldhawk Works, Goldhawk-rd., London, W. (Telegrams: "Isobar, London." Telephone No. 181, Hammersmith.) *See advt., page* 30.

Spalding, P. A., A.I.E.E., 14, Torrington-sq., London, W.C. (Teleph. No. 3466, Gerrard.)

Spanish National Submarine Telegraph Co., Ltd. Office : 98, Cannon-st., London, E.C. (Telegrams : "Guanche, London.") Share capital : £500,000 in £10 shares, of which £237,190 are issued & fully paid. Directors : Robert Kaye Gray, Esq. (chairman) ; Major Leonard Darwin ; Lt.-Col. A. Weston Jarvis, Esq. ; Chas. H. Moore, Esq. E. March Webb, M.I.E.E., secretary.

Spanish Telephone Co., Ltd., 39, Lombard-st., London, E.C. Registered July 16, 1894. Directors : E. Rüffer, Esq. (chairman) ; F. R. Y. Radcliffe, Esq. ; A. A. Rüffer, Esq. Electrical engineer, Señor Don Enrique Parellada, Barcelona ; secretary, S. T. Treffry. Nominal capital : £41,000, of which £16,000 are in £10 ordinary shares & £25,000 are in 1250 non-cumulative preference shares of £20 each, & £16,000 5 per cent. "A" debentures & £20,000 5 per cent. "B" debentures. Issued : all ordinary, £12,820 preference, also all "A" & "B" debenture bonds. The amounts of the "A" & "B" debentures now outstanding is £25,660. Dividends : May 31, 1902, 3 per cent. free of income tax ; May 31, 1903, 3½ per cent. free of income tax ; May 31, 1904, 4 per cent. free of income tax ; May 31, 1905, 5 per cent. free of income tax. Reserve fund : £3763 16*s.* 1*d.*

Spargo, E., consulting, civil & mining engineer, 3, Cable-st., Liverpool. (Telegrams : "Spargo, Liverpool.")

Spark, J. W., A.M.I.E.E., borough electrical engineer, Devonport.

Sparks, C. P., M.I.E.E., M.I.C.E., chief engineer, County of London Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C.

Sparks, Hubert Conrad, A.I.E.E., "Suffolk House," Putney Hill, London, S.W.

Sparks, H. H., electrical engineer, 24, High-st., Cowes, Isle of Wight. (Telegrams : "Herbert Sparks, Cowes.")

Sparks, J. C., electric lighting contractor, 51, Waldegrave-rd., Brighton. (Nat. Teleph. No. 116 X.)

Spearing & Co., electrical engineers, 19, Broadway, Wimbledon, London, S.W.

Speedy, Percy, A.M.I.E.E., electrical engineer, 3, Adelaide-st., Strand, London, W.C.

Speedy, Eynon & Co., electrical engineers & contractors, 3, Adelaide-st., Strand, London, W.C. (Telegs. : "Speedenon, London." Teleph. No. 8967, Central.)

Speight, J. W., M.I.E.E., A.M.I.MECH.E., consulting electrical & tramway engineer, The Elms, Lytham-rd., St. Annes-on-Sea.

Speirs, C. W., M.I.E.E., c/o Morgan Crucible Co., Ltd., Battersea Works, Church-rd., Battersea, S.W.

Speke, J. W. & H., electricians, 177, Spencer-pl., Leeds. (Teleph. No. 8 X., Chapeltown.)

Spence, E. R., A.I.E.E., 102, Lewisham-rd., London, S.E.

Spence, James, electrician, 17, Kensal-rd., Westbourne-park, London, W.

Spence, J. K., manufacturing electrical engineer, High-st., Spilsby, Lincolnshire.

Spence, W. L., A.M.I.C.E., M.I.M.E., consulting engineer, 31, St. Vincent-pl., Glasgow (Telegs. : "Electrify, Glasgow." Teleph. No. 1500, Royal) ; & Oakleigh, Alloa.

Spencer, C. J., A.M.I.E.E., general manager of City Tramways, Bradford. Central offices : 15, Bridge-st. (Telegs. : "Tramways, Bradford." Teleph. Nos. 2381 & 2382.)

Spencer, F., M.I.E.E., tramways manager, Skircoat Tramway Depôt, Skircoat-rd., Halifax. (Telephone No. 36.)

Spencer, F. Barnes, M.I.E.E., general manager, Reason Manufacturing Co., Ltd., Lewes-rd., Brighton.

Spencer, James T., electric bell fitter, 25, London-rd., Reading.

Spencer, J. W., Newbiggin Hall, Newcastle-on-Tyne. Director Newcastle & District Electric Lighting Co., Ltd.

Spencer, Sir E., director Associated Cos. The British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.

Spencer, Wm., A.I.E.E., Balbedie, Twickenham Park, S.W.

Spencer, Wm. Harold, A.I.E.E., "Deepdale," Mansel-rd., Wimbledon, S.W.

Spencer, W. E. S. H., A.I.E.E., A.M.I.M.E., St. Margaret's, Hitchin.

Spencer & Co., Ltd., engineers, Melksham Foundry, Melksham, Wilts.

Spencer, Edward, & Co., makers of the Macdonald subway electrical conduits, 1, Aldgate, E.; & (works) Longfellow-rd., London, E. (Telegs.: "Spencer, London." Teleph. No. 4317, Avenue.)

Spencer, H., & Sons, electrical engineers, Lawkholme-lane, Keighley.

Spencer, James, & Co., makers of overhead travelling cranes, machine tools, &c., Chamber Iron Works, Hollinwood, Manchester (Telegrams: "Spencer, Hollinwood." Telephone No. 207, Oldham); & 5, Dowgate Hill, London, E.C. (Telegrams: "Pynegar, London." Telephone No. 281, Bank.)

Spencer, J. E. & S., tramway & telegraph pole makers, 14, Great St. Thomas Apostle, London, E.C. (Telegrams: "Tubes, London." Telephone No. 9720, Central.)

Spencer, John, Ltd., manufacturers of all kinds of tubes & fittings, arc lamps, poles, electric traction poles, telegraph & telephone poles, Globe Tube Works, Wednesbury (Teleph. Nos. 4 & 53); & 14, Great St. Thomas Apostle, London, E.C. (Telegs.: "Tubes, Wednesbury;" "Tubes, London." Teleph. No. 9720, Central.)

Spencer, John, & Sons, steel castings for all purposes, Newburn Steel Works, Newcastle-on-Tyne. (Telegrams: "Newburn, Newcastle-on-Tyne.")

Spencer, Perceval, Ltd., engineers, Eccles, Manchester.

Spencer & Watson, chemical merchants, Ward's-bldgs., High Bridge, Newcastle-on-Tyne. (Telegs.: "Chemicals, Newcastle." Teleph. No. 237, Nat.)

Spennymoor Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Spennymoor, Durham. (Teleph. No. 5, P.O.) Engineer, C. W. Fairweather; resident engineer, E. Manthorpe.

Spenser & Co., electrical engineers, Stratford-on-Avon.

Sperati, G. E., A.I.E.E., "Rosa Alba," Highbury Park, N.

Sperati, Joseph, electrical engineer, 12, Mortimer-st., London, W.

Sperling, R. K., Bond Court House, Walbrook, E.C. Director British Columbia Electric Railway Co., Ltd.

Sperryn & Co., Ltd., manufacturers of "Sperrynwood" accessories, brass brackets & pendants, Hospital-st., Birmingham. (Telegrams: "Sperryn, Birmingham." Telephone No. 770.)

Speyer, Sir Edgar, Bart., 7, Lothbury, London, E.C. Chairman Underground Electric Railways Co. of London, Ltd.

Speyer, Jas., 24, Pine-st., New York. Director Underground Electric Railways Co. of London, Ltd.

Sphere Electrical Engineering Co., 3, Unity-st., College Green, Bristol. (Telegrams: "Dynamo, Bristol." Telephone No. 06299.)

Sphere Lighting Co., Ltd., electrical & mechanical engineers, 47, Albion-st., Leeds. *In voluntary liquidation.* Liquidator, J. Gordon, 19, Bond-st., Leeds.

Spherical Metallic Packing & Engineering Co., tramway requisites, Hendham Vale, Manchester.

Spiers, F. S., B.SC., A.M.I.E.E., electro-metallurgist, secretary Faraday Society, 82, Victoria-st., S.W.

Spiers & Pond Stores, dealers in electric light fittings, Queen Victoria-st., London, E.C. (Telegrams: "Spierpon, London." Telephone No. 2300, Holborn.)

Spir, A., dealer in electrical supplies, 416, Ecclesall-rd., Sheffield.

Spittle, T., Ltd., mechanical engineers, Cambrian Foundry, Newport. (Telephone No. 84.)

Spofford, C. A., c/o Speyer & Co., 24, Pine-st., New York. Director Underground Electric Railways Co. of London, Ltd.

Spokes, Oliver S., A.I.E.E., Municipal Science School, Londonderry.

Spon, Chas. Alfred, A.I.E.E., 57A, Algiers-rd., Ladywell, London, S.E.

Spon, E. & F. N., Ltd., publishers of electrical & scientific books, 57, Haymarket, London, S.W. (Telegs.: "Fenspon, London." Teleph. No. 3450, Central.)

Spooner, A. F., chartered patent agent, 323, High Holborn, London, W.C. (Telegrams: "Improvably, London." Telephone No. 480, Holborn.)

Spooner, Henry J., M.I.M.E., A.M.I.C.E., consulting engineer, 309, Regent-st., London, W.

Sporborg, H. N., engineer, Traction Department, British Thomson-Houston Co., Ltd., Rugby. (Telegs.: "Sporborg, Asteroidal, Rugby." Teleph. No. 54, Rugby.)

Sprague, J. T., M.I.E.E., electrician, 117, Green-lane, Birmingham.

SPRATT BROS. (branch of Houghtons, Ltd.), wood & metal workers for all electrical purposes, Ensign Works, Victoria-rd., Wood-st., Walthamstow, Essex. (Telegs.: "Rhamnus, London." Teleph. No. 366, Dalston.) *See advt.* WOOD FITTINGS.

Spreadborough, L., electrical & mechanical engineer, 153, Norman-rd., Leytonstone, N.E.

Spreadbury, W. H., electric lighting contractor, St. Michael's-rd., Bournemouth. (Teleph. No. 145 Y.)

Springfield Steel Co., steel & malleable iron castings, 777, London-rd., Glasgow. (Telegrams: "Springfield, Glasgow." Telephone No. 2608.)

Sproates, H. G., electric light contractor, Wood-st., Middlesbrough.

Sprunt, H. W., A.M.I.M.E., A.M.I.E.E., manager & engineer, South London Electric Supply Corporation, Bengeworth-rd., Loughborough Junction, London, S.E.

Spurgen, Geo., Folkestone. Chairman Folkestone Electricity Supply Co., Ltd.

Spurr, G. R., A.M.I.E.E., electrical engineer, Electricity Works, Priory-ave., Walthamstow.

Spurr, Inman & Co., Ltd., engineers & boiler makers for electric lighting plants, Calder Vale Boiler Works, Wakefield. (Telegrams: "Spurinman, Wakefield." Telephone No. 37.)

Spurrier, Glazebrook & Co., Ltd., manufacturers of lubricating oils, 66, Victoria-st., Westminster. Works: Salford, Manchester.

Squire, E. C., assistant engineer, North Metropolitan Electrical Power Distribution Co., Ltd., Hertford.

Squire, H., A.I.E.E., Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gdns., Chelsea, S.W.

Stacey, Francis S., A.I.E.E., 36, Pelham-rd., Wimbledon.

Stacey & Estcourt, electrical engineers & contractors, Harleston, Norfolk.

Stafford Bros., electrical engineers, Ocker Hill, Tipton.

Stafford & Co., electrical engineers, 117, Oxton-rd., Birkenhead. (Teleph. 126Y, Birkenhead.)

Stafford Corporation. Engineer & manager to Gas & Electricity Department, H. Pooley, A.M.I.C.E.; electrician, R. E. Meade.

Stafford Municipal Technical School, Stafford. *See* SCHOOLS.

Staffordshire Tube Co., iron & steel tube makers, 134, Edmund-st., Birmingham. (Telegrams: "Eveson, Birmingham." Telephone No. 815.)

Staight, Mark Wray, A.M.I.E.E., Underground Electric Railways Co. of London, Generating Station, Lot's-rd., Chelsea, London, S.W.

Staines & Egham Light Railway Co., Ltd., Norfolk House, Victoria Embankment, London, E.C. Registered May 19, 1900. Nominal capital: £1000 in £1 shares. Secretary, E. B. Wallis.

Stallibrass, Edward, telegraph engineer, 27, Cumberland Mansions, Bryanston-sq., London, W.

Stallybrass, Leonard, manager Electrical Dept., Wallington, Jones & Co., 13, Crutched Friars, London, E.C. (Telegs.: "Altruistic, London." Teleph. No. 1065, Avenue.")

Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board, Stalybridge. (Teleph. Nos. 338 & 311, Ashton.) Electrical engineer, R. Blackmore.

Stamford Electricity Works, Urban Electric Supply Co., Ltd., Stamford. Resident engineer, J. E. Edmundson. (Teleph. No. 0306, Stamford.)

Stamm, W., 25, College Hill, Cannon-st., London, E.C. (Telephone No. 5483, Bank.) Sole agent for Great Britain & Ireland for Fried. Krupp Aktiengesellschaft Grusonwerk of Magdeburg-Buckau, Germany.

Stammwitz, S. A., A.I.E.E., Faraday House, Upper Richmond Hill, Putney, S.W.

Stamp, W. F., A.I.E.E., chief assistant electrical engineer, Corporation, Devonport.

Stamp-Taylor, G., Electrical Department, N.E. Railway, Gateshead.

Stancombe, T. R., A.I.E.E., chief assistant electrical engineer, Corporation Electricity Works, Barnsley. (Nat. Teleph. No. 110.)

Standard Electric Co., Ltd., manufacturing electricians & electrical engineers, 17, Victoria-st., S.W. Works: 123, Colvend-st., Rutherglen Bridge, Glasgow.

Standard Engineering Co., Leeds, Ltd., electrical & hydraulic engineers, Imperial-bldgs., 28, Bond-st., Leeds; & Saynor-lane, Hunslet, Leeds. (Telegrams: "Triple, Leeds." Telephone Nos. 1105 & 197 X.)

Standard Foundry Co., electrical fittings merchants, 58 & 60, Paradise-st., Liverpool. (Telegs.: "Classical, Liverpool." Teleph. No. 6651, Central.)

Standard Machine Works, Ltd., Dame Agnes-st., Nottingham. (Telegs.: "Crusoe, Nottingham." Teleph. No. 2012.)

Standard Manufacturing Co., electrical advertising novelty designers & manufacturers, Ye Olde Moot Hall, Irongate, Derby.

Standard Metal Engraving Co., name plate & dial manufacturers, 93 & 94, Chancery-lane, London, W.C. (Telegrams: "Unissued, London." Telephone No. 1143, Central.)

Standard Motor Co., Ltd, 128, Much Park-st., Coventry. (Telegrams: "Flywheel, Coventry." Telephone No. 38.)

Standard Time Co., Ltd., proprietors of installation for transmitting electric Greenwich mean time signals & synchronizing clocks, 19 & 21, Queen Victoria-st., London, E.C. (Telephone No. 5820, Bank.)

Standard Underground Cable Co., Dock House, Billiter-st., London, E.C. (Telegs.: "Gramercy, London." Teleph. Nos.: 1414, Avenue; & 1414, Central.)

STANDARD VARNISH WORKS, manufacturers of insulating materials, 23, Billiter-st., London, E.C. (Telegrams: "Agitators, London." Telephone No. 3059, Avenue.) *See advt.*, INSULATING VARNISH.

Standard Wire Co., Ltd., wire manufacturers, West Mills, Sowerby Bridge, Yorks. (Telephone No. 557.)

Stanfield, Prof. R., WH.SC., F.R.S.E., M.I.C.E., professor of mechanical engineering, Heriot-Watt College, Edinburgh.

Stanger, R. H. Harry, civil engineer, Testing Works & Chemical Laboratories, 2, Broadway, Westminster, London, S.W. (Telephone No. 117, Westminster.)

Stanger-Leathes, L. G., A.I.E.E., Woodside, Pope's-grove, Twickenham.

Stanhope, J. H., engineer, Post Office Central Telephone Exchange, London.

Staniar, John, & Co., iron & steel wire, Manchester Wire Works, Manchester.

Staniland, Norman, A.M.I.E.E., borough electrical engineer, Electricity Works, Hornsey.

Stanley, E. A., general manager Electric Railway & Tramway Carriage Works, Preston, Lancs. (Telegrams: "Electram, Preston." A1 & Lieber's Codes used. Telephone No. 395.)
Stanley, Frank E., A.M.I.E.E., Gothic House, Gordon Hill, Enfield.
Stanley, Hon. Arthur, M.P., Knowsley, Prescot, Lancs.; & 33, St. James-sq., S.W. Chairman South Lancashire Tramways Co., & Lancashire Light Railways Co., Ltd.; director New St. Helen's & District Tramways Co., Ltd.; director Lancashire United Tramways, Ltd.
Stanley, J. E., electrical engineer & contractor, Walsall.
Stanley, Rupert, B.A., A.M.I.E.E., lecturer in physics & electrical engineering, Municipal Technical Institute, Belfast; & Brantwood, Osborne Park, Belfast.
Stanley, W. F., mathematical instrument maker, 5, Great Turnstile, Holborn, London, W.C. (Telegrams: "Turnstile, London." Telephone No. 188, Holborn.)
Stanley Bros., Ltd., underground conduits & culverts, Nuneaton. (Telegs.: "Stanleys, Nuneaton." Nat. Teleph. No. 12. A.B.C. Code, 5th Edition.) Branch works: Burslem, Staffs.; Willenhall, nr. Coventry.
Stanley & Co., electrical contractors, Crown-st., Kettering. (Teleph. No. 6 X.)
Stanley, Popplewell & Co., chartered patent agents, 40, Chancery-lane, W.C. (Telegs.: "Notions, London." P.O. Teleph. No. 1763, Central.)
Stannage, George, A.I.E.E., Postal Telegraphs, South Metropolitan District, 5, Pagnell-st., New Cross, London, S.E.
Stannard & Co., electrical & mechanical engineers, Stowmarket.
Stanney, W. D., engineer, secretary & manager Ryde Pier (& Electric Railway) Co., Ryde.
Stansell & Son, electrical engineers, East-st. & Billett-st., Taunton.
Stansfield, H., B.SC., A.I.E.E., Whalley, nr. Blackburn.
Stansfield, Wm., A.M.I.E.E., 22, Platt-st., Moss Side, Manchester.
Stansfield, W., & Co., electrical engineers & contractors, 7B, Padiham-rd., Burnley. (Tel. No. 906 X 2.)
Stanton, A. L., A.M.I.E.E., 13, Hyde-st., King's-rd., Southsea.
Stanton, J. C. M., M.I.E.E., 66, Victoria-st., London, S.W.; & "Elmsleigh," Sutton, Surrey.
Stanton, Fredk. & Edwin, copper wire & cords for electric purposes, Silk Mills, Lewisham, London, S.E. (Telegs.: "Araneolus, London." Teleph. No. 84, Deptford.)
Stanwell, A., electric lighting & power contractor, 19, Torr-st., Everton, Liverpool. (Tel. No. 0304, Royal.)
Staples, Henry J., A.I.E.E., Spondon, Derby.
Star Electric Light Co., 48, Leadenhall-st., London, E.C.
Stark, W. B., & Co., Ltd., engineers, electricians, &c., Plymouth.
Starkey, T. H., dealer in electrical fittings & accessories, Rosebery-bldgs., 83, John Bright-st., Birmingham.
Starkey, W. J. S. Barber, A.I.E.E., Aldenham-park, Bridgnorth, Salop.
Starkie, J. E., A.M.I.E.E., borough electrical engineer, Electricity Works, Burnley.
Starkie, Jas., & Sons, Ltd., manufacturers of iron, steel, brass & copper wire gauze, Preston, Lancs. (Telegrams: "Starkie, Preston." Telephone No. 147.)
Starling, F. H., A.I.E.E., managing director & secretary Blackburn, Starling & Co., Ltd., Gresham Works, Nottingham.
Starling, S. G., A.R.C.SC., B.SC., A.I.E.E., lecturer in physics & electrical engineering, Municipal Technical Institute, Romford-rd., West Ham.
Starr, David A., electrical engineer & manager, Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow. (Telegrams: "Valley, Glasgow." Nat. Telephone No. 1504, Argyle.)
Statham, H., & Co., indiarubber & gutta-percha manufacturers, 9, 10 & 11, Corporation-st., Manchester. (Telegrams: "Mahtats, Manchester." Telephone No. 09239.)
Stather, T., & Co. (Wilfrid Taylor, A.M I.MECH.E.), electrical & mechanical engineers, 13, Lowgate, Hull. (Telegs.: "Motors, Hull." Corp. Teleph. No. 548.)
Statter, J. G., M.I.E.E., consulting electrical engineer, 2, Queen Anne's Gate, London, S.W.; & Cornwall-bldgs., Newhall-st., Birmingham.
Staveley, Alwyn W., electrical engineer (Gent & Co., Ltd., Faraday Works), Leicester. (Telegrams: "Lodestone, Leicester." Nat. Telephone No. 151.)
Staveley Coal & Iron Co., Ltd., makers of cast iron pipes for cables, &c., Chesterfield, Derbyshire. (Telegs.: "Staveley Co., Barrow Hill." Teleph. No. 23.)
Stavers, John, A.I.E.E., electrician, 8, Hyde Park Mansions, London, N.W. (Tel. No. 1327, Paddington.)
Stead, Wm., M.I.E.E., Yew-Tree Lodge, Eccles.
Steadman, W., superintendent, Kidderminster & Stourport Electric Tramway Co., Kidderminster.
Steamship, The (price 6*d.*), a Scientific Journal for Marine Engineers, Shipbuilders, & Electricians. Offices: 2, Custom House-chambers, Leith. (Telegrams: "Lockie, Leith.")
Stearn, C. H., M.I.E.E., Avoca Lodge, Branstone-rd., Kew Gardens, S.W.
Stearn, Alfred, & Son, electric bell fitters & contractors, 21, Upper Brook-st., Ipswich.
Stedman, Harold Geo. Ade, A.M.I.E.E., Erection Dept., Westinghouse Works, Trafford Park, Manchester.
Stedman, T., Hauteville, Guernsey. Director Guernsey Railway Co., Ltd.
Steed, F. O., A.I.E.E., Long Melford, Suffolk.

Steel, C., Glasfryn, New Barnet, Herts. Deputy-chairman Great Northern & City Railway Co.; chairman Canadian Electric Traction Co., Ltd.

Steel, H. E., A.I.E.E., 105, High-st., Cheltenham.

Steel, John, wiring contractor, 22, Murray-pl., Stirling.

Steel, Robert, A.I.E.E., 21, Edgemont-gdns., Langside, Glasgow.

Steel Barrel Co., Ltd., makers of patent electrically welded steel barrels, drums, &c., Uxbridge. (Telegrams: "Barrels, Uxbridge." Nat. Telephone No. 13.)

Steel Conduit Co., Ltd., makers of conduits for electric wires, Conduit Works, Witton, Birmingham. (Teleph. No. 108, Aston.)

Steel Core Concrete Co., Ltd., conduits, Suffolk House, Laurence Pountney Hill, London, E.C. (Telegs: "Sevandilha, London." Teleph. No. 1548, P.O. Central.)

Steel, H. E., Ltd., installation contractors, High-st., Cheltenham. (Telegs.: "Steel, Limited, Cheltenham." Teleph. No. 384.)

Steel, Peech & Tozer, Ltd., liquid starters & resistances manufacturers, Sheffield (Telegs.: "Phœnix, Rotherham." Teleph. Nos. 92, 99–1125, Sheffield); & 49, Victoria-st., Westminster, London, S.W. (Telegs.: "Praestans, London." Teleph. No. 418, Westminster.)

Steel, R. & A., cable drum makers, 85 & 87, James-st., Bethnal Green, London, N.E. (Teleph. No. 9143, Central.)

Steel Sheet Co., Ltd., stamping sheet manufacturers, Phœnix Works, Walsall-st., Wolverhampton. (Telegrams: "Sheets, Wolverhampton." Telephone No. 0517.)

Steele, Charles H., A.I.E.E., Crompton & Co., Western Mail-chbrs., Cardiff.

Steele, J. G., station superintendent, Corporation Electricity Works, West Hartlepool.

Steele, Louis J., M.I.E.E., electrical engineer, H.M. Dockyard, Portsmouth.

Steen, J., & Co., Ltd., telegraph paper manufacturers, Wolverhampton. (Telephone No. 7057.)

Steggall, J. E. A., M.A., professor of pure & applied mathematics, University College, Dundee.

Stegmann, G., electrician & contractor, 10, North Side, Wandsworth Common, S.W.

Stegmann & Co., electrical & mechanical engineers, Brighton Railway Approach, Clapham Junction, London, S.W. (Telegrams: "Ampere, London." Telephone No. 618, Battersea.)

STEIGER, ALPH., M.I.C.E., water power engineer, 28, Victoria-st., Westminster, S.W.

Steinhart, Vogel & Cloud, metallurgists, chemists & engineers, 4, Lloyd's-ave., London, E.C. (Telegs.: "Item, London." Teleph. No. 9736, Central.)

Steinhoff, Sons & Muir, Ltd., makers of insulating compound, 6, Trinity-sq., Tower Hill, London, E.C. (Telegrams: "Ultramarine, London." Telephone No. 1283, Avenue.)

Steinitz, John Julius, M.I.E.E., Brush Electrical Engineering Co., Ltd., Loughborough. (Teleph. No. 0591.)

Steinthal, E. T., A.M.I E.E., 1B, Cooper-st., Manchester. (Teleph. Nos.: 3174, Manchester; & 0238, Rusholme.)

Steinthal, G. A., electrical contracts & supplies, 1B, Cooper-st., Manchester (Teleph. No. 3174); & 41, Piccadilly, Bradford. (Teleph. No. 83.)

Steinthal, W. P., M.SC., A.M.I.E.E., 41, Piccadilly, Bradford, Yorks; & 1B, Cooper-st., Manchester.

Stelling, J. W., A.M.I.E.E., 21, Savile Parade, Halifax.

Stenner & Gunn, electrical & general engineers, Lowman Works, Tiverton, Devon. (Telegrams: "Stenner, Tiverton.")

Stephens, A. L., Charlton Pershore, Worcestershire. Director Fladbury Electric Light & Power Co., Ltd.

Stephens, G. T., director & secretary Fladbury Electric Light & Power Co., Ltd., Fladbury, Worcestershire.

Stephens, Hilliard, A.M.I.E.E., A.M.I.M.E., 39, Victoria-st., S.W. (Telegrams: "Stahlwerk, London." Telephone No. 1625, Victoria.)

Stephens, J. Newton, A.M.I.E.E., electrical engineer, "Uralla," 30, Fernleigh-rd., Winchmore Hill, London, N.

Stephens & Co., electric light contractors, 9, High-st., Bideford. (Telegrams: "Castings, Bideford." Telephone No. 9.)

Stephens, Smith & Co., Ltd., manufacturing electrical engineers, 1, Cuba-st., Millwall, London, E. (Telegrams: "Reckenzaun, London." Telephone No. 3165, East.)

Stephenson, A. F., director Harwich Electric Lighting & Tramways Co., Ltd.

Stephenson, Sidney O., electrician, Claremont-rd., Forest-gate, London, E.

Stephenson, G. V., & Sons, ironmongers & practical electricians, 31, Blackburn-rd., Accrington. (Telephone No. 26x.)

Stephenson, R., & Co., Ltd., engine & boiler makers, Hebburn-on-Tyne. (Telegs.: "Stephenson, Hebburn." Nat. Teleph. Nos. 505, 606 & 2561; P.O. Telephone No. 229.)

Stepney Borough Council Electrical Works, 27, Osborn-st., London, E. (Telephone No. 2949, Avenue.) A. Wright, consulting electrical engineer; W. C. P. Tapper, A.M.I.E.E., engineer & manager.

STERLING TELEPHONE & ELECTRIC CO., THE (late The Berliner Telephone Manufacturing Co.), 200, Upper Thames-st., London, E.C. (Telegs.: "Cucumis, London." Teleph. Nos.: 6089, Bank; & 12716, Central. A.B.C. Code, 5th edition.)

Sterling Varnish Co., makers of Sterling Insulating Varnishes, Brougham-st., Blackfriars-rd., Manchester. (Telegrams: "Reduction, Manchester.")

Stern-Sonneborn Oil Co., oil & grease manufacturers & refiners, Royal London House, 16, Finsbury-sq., E.C. (Telegs.: "Centumvir, London." A.B.C. Code used. Teleph. Nos. 2898 & 2899, Avenue); & Jubilee-bldgs., 108A, Hope-st., Glasgow. Sternoline Motor & Fram Lubricant. (Registered.)

Sterne, L., & Co., Ltd., makers of spiral springs, emery wheels & machines, The Crown Iron Works, Glasgow. (Telegs.: "Crown, Glasgow." Teleph. No. 691–2, Charing Cross.)

Steven & Struthers, steam fittings, Anderston Brass Foundry, Glasgow. (Telegrams: "Bronze, Glasgow." Nat. Telephone Nos.: 133, Argyle; Corp., 1775.)

Stevens, O. W., district manager National Telephone Co., Ltd., Telephone-bldgs., Market-pl., Norwich. (Telegs.: "National Telephone, Norwich." Nat. Teleph. No. 201.)

Stevens, Theodore, E.M., A.M.I.C.E., A.M.I.E.E., electric traction engineer, 26, Montalt-rd., Woodford Green.

Stevens, W. A., A.I.E.E., 10, Ashford-rd., Maidstone.

Stevens & Barker, electrical contractors, St. Peter-st., Maidstone.

Stevens, F. J., & Co., lightning conductor manufacturers, 348, St. Leonard's-road, Bromley, London, E.

Stevens, Jas., & Son, makers of lenses for ships' lamps & all kinds of electrical glass supplies, Victoria Glass Works, Dartmouth-st., Birmingham. (Telegrams: "Lens, Birmingham." Telephone No. 455.)

Stevens Motor Manufacturing Co., combined petrol lighting sets, Wolverhampton.

Stevens, W. A., Ltd., electrical engineers, St. Peter-st., Maidstone. (Teleph. No. 62.)

Stevenson, A. D., M.I.E.E., Talbot & Stevenson, 26, Victoria-st., London, S.W.

Stevenson, A. F., A.I.E.E., St. Helens Cable & Rubber Co., Ltd., Warrington.

Stevenson, Chas. A., B.SC., M.I.C.E., A.I.E.E., F.R.S.E., electrical engineer, 84, George-st., Edinburgh.

Stevenson, C. Maxwell, electrical engineer & branch manager for the Brush Electrical Engineering Co., 153, Corporation-st., Birmingham.

Stevenson, Ed. Alf., electrician, Telegraph Construction & Maintenance Co., Ltd., Enderby's Wharf, East Greenwich.

Stevenson, Geo., A.M.I.E.E., electrical engineer, British Thomson-Houston Co., 91, Wellington-st., Glasgow.

Stevenson, H., general manager, Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C.

Stevenson, J., electrician, 90, Garfield-rd., Radford, Notts.

Stevenson, Jno., electrical engineer & contractor, Middlesbrough (Telegrams: "Iron, Middlesbrough." Telephone No. 199); & 11, Queen-st., Newcastle-on-Tyne. (Telegrams: "Unscreened, Newcastle-on-Tyne." Telephone No. 1819.)

Stevenson, J. Ross, A.M.I.E.E., electrician, 7A, Young-st., Edinburgh.

Stevenson, Percy Ross, A.I.E.E., 17, India-st., Glasgow.

Stevenson, W., M.I.E.E., telegraph superintendent & electrical engineer, Caledonian Railway, Glasgow. (Telephone No. 808, Royal.)

Stevenson & Co., Ltd., engineers & boiler makers, Canal Foundry, Preston, Lancs. (Telegrams: "Stevenson, Preston." Telephone No. 57.)

Stevenson, D. & C., lighthouse engineers, 84, George-st., Edinburgh.

Stevenson, J. Ross, & Co, electricians, 7A, Young-st., Edinburgh. (Telegs.: "Pendant, Edinburgh." Teleph. No. 74 X.)

Stevenson, McGuffie & Milne, consulting engineers, Caledonian-chbrs., 87, Union-st., Glasgow. (Teleph. Nos.: 1178, Corp.; & 1278, Royal.)

Stevenson & Parry, engineers, 16, South Castle-st., Liverpool.

Stewart, A., Wormit, Fife. Director Tayside Electric & Gas Light Co., Ltd.

Stewart, Andrew, A.M.I.E.E., manager Electric Tool Department, Consolidated Pneumatic Tool Co., Ltd., Palace-chbrs., Bridge-st., Westminster, London, S.W.

Stewart, A. T., A.I.E.E., c/o Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C.

Stewart, A. W., M.I.E.E., consulting engineer, 55, West Regent-st., Glasgow.

Stewart, B. G., A.M.I.E.E., electrical engineer, 121, Clarendon-rd., Putney, London, S.W.

Stewart, Chas., B.SC., A.M.I.E.E., c/o Johnson & Phillips, Ltd., Charlton, S.O., Kent.

Stewart, C. C., elec. inspector, British Engine, Boiler & Elec. Insce. Co., Ltd., 12, King-st., Manchester.

Stewart, C. L. E., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Rochdale. (Telephone No. 179A.)

Stewart, D., A.I.E.E., Blantyre-park, High Blantyre, N.B.

Stewart, D., superintending engineer, Postal Telegraphs, Glasgow.

Stewart, Horace A., B.SC., A.I.E.E., "Sunnyside," 99, York-rd., Southend-on-Sea.

Stewart, J., electrical engineer, Murano-pl., Leith Walk, Edinburgh.

Stewart, James, district manager, National Telephone Co., Londonderry.

Stewart, J. A., electrical engineer, Boyle, Ireland.

Stewart, J. D. W., district manager Nat. Telephone Co., Ltd., Telephone House, Rose-st., Edinburgh.

Stewart, J. E. M., A.M.I.E.E., superintendent, Corporation Electric Lighting Department, Millstone-lane, Leicester. (Telephone No. 787.)

Stewart, J. Graham, 41, Oswald-st., Glasgow. Chairman British Electric Plant Co., Alloa.

Stewart, Percy H., A.M.I.E.E., A. Guinness, Son & Co., St. James' Gate Brewery, Dublin.

Stewart, R. W., D.SC., principal Hartley College, Southampton.

Stewart, T. B., electrical & mining engineer (managing director Mid-Wales Mines, Ltd.), Wenlockhead, Abington, N.B. (Telegrams: "Silver, Wenlockhead.")

Stewart, W. J., electrical & mechanical engineer, 180, Shirland-rd., Paddington, London, W.

Stewart, W. Maxwell, A.M.I.E.E., consulting electrical engineer, Castle-chbrs., 55, West Regent-st., Glasgow. (Telephone No. 286.)

Stewart, W. N., electrical engineer, Electrocars, Ltd., Alderman's House, Alderman's Walk, E.C.

Stewart, Wm. Thomas, A.M.I.E.E., 25, Lonsdale-st., Carlisle.

Stewart & Bucher, electrical engineers, 9, North St. Andrew-st., Edinburgh (Teleph. No. 72); & 187, Great Junction-st., Leith.

Stewart, C. & A., brass founders & pressure gauge makers, 14, Victoria-st., Glasgow.

Stewart, D., & Co. (1902), Ltd., makers of gas engines, slow speed engines & condensing plants for power stations, London-rd. Iron Works, Glasgow. (Telegrams: "Stewart, Glasgow." Telephone Nos.: 2825, Bridgeton, Nat.; & Y 271, Corp.)

Stewart, T., & Sons, Ltd., electric bell & telephone fitters, Cross, Kilmarnock. (Telegrams: "Stewart.")

Stewart, W. J., & Co., electric lighting contractors, 180, Shirland-rd., Paddington, London, W.

Stewart, W. W., & Co., lightning conductor manufacturers & erectors, 365, Scotland-street, Glasgow.

Stewarts & Lloyds, Ltd., manufacturers of wrought iron & steel tubes, &c., Airdrie, Coatbridge, Mossend; 41, Oswald-st., Glasgow; Sheepcote-st., Birmingham; 50, Cannon-st., London, E.C.; Halesowen; 63, Paradise-st., Liverpool; 42, Deansgate, Manchester; & 132, Bute-st., Cardiff. (Telegs.: "Lapweld, Glasgow;" "Lloyds, Birmingham;" "Lapweld, London;" "Tubes, Liverpool;" "Tubes, Manchester;" "Tubes, Cardiff." Teleph. Nos.: 527, Bank, London; 901, Liverpool; 771, Manchester; 277, Cardiff; 1945, Argyle, & 591, Corp., Glasgow; & 5030, Birmingham.)

STIFF, JAMES, & SONS, vitrified electrical stoneware for telegraph & telephone work, electric light & electric traction, also porous ware, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." A.B.C. Code, 5th ed. Telephone No. 627, Hop.) *See advt., page* 10.

Still, A., A.M.I.C.E., M.I.E.E., electrical engineer, Victoria-rd., Eccles, Lancs.

Still, Percy, M.I.E.E., A.M.I.C.E., chief engineer, Chelsea Electricity Supply Co., 19, Cadogan Gardens, London, S.W. (Telegrams: "Still, c/o Economy, London." Telephone No. 363, Kensington.)

Still, Wm. A., A.I.E.E., 104, West Campbell-st., Glasgow.

Still, W. A., & Co., electrical engineers & contractors, 104, West Campbell-st., Glasgow. (Teleph. No. 1375, Argyle.)

Still, W. M., & Co., metal spinners, 24, Charles-st., Hatton Garden, London, E.C. (Telegrams: "Metal Spinner, London." Telephone No. 718, Holborn.)

Stillman & Stonham, electrical engineers, 31, Mount Ephraim, Tunbridge Wells. (Teleph. No. 351.)

Stilwell, J. F., J.P., Moorcroft, Hillingdon, Middlesex. Director Uxbridge & District Elec. Supply Co., Ltd.

Stilwell, W., electrical engineer, 21, Sillwood-st., Brighton.

Stirling, Charles, A.M.I.E.E., c/o Cardwell & Boorman, Boswell-ct., Devonshire-st., London, W.C.

Stirling, Jas., manager, Portsmouth & Isle of Wight Nat. Telephone Co., Ltd., Pearl-bldgs., Portsmouth.

Stirling Boiler Co., Ltd., The, makers of the "Stirling" water tube boiler. Head office: Motherwell, Scotland; 25, Victoria-st., Westminster, London, S.W. (Teleph. No. 822, Westminster); 17, St. Ann's-sq., Manchester; 10, East Parade, Leeds; 7 & 8, Post Office-chbrs., Newcastle; & 18, Queen-sq., Cardiff. (Telegs.: "Stirlinico," Motherwell, London, Manchester, Leeds, Newcastle & Cardiff.)

Stirling Corporation Electricity Works, Stirling. (Telegs.: "Burgh Electrical Engineer, Stirling." Teleph. No. 75.) Engineer, A. C. Hanson.

Stirral, W. B., Westmarch, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

Stitt, J. Carlton, J.P., Kirkside, Croxteth Gate, Liverpool. Director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of West Australia, Ltd.

Stiven, David R., consulting & inspecting engineer, 57, Meadowside, Dundee. (Telegrams: "Stiven, Engineer, Dundee.")

Stiven, E. B., engineer, Police Commissioners' Electricity Works, Rothesay.

Stock, Sons & Taylors, Ltd., manufacturers of electric light fittings, Gas-st. & Berkeley-st., Birmingham.

Stockens, E. E., district manager National Telephone Co., Ltd., 26, Market-st., Aberdeen, N.B. (Teleph. No. 80.)

Stockport Corporation. Borough & tramways electrical engineer, R. Lomax.

Stockport Municipal Technical School, Stockport. *See* SCHOOLS.

Stocks & Co., engineers & exporters, 37, Deansgate Arcade, Manchester. (Telegrams: "Governor, Manchester." Telephone No. 2251.)

Stockton-on-Tees Corporation Electric Lighting. Engineer, J. J. Smith. (Telephone No. 190.)

Stockwell, E. J., A.I.E.E., Fern Valley, 86, Genesta-rd., Plumstead, London, S.E.

Stockwell, P. H., first-class technical officer, General Post Office, London, E.C.

Stoddart, J. G., wiring contractor, Green-st., Sunderland.

Stoke Newington Borough Council Electricity Department, Electricity Station, Edwards-lane, Stoke Newington, London, N. (Teleph. No. 2012, Dalston.) Electrician, S. Hann.

Stoke-on-Trent Corporation Electricity Works. (Teleph. No. 412.) Engineer, P. J. S. Tiddeman, M.I.E.E.

Stokes, H., A.M.I.E.E., electrical engineer, 76, Ellerby-rd., Fulham Park, London, S.W.
Stokes, Sydney, electrical engineer, 94, Sandford Grove-rd., Sheffield.
Stokes, W. F., electric light engineer, 51, Picton-st., Exmouth.
Stokes, A., & Co., machine screws, studs & small turned parts for telegraph engineers, &c., brass, iron & copper screw works, Green-st., Deritend, Birmingham. (Telephone No. 856.)
Stolzenberg File Co., 50, Bishopsgate-st. Without, London, E.C.
Stone, C., engineer, Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C. (Teleph. No. 5542, Avenue.)
Stone, G. E. M., A.M.I.E.E., Cowley, via Chesterfield.
Stone, J., art metal worker, &c., 42, St. George's-rd., Southwark, London, S.E. (Teleph. No. 1420, Hop.)
Stone, J. G. B., 9, Draper's-gdns., E.C. Director Indian Electric Supply & Traction Co., Ltd.; director Madras Electric Supply Corp., Ltd.; director Chelmsford Electric Lighting Co., Ltd.; director Calcutta Tramways Co., Ltd.; director Totnes Electricity Co., Ltd.
Stone, V., Montrose. Director North of Scotland Electric Light & Power Co., Ltd.
Stone, A. F., & Son, manufacturing electricians, 130, Hanover-st., Sheffield. (Telephone No. 2358.)
Stone, J., & Co., Ltd., electrical engineers, Deptford, London, S.E. (Telegrams: "Tostones, London." Telephone No. 2, Deptford.)
Stone, J. B., & Co., machine manufacturers & electrical agents, sole agents Fox Universal Trimmer, 135, Finsbury Pavement, E.C. (Telegrams: "Sightseer, London." Telephone No. 1848, Central.)
Stone, T. J., & Co., dealers in electrical supplies, 20, High-st., Marylebone, W.; & 46 & 48, James-st., Oxford-st., London, W.
Stoneham, A. H. P., chairman Kalgoorlie Electric Tramways, Ltd.; director Perth Electric Tramways, Ltd., 30, 31, St. Swithin's-lane, E.C.
Stones, Wm. Grimshaw, A.M.I.E.E., 10, Richmond-ter., Blackburn, Lancs.
Stoney, Gerald, B.E., M.I.E.E., M.I.C.E., engineer, Oakley, Heaton-rd., Newcastle-on-Tyne.
Stonier, C. J., superintendent, Consumers' & Public Lighting Department, Corporation Electricity Works, Dudhope Crescent-rd., Dundee.
Stonier, F. & G. W., & Co., wire drawers & manufacturers & weavers in brass & copper, Harris-st., Strangeways, Manchester.
Storer, David, & Sons (Wilkinson, Heywood & Clark, Ltd., proprietors), oil manufacturers & refiners, Storer's Wharf, Cubitt Town, London, E. (Telegs.: "Storson, London." Teleph. No. 758, Eastern.)
Storey, P., M.I.M.E., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Torquay. (Telephone No. 192.)
Storey, T. W., A.I.E.E., engineer & manager, Alliance Electrical Co., Ltd., 16, Westmoreland-st., Dublin. (Telegs.: "Continuity, Dublin." Teleph. No. 1426.)
Storey Institute & Municipal Technical School, Lancaster. Principal, W. French, M.A., F.I.C.
Storey, I., & Sons, anti-friction metal merchants, Cornbrook, Manchester.
Storier, D., electrician, Town Council Electricity Works, Broughty Ferry, Forfarshire.
Stormont, Jas., A.I.E.E., Electric Power Station, Clydebank Dock, N.B.
Storrie, J. H., district manager National Telephone Co., 211, High-st., Kirkcaldy, N.B. (Tel. No. 64.)
Story, W. H., A.M.I.E.E., 83, Alexandra-rd., South Hampstead, London, N.W.
Stothert, J. K., A.I.E.E., 29, St. Vincent-pl., Glasgow.
Stothert & Pitt, Ltd., electric crane manufacturers, Bath.
Stott, J., resident electrical engineer, Corporation Electricity Works, Heywood.
Stott, J. E., electrical engineer, 1, Claremont-rd., Sparkbrook, Birmingham.
Stott, J., & Co., electric fan makers, Vernon Works, Oldham.
Stott, James, & Co., electric fan manufacturers, 158, Queen Victoria-st., London, E.C. (Telegrams: "Gas Governor, London." Telephone No. 11, Bank.)
Stott & Sons, consulting electrical & mechanical engineers, 60, Hawarth's-bldgs., Cross-st., Manchester.
Stottner, J., M.I.E.E., general manager of the Electrical Co., Ltd., 121 & 125, Charing Cross-rd., London, W.C. (Telegrams: "Galvanoscope, London." Telephone Nos. 4311, 4312, 4313 & 4314, Gerrard.)
Stout, Robert, A.I.E.E., postmaster, Lerwick, Shetland Isles.
Stowmarket Electricity Works, Stowmarket, Suffolk. (Telegrams: "Napier Prentice, Stowmarket.") Suffolk Electricity Supply Co., Ltd., proprietors. Engineer, N. Prentice.
Strachan, Turner & Co., agents for electricians' tools, 37, Lime-st., London, E.C. (Telegrams: "Notador, London.")
Strafford, C., A.M.I.E.E., c/o P. & O. Steam Navigation Co., Ltd., 122, Leadenhall-st., London, E.C.
Strakosch, H., director Rand Central Electric Works, Ltd., 120, Bishopsgate-st. Within, E.C.
Stranack, R. S., director Oulton Broad Electricity Co., Ltd., Oulton Broad, Suffolk.
Strandling & Barnes, electrical engineers, 39, Southwell-st., Kingsdown, Bristol.
Strang, D. S., A.M.I.E.E., W. T. Henley's Telegraph Works Co., Blomfield-st., London Wall, E.C.
Strang, R., installation contractor, Montpellier Walk, Cheltenham.
Strange, J., A.I.E.E., Glenville, London-rd., Tonbridge.
Strange & Sons, Ltd., electric light & power contractors, 19, London-rd., Tonbridge. (Telegs.: "Strange, Tonbridge." Teleph. No. 31, Nat.)

Stratford-Andrews, T. W., A.I.E.E., 18, Old Broad-st., London, E.C. Managing director Indo-European Telegraph Co., Ltd.; director London Platino-Brazilian Telegraph Co., Ltd.; director Black Sea Telegraph Co., Ltd.

Stratford-on-Avon Electricity Co., Ltd., 42, Greenhill-st., Stratford-on-Avon. Registered Nov. 16, 1905. Nominal capital: £15,000 in £1 shares. Issued: £7000. Directors: Geo. M. Bird, Esq. (chairman); O. F. Freeman, Esq.; S. A. Flower, Esq. Engineer, C. D. Falcke.

Strathclyde Electricity Supply Co., Ltd., 53, Bothwell-st., Glasgow. Registered June 22, 1905. Nominal capital: £1000 in £1 shares.

Strathcona & Mount Royal, Rt. Hon. Lord, G.C.M.G., 53, Cadogan-sq., S.W. Director Commercial Cable Co.

Straube, A. A. L., M.I.E.E., electrical engineer, 12, Queen Anne's-gate, London, S.W.

Straubenzee, H. I. van, A.I.E.E., 13, Peacock's-bldgs., Park-row, Leeds.

STRAUS, G., & CO., LTD., manufacturers of lighting cables, electric bells, indicators, fuse boards, switches, lamp-holders, incandescent lamps, &c., 211, Upper Thames-st., London, E.C. (Telegrams: "Merriness, London." Telephone No. 5645, Bank.)

Streatfeild, Roland H., M.I.E.E., electrical engineer, 4, G. Montagu Mansions, Portman-sq., London, W.

Street, A., assistant electrical engineer, Batley.

Street, H. F., borough electrical engineer & general manager, Corporation Tramways, Southampton.

Street & Sons, electric lighting contractors, Christchurch-rd., Boscombe; & Castle-st., Christchurch.

Street Lighting Co., Ltd., mechanical & electrical engineers, Liverpool.

Street Railway Journal, The (weekly), Hastings House, Norfolk-st., Strand, London, W.C.

Stretch, Chas. K., A.I.E.E., Bevan's Cement Works, Northfleet, Kent.

Stretford Urban District Council Electricity Works, Stretford, Lancs. (Teleph. No. 56, Docks, Manchester.) Engineer, R. Rowland, A.M.I.E.E.

Stride, A. L., Bush Hall, Hatfield, Herts. Director Metropolitan District Railway.

Strode, W. W., A.M.I.E.E. (*see* Strode & Co.), 48, Osnaburgh-st., London, S.W.

Strode & Co., electric light engineers, 48, Osnaburgh-street, Regent's-park, London, N.W. (Telephone No. 3807, Gerrard.) Show-rooms: 188, Piccadilly, W. (Telephone No. 3958, Gerrard); & 67, St. Paul's Churchyard, E.C. (Telephone No. 953, Holborn.) (Telegrams: "Strodes, London.")

Stroh, A., M.I.E.E., electrician, 98, Haverstock Hill, London, N.W.

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Stroud, Prof. H., M.A., D.SC., M.I.E.E., professor of physics, Armstrong College, Newcastle-on-Tyne.

Stroud, Prof. W., M.A., D.SC., professor of physics, University, Leeds.

Strudwick, C., electrical engineer & contractor, Sidmouth, Devon.

Strutt, Denner J., A.I.E.E., 78, Carlton Hill, London, N.W.

Strutt, The Hon. R. J., Terling Place, Witham, Essex. Director Manchester & Liverpool Electric Railway Syndicate, Ltd.

Stuart, A. M., Lieut.-Col. R.E., M.I.E.E., Royal Arsenal, Woolwich; & 30, Charlton-rd., Blackheath, S.E.

Stuart, C. E. Gordon, secretary Zurich Incandescence Lamp Co., 47, Victoria-st., London, S.W.

Stuart, C. M'D., Ballyhibistock, Dervock. Director Giants' Causeway, Portrush & Bush Valley Railway & Tramway Co.

Stuart, Dudley, A.I.E.E., Engineer-in-Chief's Office, The National Telephone Co., Ltd., Telephone House, Victoria Embankment, London. (Telephone No. 12, Head Office.)

Stuart, J. N., Broomhill, Harrow. Chairman Harrow Electric Light & Power Co., Ltd.

Stuart, K. R., manager Electrical Co., Ltd., 17, York-st., Sheffield. (Telegrams: "Circuit, Sheffield." Telephone No. 3435.)

Stuart & Moore, electrical engineers, Victoria Works, Ealing, W. (Telegrams: "Burning, London." Telephone No. 1052, Ealing.)

Stuart-Turner, —, electrical engineer, Shiplake, Henley-on-Thames.

Stuart-Wortley, Rt. Hon. C. B., K.C., M.P., 7, Cheyne Walk, Chelsea, S.W. Chairman City & South London Railway Co., Ltd.

Stuart's Granolithic Stone Paving Co., Ltd., permanent way for electric wires, 6, Torphichen-pl., Edinburgh (Telegs.: "Granolith, Edinburgh"); & Church-row, Limehouse, London, E. (Tel. No. 282, East.)

Stubbs, A. J., M.I.E.E., superintending engineer, Post Office Telegraphs, Metropolitan (North) District, Mount Pleasant, London, E.C. (Teleph. No. 1074, Central.)

Stubbs, R. F., electrical engineer, London County Council's Electricity Department, 42, Cranbourn-st., Leicester-sq., W.C. (Telegrams: "Electrical, c/o Witan, London." Telephone No. 5378, Gerrard.)

Sturge, W. H., electrical engineer, c/o Chas. Joyner & Co., Icknield-sq., Birmingham.

Sturtevant & Co., Ltd., electro, gold, silver & nickel platers, St. John's Works, 90 & 92, Clerkenwell-rd, London, E.C. Removing March 31, 1907, to 105–111, Euston-st., N.W. *See advt., page* 29.

STURTEVANT ENGINEERING CO., LTD., electrical & mechanical engineers, 147, Queen Victoria-st., London, E.C. (Telegs.: "Sturtevant, London." Teleph. No. 7121, Central. Lieber's Code.)

Styles, Jas., & Son, electrical engineers & contractors, 2, Market-st., London, S.W. (Telegs.: "Exorno, London." Teleph. No. 3941, Gerrard.)

Submarine Cables Trust. Offices: Electra House, Finsbury Pavement, London, E.C. Capital: £312,600 in 3126 certificates of £100 each. Sidney Collett, secretary. Trustees: K. L. M. Anderson, Esq.; Sir A. J. Leppoc Cappel, K.C.I.E.; Sir J. Denison-Pender, K.C.M.G.; The Most Hon. The Marquis of Tweeddale, K.T.

Suckling-Baron, A. I., M.I.E.E., General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C.

Sudron, T., & Co., Ltd., makers of telegraph poles & masts, Imperial Boiler Works, Stockton-on-Tees. (Telephone No. 63.)

Suenson, Commodore E., D.R.N., chairman & managing director Great Northern Telegraph Co., Ltd., of Copenhagen, 3, St. Helen's-pl., London, E.C.

Suffield, Lord, K.C.B., 4, Manchester-sq., London, W. Chairman Westminster Electric Supply Corp., Ltd.

Suffolk Electricity Supply Co., Ltd. (engineer & secretary, Napier Prentice), Stowmarket, Suffolk (Telegrams: "Napier Prentice, Stowmarket"); Felixstowe, Suffolk; & Diss, Norfolk. Registered Aug. 26, 1898. Nominal capital: £10,000 in 980 ordinary shares of £10 each & 200 founders' shares of £1 each. Issued: 799 ordinary & all the founders' shares. £10 per share has been called up on 550 ordinary & £1 per share on 17 founders' shares, resulting in the receipt of £5517. £2673 is considered as paid on 249 ordinary & 183 founders'. Mortgages & charges: £3875. Directors: P. C. N. Peddar, Esq. (chairman); Wm. Turner, Esq.; N. Prentice, Esq. (electrical engineer & secretary); F. Taylor, Esq.; C. G. Havell, Esq., M.D. Dividends: 1902, 3 per cent.; 1903, 4 per cent.; 1904 & 1905, 5 per cent.

Sugden, Arnold, A.I.E.E., electrical engineer, Cowans Ltd., Springfield-lane, Salford, Manchester.

Sugden, James, A.M.I.E.E., "Shibden," Fox Hollies-rd., Acocks Green, nr. Birmingham.

Sugg, W., & Co., Ltd., electric apparatus manufacturers, Vincent Works, 67, Regency-st., Westminster, London, S.W. (Telegrams: "Sugg, London." Telephone No. 169, Westminster.)

Sullivan, Herbert W., M.I.E.E., telegraph engineer & electrician, 19, Great Winchester-st., London, E.C. (Telephone No. 2637, Central.) Works: Liverpool House, Middlesex-st., London, E.C. (Telegrams: "Deadbeat, London." Telephone No. 2637A, Central. A.B.C. Code, 5th edition.)

Sullivan, P. J., chief superintendent, Post Office Telegraph Department, Paradise-st., Birmingham.

Sullivan & Co., Ltd., chromic acid, British Alkali Works, Widnes. (Telegrams: "Ubique, Widnes.")

Sully, Herbert Thomas, M.I.E.E., consulting electrical engineer, Scottish Widows'-bldgs., Baldwin-st., Bristol. (Teleph. No. 2510 Y.)

Sulman & Picard, chemists & assayers, 44, London Wall, London, E.C. (Telegrams: "Blowpipe, London." Telephone No. 1915, London Wall.)

Summer, G., lubricator maker, Rhodes Bank Lubricator Works, Oldham.

Summerhill, E. J., A.M.I.E.E., c/o British Westinghouse Co., Collingwood-bldgs., Collingwood-st., Newcastle.

Summerlee Iron Co., 112, Fenchurch-st., London, E.C.

Summerscales, W., M.I.E.E., electrical engineer, managing director Morley Electrical Engineering Co., Ltd., Troy Works, Stanningley, nr. Leeds.

Summerside, J. W., engineer, Northern Counties Electricity Supply Co., Ltd., Alnwick, Northumberland.

Sumner, E. H., electrical engineer, 324, Romford-rd., Forest Gate, London, E.

Sumpner, Dr. W. E., D.SC., M.I.E.E., principal Municipal Technical Schools, Birmingham.

SUN ELECTRICAL CO., LTD., engineers & manufacturers, 118 & 120, Charing Cross-rd., W.C. (Telegrams: "Secabilis, London." Tel. Nos. 2292 & 2289, Gerrard.) *See advt.*, FITTINGS MAKERS—ELECTRIC.

Sun Fan Co., Ltd., The, Bradford. *In voluntary liquidation.* Liquidator, J. Butterfield.

Sun Insurance Office, 63, Threadneedle-st., London, E.C. (Telegs.: "Sun Fire, London." Teleph. No. 9346, Central.)

Sunbeam Lamp Co., Ltd., makers & suppliers of incandescent electric lamps, Gateshead-on-Tyne (Telegs.: "Sunbeam, Gateshead." Teleph. No. 20, Gateshead); & 102, Charing Cross-rd., London, W. (Telegs.: "Outshine, London." Teleph. Nos.: Nat. 2855, Gerrard; & P.O. 9339, Central.) Newcastle depôt: 19, Northumberland-st. (Teleph. No. 2224.) Birmingham depôt: 18, Burlington-chbrs., New-st. (Telegs.: "Outshine, Birmingham." Teleph. No. 226 Y.) Registered Dec. 13, 1887. Nominal capital: £25,000 in £10 shares. 1765 shares have been taken up & the full amount has been paid. There are also £10,000 debentures, £8500 issued. Directors: Thos. Bowden, Esq., J.P. (chairman); Dr. J. T. Merz; H. R. Chapman, Esq.; J. W. Edmundson, Esq. (managing director & electrical engineer). Secretary, T. J. Grainger, A.I.E.E.

Sunderland, John, gear wheel maker, Fleece Mills, Keighley.

Sunderland, Leo, A.M.I.E.E., 39, Victoria-st., S.W. (Telephone No. 41, Westminster.)

Sunderland Bros., electrical engineers, Halifax Old-rd., Huddersfield.

Sunderland Corporation Electric Tramways. Consulting engineer, J. F. C. Snell, M.I.C.E., M.I.E.E., M.I.MECH.E., F.G.S. (Telephone No. 949.) General manager & resident electrical engineer, A. R. Dayson, M.I.E.E. (Telephone No. 948.)

Sunderland Corporation Electricity Supply Works, Sunderland. A. S. Blackman, M.I.E.E., chief electrical engineer; E. White, A.M.I.E.E., station superintendent engineer; J. F. Moore, A.M.I.M.E., distributing engineer. (Teleph. Nos.: 354, Dunning-st. Station; 937, Hylton-rd. Station; 949, Central Office, Town Hall; 839, Distributing engineer; 948, General manager.)

Sunderland District Electric Tramways, Ltd. Offices: 13, St. Helen's-pl., London, E.C. Registered Nov. 5, 1903. Nominal capital: £270,000 in 170,000 £1 ordinary shares & 100,000 6 per cent. cumulative preference shares of £1 each. Issued: 75,000 ordinary & 79,500 preference shares. Debentures issued: £140,900 in 5 per cent. first debentures of £100 each. Trust deed, dated Dec. 8, 1903, to secure £160,000 debentures (created Nov. 25, 1903), has been registered. Two charges, dated Dec. 29, 1905, to secure £2500 in each case, have been registered. Directors: Sir R. Drummond Moncreiffe, Bart.; S. A. Chambers, Esq.; H. R. Hogg, Esq.; W. Sutton, Esq., J.P.; Hon. Reg. Parker. Engineers, D. Balfour & Son; Handcock & Dykes; Harper Bros. & Co. Secretary, E. H. Bullock.

Sunderland Forge & Engineering Co., Ltd., The, electrical & mechanical engineers & forgemasters, Sunderland. (Telegrams: "Marr, Sunderland." Telephone Nos.: Nat. 268; G.P.O. 42.)

Sunderland, J., & Co., electrical engineers & contractors, 183, Gibbett-st., Halifax. (Telegs.: "Sunderland, Halifax." Teleph. No. 463.)

Sunderland, Leo, & Co., installation contractors, 39, Victoria-st., London, S.W.

Sunderland Municipal Technical School, Sunderland. *See* SCHOOLS, CLASSIFIED SECTION.

Suppliers Construction Co., Ltd., 60, St. Martin's-lane, London, W.C. (Telephone Nos. 6826 & 6827, Gerrard.) Registered May 29, 1900. Nominal capital: £350,000 in £5 ordinary shares. Issued: £350,000 ordinary shares, fully paid. A trust deed, dated Dec. 13, 1904, to secure £300,000 debenture stock, authorized by resolution of Dec. 31, 1902, has been registered. Directors: W. F. Fladgate, Esq. (chairman); G. H. Brougham Glasier, Esq.; R. Chadwick, Esq.; J. M. Gatti, Esq. Chief engineer, H. W. Kingston; secretary, E. W. Seale, F.C.I.S.

Supplies, Ltd., electric light contractors, 9, Parr-st., Liverpool. (Telegs.: "Unopposed, Liverpool." Teleph. No. 1748, Royal.)

Surbiton Urban District Council Electricity Works, Surbiton. (Telephone No. 265, P.O., Kingston.) H. M. Gill, resident engineer & manager.

Surtees, E., wiring contractor, 64, King-st., South Shields.

Sutcliffe, G. G., A.R.C.Sc.I., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Sutcliffe, Wm., A.M.I.E.E., outside superintendent, Corporation Electricity Works, Paisley.

Sutcliffe Bros., sole makers of the "Telluric" Cement for covering Boilers, Belting Cream, Leather, Hair & Cotton Belts, Laces, Belt Fasteners, Lubricants, Packings, Hose, Gauge Glasses, &c., Grosvenor Works, Godley, nr. Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Tel. No. 70, Hyde.)

Sutcliffe, F., & Co., dynamo & motor makers, 30, Drake-st., Rochdale.

Sutcliffe, John W., & Co., Ltd., electrical accessories, 4, Arthur-st., New Oxford-st., London, W.C.

Sutcliffe & Sutcliffe, belting manufacturers, Magnet Works, Manchester. (Telegrams: "Integrity, Manchester." Telephone Nos.: 9y, Manchester; & 156, Ashton.)

Suter, Frank, A.M.I.E.E., electrical engineer, 66, Berners-st., London, W.

Suter, T. W., electrician & manufacturers' agent, 107, The Parade, Bruce Grove, Tottenham, London, N.

Suter, Frank, & Co., Ltd., electrical engineers & contractors, 66, Berners-st., Oxford-st., London, W. (Telegrams: "Moonlight, London." Telephone No. 5203, Gerrard.) Works: John-st., Hanway-st., W. Registered May 2, 1898. Capital: £20,000 in 6500 preference & 13,500 ordinary £1 shares. 2050 preference & 13,404 ordinary shares have been taken up & the full amount has been paid. Debentures, £6500. Directors: Frank Suter, Esq.; Thos. White, Esq.; Alf. Jaray, Esq.; Thos. H. Cramp, Esq. (secretary). Electrical engineer, S. J. Suter.

Sutherland, D. G., electrical engineer (Mitchell, Graham & Son), 46, Buccleuch-st., Edinburgh. (Telegs.: "Pulley, Edinburgh." Teleph. No. 817, Central.)

Sutherland Technical Institute, Longton, Staffs. *See* SCHOOLS.

Sutton, George, M.I.E.E., managing director W. T. Henley's Telegraph Works Co., Ltd., Blomfield-st., London Wall, London, E.C. (Telephone Nos.: 1445 & 1464, London Wall; & 3596, Central.)

Sutton, W., J.P., Eskbank, Newcastle-on-Tyne. Director Sunderland District Electric Tramways, Ltd.

Sutton & Ash, iron & steel merchants, Snow-hill, Monument-lane, & Rotton Park-st., Birmingham.

Sutton Coldfield Corporation Electricity Works, Sutton Coldfield. (Teleph. No. 11, Sutton.) Engineer, Trevor Duesbury, A.M.I.E.E.

Sutton Electricity Works, Sutton, Surrey. (Telegs.: "Electricity Works, Sutton, Surrey." Teleph. No. 14, Sutton.) South Metropolitan Electric Tramways & Lighting Co., Ltd., proprietors. General manager, G. Ratcliffe Hulme; engineer, H. T. Bates.

Sutton & Howth Electric Tramway (Gt. Northern Railway Co. of Ireland), Sutton, co. Dublin. Electrical engineer, A. W. Whieldon, M.I.E.E.

Swain, John, & Son, Ltd., general engravers, 163A, Strand, London, W.C. (Telephone No. 1909A, Central); & 58, Farringdon-st., E.C. (Telephone No. 1909, Central.)

Swallow, M. G. S., A.I.E.E., manager Electrical Power Department, Richardsons, Westgarth & Co., Ltd., Engine Works, Hartlepool.

Swan, J. K., station engineer, Buncrana Electric Supply Co., Buncrana, nr. Londonderry.

Swan, K. O., A.I.E.E., 81, Rothbury-ter., Heaton-on-Tyne.

Swan, R. J. J., A.M.I.E.E., resident engineer & manager, Electricity Works, Chesham. (P.O. Teleph. No. 44, Chesham.)

Swan, Sir Joseph W., M.A., D.SC., F.R.S., Hon. M.I.E.E., electrical engineer, 58, Holland-park, London, W. (Teleph. No. 583, Kensington.) Director Edison & Swan U. E. L. Co., Ltd.; director Altrincham Electric Supply, Ltd.; director Notting Hill Electric Lighting Co., Ltd.

Swanage Electricity Supply Co., Ltd., Moorgate-ct., London, E.C. Registered June 19, 1906. Nominal capital: £10,000 in £10 shares. Secretary, H. B. Renwick.

Swansea Corporation Electricity Supply Department, Swansea. (Telegs.: "Prusmann, Swansea." Corp. Teleph. No. 399.) C. A. L. Prusmann, M.I.E.E., A.M.I.M.E., engineer.

Swansea Improvements & Tramways Co., Swansea. (Telegrams: "Tramway, Swansea." Telephone Nos. 106 & 505, Corp.) Directors: C. G. Tegetmeier, Esq.; G. R. Hulme, Esq.; W. G. Bond, Esq. Electrical engineer, A. Johnston.

Swansea Safety Fuse Co., Ltd., Swansea; & 220, Winchester House, London, E.C. (Telegs.: "Allegant, London." Teleph. No. 2810, London Wall.)

Swansea Technical College, Swansea. *See* SCHOOLS, CLASSIFIED SECTION.

Swanser & Lloyd, designers & makers of electroliers, 52, Great Queen-st., London, W.C. (Telephone No. 1964, Central.)

Sweet, Andrew, A.I.E.E., 102, Hampstead-rd., & 100–102 & 41, George-st., London, N.W. (Telephone No. 2002, Mayfair.)

Sweetland, A., & Son, electrical engineers, 24, Powis-ter., & 145, Tavistock-cres., London, W. (Teleph. No. 4046, Paddington.)

Swift, G. E., mains superintendent, Corporation, Plymouth.

Swift, H. Bevan, A.I.E.E., 71, Amesbury-ave., Streatham Hill, London, S.W.

Swinburne, James, M.I.C.E., M.I.E.E., consulting electrical engineer, 82, Victoria-st., S.W. (Telegs.: "Swooper, London." Teleph. No. 292, Westminster.)

Swinburne, Thos. H. M., A.I.E.E., Woodlands Park, Altrincham.

Swinburne, Cooper & Baillie, consulting electrical engineers, 82, Victoria-st., S.W. (Telegrams: "Swooper, London." Telephone No. 292, Westminster.)

Swindell, H. C., electrician, 144, Tower-rd., Aston, Birmingham.

Swindon Corporation Electricity Works & Tramways, Swindon. Engr. & man., *pro tem.*, R. W. Grubb.

Swindon Engineering Co., Devizes-rd., Swindon.

Swindon & North Wilts Technical School, Swindon. G. H. Burkhardt, M.SC., principal.

Swinnerton, G., & Son, lightning conductor manufacturers & erectors, 108, Shirland-rd., Smethwick, Birmingham.

Swinton, A. A. Campbell, M.I.C.E., M.I.E.E., consulting electrical engineer, 66, Victoria-st., Westminster, London, S.W. (Telegrams: "Dunamis, London." Telephone No. 156, Westminster.)

Swinton, Captain G. S. C., director Kent Electric Power Co.

Swire, W., wiring contractor, George-st., St. Helen's.

Switchgear Co., Ltd., electric light & power contractors & switchboard manufacturers, Cornwall-bldgs., Newhall-st., Birmingham. (Telegs.: "Energy, Birmingham." Teleph. No. 2166.)

Swithinbank, J. W., district manager, National Telephone Co., Ltd., Post Office-bldgs., Middlesbrough.

Syer, Ernest, electrical supplies, 45, Hatton Garden, London, E.C. (Telephone No. 7514, Central.)

Syer, Thos. J., & Co., makers of engineers' & electricians' tools, 45, Wilson-st., Finsbury, London, E.C.; & Birmingham. (Telegs.: "Sprayboard, London." Teleph. No. 1095, Central.)

Sykes, Alfred, A.I.E.E., 74, Fitzwilliam-st., Huddersfield.

Sykes, E., A.M.I.E.E., electrical engineer, 7, King Cross-st., Halifax.

Sykes, Geo., A.I.E.E., Electricity Works, Kingston-upon-Hull.

Sykes, Jas. Arthur, A.M.I.E.E., deputy electrical engineer & manager, Heston & Isleworth Urban District Councils, Electricity Works, Hounslow. (Teleph. No. 83, P.O., Richmond.)

Sykes, J. Roberts, M.I.E.E., Chas. Urban Trading Co., Ltd., 48, Rupert-st., London, W. (Telegs.: "Bioscope, London." Teleph. No. 3118, Central.)

Sykes, Robert, A.M.I.E.E., electrical engineer, 3, Camphill-ave., Langside, Glasgow.

Sykes, Henry, Ltd., engineers, 66, Bankside, London, S.E. (Teleph. Nos.: 565, Hop; & 10123, Central.)

Sykes, Joseph, Bros., Ltd., mechanical & electrical engineers, Acre Mills, Lindley, Huddersfield. (Telegrams: "Sykes, Lindley." Telephone No. 79.)

Sykes, J., & Sons, Ltd., engineers, Turnbridge, Huddersfield.

Sykes & Sugden, Ltd., electrical engineers, Spring Place Works, Springwood-st., Huddersfield. (Telegrams: "Light, Huddersfield." Telephone No. 375.)

Sykes, W. R., Interlocking Signal Co., Ltd., the Sykes' electric interlocking & block system for railways, manufacturers of signal repeaters, block instruments, &c., the Lopes' patent level-crossing alarm bell. Works: Voltaire-rd., High-st., Clapham, London, S.W. (Telegs.: "Blockish, London." Teleph. No. 325, Battersea.) Glasgow office: Atlantic-chbrs., 45, Hope-st.

Symes & Co., Ltd., dealers in electric & chemical apparatus, 14, Hardmann-st., Liverpool. (Telegrams: "Symes, Liverpool." Telephone No. 2263, Royal.)

SYMMONS, SYD. H., representing WM. COTTIS & SONS, LTD., castings for electrical purposes, 10, Great St. Helen's, London, E.C. (Telegs.: "Sydsym, London.")

Symons, Ernest G., A.M.I.E.E., 31A, Cremorne Mansions, Chelsea, London, S.W.

Symons, P., & Sons, electric lighting contractors, Oxford-st., Swansea.

SYNCHRONOME CO., electrical clocks, 32 & 34, Clerkenwell-rd., London, E.C. (Telephone No. 4643, Holborn.)

Syndicate of Electrical Engineers, Ltd., Faraday House, 62–70, Southampton-row, London, W.C. (Telegrams: "Standardizing, London." Telephone No. 9999, Gerrard.) This company's annual return shows that out of a nominal capital of £10,000 in 1900 ordinary & 100 founders' shares, all of £5 each, 1002 ordinary & the whole of the founders' shares have been taken up. A call of £4 per share has been made on the ordinary shares, & the founders' shares have been agreed to be considered as paid. The total sum received in response to calls equals £4008. Directors: The Rt. Hon. the Earl of Crawford, K.T., F.R.S.; R. Hammond, Esq.; R. Whitehead Hammond, Esq.; F. Ince, Esq.; W. O. Smith, Esq. Secretary, H. Foulds.

Syrinx Gas Engine Co., Ltd., Stevenage, Herts.

Székacs, G. C. F., A.M.I.E.E., "Pathlow," Stratford-on-Avon.

Szerelmey, N. C., & Co., paint manufacturers, Szerelmey Works, 277, Rotherhithe New-rd., London, S.E. (Telegrams: "Szerelmey, London." Telephone No. 2260, Hop.)

Szlumper, E. F., A.M.I.E.E., Culross, Rusthall-ave., London, W.

Szlumper, Sir Jas., engineer, Brompton & Piccadilly Circus Railway Co., St. James's Park Station, S.W.

Tadcaster Electricity Co., Ltd., Station-rd., Tadcaster, Yorks. Registered June 15, 1901. Nominal capital: £6000 in £5 shares. Directors: J. Bromet, Esq.; F. Thorman, Esq.; A. Bromet, Esq. Secretary, J. E. Hargett.

Tagg, Tom, & Son, electric launch builders, above the Lock, East Molesey, Surrey. (Telegrams: "Niagara, East Molesey." Telephone No. 1, Molesey.)

Tait, A. W., 37, Castle-st., Edinburgh. Director Ferranti Ltd.; Falkirk Elec. Construction Synd., Ltd.

Tait, R. J., electrician, telephone & electric light engineer, Chester-le-Street, Durham.

Taite, C. Davis, M.I.E.E., engineer & manager, Lancashire Electric Power Co., 196, Deansgate, Manchester.

Taite & Carlton, makers of liquid fuel burners, 63, Queen Victoria-st., London, E.C. (Telegrams: "Taite, Carlton, London." Telephone No. 6925, Central.)

Takata & Co., dealers in general & electrical machinery, 88, Bishopsgate-st., London, E.C. (Telegs.: "Takata, London." Teleph. Nos.: 1537, London Wall; & 11996, Central.)

Talbot, F. R., B.SC., A.R.C.S., lecturer in the physics department, Plymouth Municipal Science, Art & Technical Schools, Plymouth.

Talbot, Henry, corporation electrical engineer, Todmorden.

Talbot, Herbert, M.I.E.E., Corporation electricity department, Nottingham.

Talbot, Oswald, electric bell manufacturer, High-street, Mortlake, London, S.W.

Talbot Brown & Fisher, electrical engineers, Wellingborough.

Talbot & Stevenson, consulting electrical engineers, 26, Victoria-st., London, S.W. (Telegrams: "Arcograph, London." Telephone No. 92, Westminster.)

Tallis, John Fox, electrical engineer, The Firs, Ebbw Vale, Mon.

Tamblyn-Watts, T. M. F., A.M.I.E.E., electrician & scientific apparatus maker, Goldielands, Settle, Yorkshire. (Telegrams: "Tamblyn, Goldielands, Settle.")

Tamplin & Makovski, Ltd., electrical & general engineers, 27, Charles-st., Haymarket, London, S.W. (Teleph. No. 1326, Gerrard); Redhill (Telegs.: "Properness, Redhill." Teleph. No. 64); & Ipswich. (Telegs.: "Properness, Ipswich.")

Tanaka, Jiu Kuma, A M.I.E.E., 7, Pembroke Villas, Kensington, London, W.

Tandy, Frank, A.M.I.E.E., Langtoft, Daysbrook-rd., Streatham Hill, London, S.W.

Tangye Tool & Electric Co., Ltd., electrical engineers, Birmingham. *In voluntary liquidation for the purpose of amalgamation with Tangyes, Ltd.* Liquidator, W. J. Parkins.

TANNAHILL, A., & CO., speciality—mica, 14, Charterhouse-bldgs., London, E.C. (Telegrams: "Tannahill, London." Telephone No. 12692, Central.) *See* MICA MERCHANTS.

Tanner, A. E., engineer, 8, Birch-ave., Talbot-rd., Old Trafford, Manchester.

Tanner, A. M., electrician, c/o British Thomson-Houston Co., Ltd., 83, Cannon-st., London, E.C.

Tanner, H. W. Lloyd, M.A., D.SC., Oxon., F.R.S., professor of mathematics & astronomy, University College of South Wales & Monmouthshire, Cardiff.

Tapley, Wm., A.I.E.E, Hazelwood, Paignton, South Devon.

Taplin, H. C., electric bell fitter, 105, Clifford-st., Southampton.

Tapper, J. E., A.M.I.E.E., resident engineer, District Council's Electricity Works, Beckenham.

Tapper, W. C. P., A.M.I.E.E., borough electrical engineer & manager to the Stepney Borough Council, 27, Osborn-st., Whitechapel, E.

Targett, Jas. H., A.M.I.E.E., 14, Cranworth-gdns., London, S.W.

Targett, Walter Jeffery, A.I.E.E., 25A, Cockspur-st., London, S.W.

Tarrant, Kenneth J., electrical engineer, Sun Fire Office, Threadneedle-st., London, E.C.

Tasker, Ernest A., electric lighting & power, 1, Richmond-rd., Montpelier, Bristol. (Teleph. No. 105 Y.)
Tasker, E. E., M.I.E.E., electrical engineer, 49, Wellwood-rd., Goodmayes, Essex.
Tasker, P. S., A.M.I.E.E., 10, Frederick-rd., Edgbaston, Birmingham.
Tasker, W. Howard, M.I.E.E., consulting electrical engineer, 33, Edwardes-sq., Kensington, London, W.
Tasker, Sons & Co., Ltd., electrical contractors, Angel-st., Sheffield. (Telegs.: "Tasker, Sheffield." Teleph. No. 1006.)
Tasker, W. A., & Sons, electro-platers & electrical & general engineers, Portland-sq., Bristol.
Tasker's Engineering Co., Ltd., electrical contractors, 59 & 61, Blonk-st., Sheffield. (Telegs.: "Stores, Sheffield." Teleph. Nos. 1005 & 1981.)
Tate, E., 21, Mincing-lane, E.C. Director City & South London Railway Co.
Tate, J., elec. & mech. engineer, Harris-st., Bradford. (Telegs.: "Valve, Bradford." Teleph. No. 402.)
Tate, Leonard G., A.M.I.E.E., 20, Bucklersbury, London, E.C.; & Vineyard House, Richmond, Surrey.
Tate, T. Fleetwood, A.I.E.E., 50, Queen Anne's Gate, London, S.W.
Tate, Leonard G., & Co., electrical & mechanical engineers & contractors, 20, Bucklersbury, London, E.C. Room 76. (Telegs.: "Entraining, London." Tel. No. 881, Bank); & Vineyard House, Richmond.
Tatlock, R. R., & Readman, consulting chemists, 4, Lindsay-pl., Edinburgh. (Telegrams: "Readman, Edinburgh.")
Tatlow, W., A.M.I.E.E., electrical engineer, 20, Fleet-st., Dublin.
Tattersall, D., engineer & manager, Ingleton Electric Lighting & Power Co., Ingleton, Yorks.
Tattersall & Smith, electrical engineers, 87, Albert-rd., Middlesbrough. (Telephone No. 0549.)
Taunton, Theo., F.C.I.S., secretary Consolidated Electrical Co, Ltd., Broad-st. House, London, E.C. (Telegrams: "Goldsandes, London." Telephone No. 9089, London Wall.)
Taunton Corporation Electricity Works & Electric Tramways, St. James-st., Taunton. (Telegs.: "Electric Light, Taunton" Teleph. No. 13 Y.) E. B. Thornhill, A.M.I.E.E., electrical engineer.
Taunton Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C.; & Tramway Depôt, Taunton. Registered Feb. 7, 1903. Nominal capital: £50,000 in £5 ordinary shares, debentures up to half issued capital. Issued: 9 ordinary shares, fully paid. Directors: W. G. Bond, Esq. (chairman); H. S. Day, Esq. Secretary, P. N. Gray.
Taunton Municipal Technical Institute, Taunton. For PROFESSORS, *see* SCHOOLS.
Tavistock & District Electric Supply Co., Ltd., 11, Carteret-st., Westminster, S.W. Registered Dec. 12, 1903. Nominal capital: £1000 in £1 shares. Director, A. West, Esq.
Tayler, D. F., & Co., Ltd., wire drawers, copper, brass, steel & iron, New Hall Works, Birmingham. (Telegrams: "Epingles, Birmingham." Telephone Nos. 57, 3366 & 4535.) Registered March 31, 1886. Nominal capital: £100,000 in ordinary shares, £100,000 in preference shares, & £40,000 4 per cent. debentures. £65,000 in ordinary shares & £45,000 in preference shares & all the debentures are issued & fully paid. Reserve fund, £23,000. Directors: Wilfred Williams, Esq., J.P. (chairman); Sir H. A. Wiggin, Bart.; Harold W. Williams, Esq.; G. W. Merrett, Esq.; & Graham W Williams, Esq. Secretary, J. F. Green. Dividends on ordinary shares: 1903, 7½ per cent.; 1904, 7½ per cent.; 1905, 10 per cent.; first half of 1906, 5 per cent.
Tayler-Smith, T., consulting electrical engineer & electrician, 53, South Molton-st., Bond-st., London, W. (Telegrams: "Deserving, London.")
Tayler Smith Electric Co., The, electrical engineers, 53, South Molton-st., London, W.; 1B, Hill-st., & 52, Frederick-st., Edinburgh; 233, St. Vincent-st., Glasgow; & 28, South Anne-st., Dublin. (Telegs.: "Deserving," London, Edinburgh, Glasgow or Dublin. Teleph. Nos.: 6919, Gerrard, London; 1541, Central, Edinburgh; 483, Argyle, Glasgow; & 1642, Dublin.)
Taylor, Arthur, A.I.E.E., c/o Lancashire Electric Power Co., 196, Deansgate, Manchester.
Taylor, A. Lester, M.I.E.E., consulting electrical engineer, 1, Dale-st., Liverpool; & Summerfield House, Blundellsands, Lancs.
Taylor, A. M., M.I.E.E., assistant to the city electrical engineer, 14, Dale End, Birmingham.
Taylor, Chas. A., A.M.I.E.E., 41, Sidney-st., South Kensington, London, S.W.
Taylor, C. Percy, A.M.I.MECH.E., A.M.I.E.E., Associated Portland Cement Manufacturers (1900), Ltd., Park House, Gravesend. (Teleph. No. 1, Dartford.)
Taylor, D., electrical engineer & contractor, 4, Athenæum-st., Sunderland.
Taylor, E., director Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C.
Taylor, E., electric bell fitter & contractor, 68, Heaton-lane, Stockport. (Telephone No. 0974.)
Taylor, E., A.M.I.E.E., chief assistant tramways engineer, Craven Street Electricity Works, Birkenhead.
Taylor, E. D., dealer in electric light fittings, 6, Rosebery-bldgs., John Bright-st., Birmingham.
Taylor, Ernest J., A.M.I.E.E., 39, Mount Park-rd., Ealing, London, W.
Taylor, F., director United Electric Light & Power Supply Co., Ltd., Ardwick-pl., 184, Stockport-rd., Manchester.
Taylor, F., Diss, Norfolk. Director Suffolk Electricity Supply Co., Ltd.
Taylor, F., A.M.I.E.E., assistant tramways engineer, Corporation, Bolton.
Taylor, F. G., M.A., B.SC., lecturer in mathematics, University College, Nottingham.
Taylor, Frederic H., A.M.I.E.E., consulting engineer, 14, Victoria-st., London, S.W. (P.O. Telephone No. 1457, Victoria.)

Taylor, F. W., district manager, National Telephone Co., Brighton.

Taylor, F. W., electrical engineer, Golcar, nr. Huddersfield. (Telegrams: "Taylor, electrician, Golcar." Telephone No. 40, Milnsbridge.)

Taylor, G. C., J.P., A.I.E.E., director British Insulated & Helsby Cables, Ltd., Helsby, nr. Warrington; & Prescot, Lancs.; director Midland Electric Corporation (1900), Ltd.; director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of West Australia, Ltd.; director Midland Electric Corporation for Power Distribution, Ltd.

Taylor, G. E., A.M.I.E.E., 8, Bush-lane, E.C. (Telegs.: "Dielectric, London." Teleph. No. 987, Bank.)

Taylor, G. S., A.M.I.E.E., Electrical Department, N.E. Railway, Gateshead.

Taylor, H., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Taylor, H. A., M.I.C.E., M.I.E.E., telegraph engineer (Clark, Forde & Taylor), 4, Great Winchester-st., E.C.

Taylor, H. J., A.I.E.E., 63, Queen Victoria-st., London, E.C.

Taylor, H. M., borough electrical engineer, Corporation Electricity Works, Middlesbrough.

Taylor, J., director Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C.

Taylor, J., electrical engineer, Queen-st., Barnsley, Yorks. (Telephone No. 8 X. 2.)

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Taylor, James, J.P., M.I.E.E., vice-chairman British Insulated & Helsby Cables, Ltd., Helsby, Cheshire; director Midland Electric Corporation for Power Distribution, Ltd.; director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of West Australia, Ltd.

Taylor, Joseph, A.M.I.E.E., 92, Hyndland-rd., Kelvinside, Glasgow.

Taylor, Jas. E., A.M.I.E.E., assistant superintending engineer, Postal Telegraphs, Carter-lane, General Post Office, E.C.; & 71, Ravensdale-rd., Stamford Hill, London, N.

Taylor, J. H., agent for forgings, castings, &c., 9 & 11, Fenchurch-ave., London, E.C. (Telegrams: "Tyne, London." Telephone No. 4108, Avenue.)

Taylor, J. H., electrical engineer, Macaulay-st., Huddersfield.

Taylor, John T., A.M.I.E.E., Electricity Works, Leith Docks, & 22, Cornhill-ter., Leith.

Taylor, Peter, electric light & power engineer & contractor, 87 & 89, Bank-st., Coatbridge. (Telephone No. 0500, Coatbridge.)

Taylor, R., Mount-rd., Oswestry. Director Oswestry Electric Lighting & Power Co., Ltd.

Taylor, R., 115, High-st., Bromley, Kent. Director Bromley (Kent) Electric Light & Power Co., Ltd.; director Chislehurst Electric Supply Co., Ltd.

Taylor, R., A.M.I.E.E., general manager, Liverpool Electric Cable Co., Vauxhall-rd., Liverpool; & 12, Caithness Drive, Liscard, Cheshire.

Taylor, S., director United Electric Light & Power Supply Co., Ltd., Ardwick-pl., 184, Stockport-rd., Manchester.

TAYLOR, THOMAS H., electrical engineer, 181, Queen Victoria-st., London, E.C. (Teleph. No. 5517, Holborn); & Dodsworth, Yorkshire.

Taylor, Thomas William, A.M.I.E.E., 6, Broomfield-pl., Chapel-lane, Headingley, Leeds.

Taylor, Wilford H., A.I.E.E., Holly-rd., Heaton Chapel, Manchester.

Taylor, Wm., M.I.MECH.E., F.R.P.S., scientific instrument maker, of Taylor, Taylor & Hobson, Ltd., Stoughton-st. Works, Leicester.

Taylor, William, electrician, 17, Bishop-st., Dublin.

Taylor, Wm. F., A.I.E.E., contract manager, National Telephone Co., Ltd., Salisbury House, London, E.C.

Taylor, Wm. Grigor, M.I.E.E., Eastern Extension Australasia & China Telegraph Co., Electra House, Finsbury Pavement, London, E.C.

Taylor, William Isaac, M.I.M.E., M.I.E.E., representative & director of Messrs. Clarke, Chapman & Co., Ltd., & Darlington Forge Co., 50, Fenchurch-st., London, E.C. (Telegrams: "Cyclops, London." Telephone No. 4521, Avenue); & The Firs, Bush Hill Park, Enfield, N.

Taylor & Brawn, electrical apparatus dealers, 69A, High-st., & 36, St. Peter's-st., Bedford. (Tel. No. 44.)

Taylor Bros., electrolier, lamp lustre, &c., manufacturers, Cooksey-road, Small Heath, Birmingham. (Telegrams: "Chandelier, Birmingham.")

Taylor Bros. & Co., Ltd., manufacturers of forgings, &c., Clarence Iron & Steel Works, Leeds (Telegrams: "Taylors, Leeds." Telephone No. 539); & 16, Victoria-st., Westminster, London, S.W. (Telegrams: "Friday, London.")

Taylor & Challen, Ltd., mechanical engineers, Derwent Foundry, Birmingham. (Telegrams: "Derwent, Birmingham." Telephone No. 2244.)

Taylor & Co., makers of silk, linen, & cardboard shades for the electric light, 40, Hatton Garden, London, E.C. (Telegrams: "Micaylor, London." Telephone No. 4575, Central.)

Taylor, G. E., & Co., electrical engineers, 8, Bush Lane, London, E.C. (Telegrams: "Dielectric." Telephone No. 987, Bank.)

Taylor & Hubbard, crane makers, Leicester. (Telegs.: "Lifting, Leicester." Teleph. No. 575.)

Taylor, J., & Co., electric bell manufacturers, Loughborough. (Telegrams: "Bells, Loughborough.")

Taylor, J. E., & Co., electrical engineers, 78 & 80, Bentinck-st., Ashton-under-Lyne. (Teleph. No. 0987.)

Taylor, J. H., & Son, installation contractors, Macaulay-st., Huddersfield.

Taylor, R., & Sons, engineers & boiler makers, Marsden, Yorks. (Telegrams: "Robert Taylor, Marsden." Telephone No. 3.)

Taylor, Samuel, Ltd., metal workers, aluminium solder & alloy manufacturers, &c., Birmingham.

Taylor & Sons, Ltd., mechanical engineers, Briton Ferry, South Wales. (Telegrams: "Taylor, Briton Ferry." Telephone No. 451.)

Taylor, Taylor & Hobson, Ltd., makers of engraving & dividing machinery, Stoughton-st. Works, Leicester; 18, Berners-st., London, W.; & 1135, Broadway, New York. (Telegrams: "Lenses, Leicester;" & "Illiquo, London." Nat. Telephone Nos.: 134, Leicester; & 4591, Gerrard, London.)

TAYLOR, TUNNICLIFF & CO., LTD., porcelain for electrical purposes (china), Eastwood, Hanley. London agent, C. M. Bradley, 23, Holborn-viaduct, E.C. (Telegrams: "Eastwood, Hanley." Telephone No. 12.) *See advt., page* 17.

Taylor, W., & Sons, electric light contrs., 58A, Brompton-rd., S.W. (Telephone No. 690, Kensington.)

Taylor-Smith, E. C., electrical engineer, 8, Cope-st., Dublin.

Tayside Electric & Gas Light Co., Ltd., Hall-bldgs., Wormit, Fife. Registered June 24, 1899. Nominal capital: £25,000 in 20,000 £1 ordinary shares & 5000 £1 preference shares. Issued: 1713 ordinary & 1000 preference shares all fully paid. Directors: H. Coates, Esq. (chairman); A. Stewart, Esq. (secretary); G. Lorimer, Esq.; G. Rorie, Esq.

Teague, Francis, electrical engineer to the Bath Corporation, Electricity Department, 7, Dorchester-st., Bath. (Telegrams: "Dynamo, Bath." Telephone No. 33.)

Teal, Sidney M. G., assistant engineer, Electricity Works, Hornsey, London, N.

Teasdel, J. E., A.M.I.E.E., resident engineer & manager, U.D.C. Electricity Works, Pontypridd. (Nat. Teleph. No. 11.)

Technical Publishing Co., Ltd., 287, Deansgate, Manchester. (Telephone No. 2202.)

Teed, Frank L., D.SC., analytical chemist, 9, Mincing-lane, London, E.C.

Tegetmeier, C. G., director Associated Cos. The British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.

Teignmouth Urban District Council Electricity Works. *Under construction by Electric Supply Corporation, Ltd.*

Telautograph Co., Ltd., 19, New Union-st., Moorgate Station, London, E.C.

Telegraph & Cable Companies' Officials. *See* CLASSIFIED SECTION.

Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-st., London, E.C. (Telegrams: "Telcon, London.") Registered April 7, 1864. Capital issued: Ordinary shares of £12 each, £448,200; 4 per cent. debentures of £100 each, £150,000. Both are fully paid up. E. Dickens, secretary. Directors: W. Shuter, Esq. (chairman & managing director); Colin F. Campbell, Esq.; Sir J. Pender, Bart., J.P.; Paget V. Luke, Esq., C.I.E.; F. R. Lucas, Esq. (joint managing & engineer). Dividends: 1901, 1902 & 1903, 20 per cent.; 1904 & 1905, 15 per cent.; & first half of 1906, 5 per cent.

Telegraph Manufacturing Co. (Colonial), Ltd., manufacturers of & dealers in wires, cables, &c., Helsby, Cheshire. Registered Nov. 12, 1901. Nominal capital: £2000 in £1 shares. Directors: Jas. Taylor, Esq.; G. C. Taylor, Esq.; J. S. Harmood Banner, Esq. Secretary, Jno. Brotherton.

Telegraphone Co., Ltd., 28 & 29, St. Swithin's-lane, London, E.C. Registered April 25, 1906. Nominal capital: £100,000 in £1 shares.

Telephone Co. of Egypt, Ltd., Alderman's House, Alderman's Walk, Bishopsgate, London, E.C. (Telegrams: "Oakenpin, London. Telephone No. 2188, London Wall.) Capital: £200,000, divided into 36,000 preferred shares of £5 each & 4000 deferred shares of £5 each. Capital issued: 24,000 preferred & 4000 deferred (both fully paid), & £200,000 in 4½ per cent. debenture stock, £100,000 of which is issued. A memorandum of satisfaction in full of debentures, dated April 29 & May 20, 1903, securing £5000, has been filed. Trust deeds, dated July 27, 1904, & Feb. 21, 1906, to secure £100,000 debenture stock, have been registered. Alex. B. Chalmers, secretary. Directors: Sir Auckland Colvin, K.C.S.I. (chairman); H. Grëwing, Esq.; H. J. Grewing, Esq.; T. Lloyd, Esq.; B. St. John Ackers, Esq. Dividends: 1902 & 1903, 7½ per cent. on preferred shares; 1904 & 1905, 7½ per cent. on preferred & deferred shares.

Telephos, Ltd., electrical apparatus manufacturers, 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Teleph. No. 8114, Bank.)

Telfer, J., manager, Corporation Electric Tramways, Warrington.

Telford, Walter, assistant engineer, Corporation Electricity Works, Middlesborough.

Telford, Grier & Mackay, Ltd., electrical engineers, 220–222, Broomielaw, Glasgow.

TEMPERED SPRING CO., LTD., THE, SHEFFIELD. (Telegs.: "Tempered, Sheffield." Teleph. No. 354.)

Temperley Transporter Co., 72, Bishopsgate-st. Within, E.C. (Telegs.: "Transumo, London." Teleph. No. 365, London Wall.)

Temperly, N. R., A.I.E.E., 263, Slade-rd., Erdington, Birmingham.

Temple & Crook, electric light & bell fitters, 6, Motcomb-street, Belgrave-square, London, S.W.

Templer & Ranoe, Ltd., makers of steam stop valves, Foleshill-rd., Coventry. (Telegrams: "Temprano, Coventry." Telephone No. 197.)

Templetown, The Right Hon. Viscount, M.I.E.E., 17, Victoria-st., London, S.W.
Tennant, H., Holgate Hill House, York. Director Central London Railway Co.
Tennant, James, J.P., Fairlieburne, Fairlie, Ayrshire. Director Newcastle-on-Tyne Electric Supply Co., Ltd.
Tennant, Sir Chas., Bart, 40, Grosvenor-sq., W. Director Kolar Mines Power Station, Ltd.
Tennants & Co., manufacturing chemists, 49, Faulkner-st., Manchester. (Telegrams: "Tennants, Manchester." Telephone No. 125.)
Terras, J. Sinclair, district manager National Telephone Co., Ltd., Reading.
Terrey, Charles A., maker of electrical specialities, 114, Lambeth-road, London, S.E.
Terry, Isaac, electric bell fitter, 32, High-st., Ayr.
Terry, Stephen H., M.I.C.E., M.I.M.E., electrical & consulting engineer, 17, Victoria-st., London, S.W. (Telegrams: "Crankpin, London." Telephone No. 75, Westminster.)
Tervet, R., A.M.I.E.E., electrical engineer, Western Electric Co., North Woolwich, London, E.
Tessier, A. E., A.I.E.E., electrical engineer, c/o Robert W. Blackwell & Co., Ltd., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W.; & Edgehill, Guildford.
Tester, J. F., A.I.E.E., electrician, The Lodge, Mount Vernon Hospital, Northwood, Middlesex.
Tester, Wm. A., A.M.I.E.E., A.M.I.M.E., borough electrical & tramways engineer, Lancaster.
Tetley & Co., manufacturing electrical & mechanical engineers, Falcon Works, Poland-st., Oldham-rd., Manchester. (Telegs.: "Tetley, Poland-st., Manchester." Teleph. No. 5274.)
Tett, C., electrical engineer & contractor, 7, Queen-st., Weymouth.
Tett, Henry S., & Co., Ltd., iron & steel merchants, electrical engineers, &c., Market-st., Faversham, Kent. (Telegrams: "Tett, Faversham." Telephone No. 0195.)
Thain, Leslie A., assistant engineer, Electricity Works, Buxton.
Thames Ammunition Works, Ltd., manufacturers of ammunition, electric fuses for blasting & electric igniting machines, Erith, Kent. (Telegrams: "Thames, Erith." Telephone No. 10.)
Thames Conservancy, Victoria Embankment, London, E.C. (Telegrams: "Conservancy, London." Telephone Nos. 205 & 206, Holborn.)
Thames Electric & Motor Boats, Ltd., 23, Northumberland-ave., London, W.C.
Thames Iron Syndicate, Ltd., Thames Ironworks, Victoria Dock-rd., Canning Town, London, E.
THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD., Canning Town, E. Electrical Department: THAMES ELECTRICAL ENGINEERING WORKS, Canning Town, E. Electrical contractors, makers of dynamos, motors, projectors, electric drills. On Admiralty list. (Telegrams: "Thames, London." Telephone No. 526, Eastern.)
Thames Valley Electric Supply Co., Ltd., Donington House, Norfolk-st., London, W.C. (Telegrams: "c/o Tramway, London." Nat. Telephone Nos. 6821 & 6822, Gerrard.) *In voluntary liquidation.* Liquidator, H. A. Stagg.
Theedam, E. C., Ltd., electrical engineers & contractors, King-st. Electrical Works, Dudley.
Theermann, W. P., electrical engineer, Electric Light, Power & Hiring Co., Ltd., 491, Manchester-rd., Haslingden. (Telegs.: "Theermann, Manchester." Teleph. No. 3982, Manchester.)
Theerman, W. P., & Co., electrical engineers, Oxford-rd., All Saints, Manchester.
Thermal Storage, Ltd., 17, Victoria-st., London, S.W.
Thermit, Ltd., engineers & contractors, 27, Martin's-lane, Cannon-st., London, E.C. (Telegs.: "Fulmen, London." Teleph. No. 3749, Central.)
Thewlis & Co., linesmen's tools, Mersey-street, Warrington.
Thirsk Electricity Works, Thirsk, Yorks. Northern Counties Electricity Supply Co., Ltd., proprietors. Engineer, C. W. Fairweather.
Thomas, B., engineer, Llandrindod Wells Electric Light & Power Co., Ltd., Llandrindod Wells.
THOMAS, BERTRAM, A.I.E.E., electrical engineer & maker of dynamos, switchboards, &c. Works: Worsley-st., Hulme, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.)
Thomas, D. J., Bryn Bedw House, Nantymoel. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.
Thomas, E., local manager, National Telephone Co., Waterford.
Thomas, Eustace, B.SC., A.I.E.E., Cornbrook Telegraph Works, Worsley-st., Hulme, Manchester.
Thomas, F., director New Rottingdean Electricity Co., Ltd., Rottingdean, Sussex.
Thomas, Frank C., A.M.I.E.E., Cornbrook Telegraph Works, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.)
Thomas, Henry, assistant engineer, Fleetwood & District Electric Light & Power Syndicate, Fleetwood.
Thomas, J., director Northallerton Electric Light & Power Co., Ltd., High-st., Northallerton, Yorks.
Thomas, J., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 138, High-st., Tonyrefail.
Thomas, R., Station-rd., Brynamman, Carmarthenshire. Director Brynamman & District Electric Supply Co., Ltd.
Thomas, R. G., technical assistant, London County Council Tramways, 62, Finsbury Pavement, London, E.C.
Thomas, Theodore E., A.I.E.E., 74, High-rd., Chiswick, London, W.
Thomas, Thos., 51, Mardy-rd., Mardy. Director Mardy Electric Light Co., Ltd.

Thomas, W. F., Bishopshalt, Hillingdon. Director Uxbridge & District Electric Supply Co., Ltd.
Thomas, Bertram & Co., electrical engineers, Castle-st., Northwich.
Thomas, Geo., & Co., tachometers & tachographs, 72A, Deansgate, Manchester. (Telegrams: "Samoht, Manchester." Telephone No. 1183.)
Thomas Patents, Ltd., wires & cables, 139, Cannon-st., London, E.C.
Thomas, R. Morris, & Co., manufacturers' agents, suppliers of electric light glass shades, 7, Ely-pl., Holborn Circus, London, E.C. (Teleph. No. 2417, Holborn.)
THOMAS & STRACHAN, manganese merchants, 4, Fazakerley-st., Liverpool. (Telegrams: "Strachan, Liverpool." Telephone No. 6789.) *See advt.*, MANGANESE MERCHANTS.
Thomas-Davies, G., A.M.I.E.E., electrical engineer, Bank-chbrs., Regent-st., Clifton, Bristol.
Thompson, A. M., M.I.C.E., M.I.E.E., London & North-Western Railway, Crewe.
Thompson, E. Ashmore, A.M.I.E.E., 176, Shrewsbury-st., Brook's Bar, Manchester.
Thompson, Edward, electrical engineer, 12, Newgate-st., Bishop Auckland.
Thompson, E. C., electric lighting contractor & bell fitter, 11, Exchange-st., Norwich.
Thompson, F., chief assistant engineer, Urban District Council Electricity Works, Erith.
Thompson, F. J., A.M.I.E.E., electrical engineer, 3, Cambridge Villas, Stanley-rd., Teddington; & c/o Wm. Clowes & Sons, Ltd., Duke-st., Stamford-st., London, S.E. (Telephone No. 558, Hop.)
Thompson, F. O., A.I.E.E., Direct United States Cable Co., 53, Old Broad-street, London, E.C.
Thompson, F. W., A.I.E.E., A.M.I.M.E., 29, Chasefield-rd., Tooting, London, S.W.
Thompson, H., telegraph engineer, 13, Richard's-ter., Cardiff.
Thompson, Harry Francis Jackson, A.M.I.E.E., 10, Eastcombe-ave., Charlton, S.E.
Thompson, Henry Ellis, A.I.E.E., 6, Dudley-rd., Wimbledon.
Thompson, John, engineer & boiler maker, Ettingshall, Wolverhampton (Telegrams: "Boiler, Wolverhampton." Telephone No. 19); & 49, Queen Victoria-st., E.C. (Telegrams: "Cowlrick, London." Telephone No. 9557, Central.)
Thompson, L. Sandford, assistant engineer, Electricity Works, Hamilton, N.B.
Thompson, Norman A., A.M.I.E.E., consulting electrical engineer, Scotman-bldgs., Edinburgh.
Thompson, N. G., M.I.E.E., consulting electrical engineer, 7, St. James's-ter., Regent's Park, N.W.
Thompson, P., director Keswick Electric Lighting Co., Ltd., Forge, Keswick.
Thompson, Paul S., A.M.I.E.E., 29, Park-ave., Whitley Bay, Northumberland.
Thompson, R. O., electrical engineer, 10, St. James-st., Brighton.
Thompson, Silvanus P., B.A., D.SC., F.R.S., M.I.E.E., "Morland," Chislett-rd., West Hampstead, London, N.W. Professor of applied physics & electrical engineering, City & Guilds of London Technical College, Leonard-st., Finsbury, E.C.
Thompson, W., electrical contractor, Victoria-st., Blackburn.
Thompson, Wm. J., mechanical & electrical engineer, 34, Park-lane, & 22, Hart-st., London-rd., Liverpool.
Thompson & Co., electrical contractors, Wellington-st., Kettering.
Thompson, R. B., & Co., makers of glass globes, cells, &c., 54, West Howard-st., Glasgow. (Telegrams: "Undaunted, Glasgow. Telephone Nos.: 1415, Nat.; & 2648, Corp.)
Thompson, Ritchie & Co., Ltd., electrical engineers, 34, Buckingham-gate, London, S.W. (Telegrams: "Farad, London." Telephone No. 208, Westminster.)
Thompson & Southwick, Ltd., engineers & pulley makers, The Foundry, Tamworth, Staffs.
Thompson, W. P., & Co., electrical patent agents. Manual of instructions & fees post free, 322, High Holborn, London (Telegrams: "Discovery, London." Telephone No. 823, Holborn); & 6, Lord-st., Liverpool. (Telegrams: "Patent, Liverpool." Telephone No. 1605.) *See* PATENTS & TRADE MARKS REGISTRATION AGENTS.
Thompson & Wilson, consulting electrical engineers, 22, North Bridge-st., Edinburgh.
Thomson, Anthony S., Capt. C.B., Comdr. R.N.R., F.R.G.S., A.I.E.E., Trinity House, London, E.C.
Thomson, A. W., machinery broker & dealer, 5, Lloyds-ave., Fenchurch-st., London, E.C. (Telegs.: "Mekaniska, London." Teleph. No. 1481, Avenue.)
Thomson, C., director Leicestershire & Warwickshire Electric Power Syndicate, Ltd., 5, Great George-st., Westminster, S.W.
Thomson, C. S., M.SC., M.I.E.E., electrical engineer, 9, Darlaston-rd., Wimbledon.
Thomson, Geo. H., A.I.E.E., chief assistant engineer, Corporation Electricity Works, Swansea.
Thomson, H. A., A.I.E.E., 45, North Bridge-st., Airdrie, N.B.
Thomson, Hedley J., A.C.G.I., A.I.E.E., c/o Clayton & Shuttleworth, Ltd., Lincoln.
Thomson, J., chief assistant engineer, Electricity Works, Leith.
Thomson, J. J., M.A., F.R.S., Cavendish professor of experimental physics, University, Cambridge, & University of London, Burlington-gardens, W.
Thomson, J. M., F.R.S., F.C.S., professor of chemistry, King's College, Strand, London, W.C.
Thomson, J. S., chief engineer, Fife Electric Power Co., Dunfermline, N.B.
Thomson, T. Frame, 62, London Wall, E.C. Director La Capital Tramways Co., Ltd.; director La Capital (Extensions) Tramways Co., Ltd.; director La Capital Traction & Electric Co., Buenos Ayres, Ltd.; director United Electric Tramways of Montevideo, Ltd.; director Buenos Ayres Grand National Tramways Co., Ltd.

Thomson, Wilfred C., M.I.E.E., chief electrical engineer to Great Northern Railway Co., Engineer's Office, Holloway, N. (Telegs.: "Thomicis, London." Teleph. No. 1509, North.)

Thomson, W., engineer, Corporation Electricity Works, Kendal.

Thomson, William, consulting chemist (Crace-Calvert & Thomson), Royal Institution Laboratory, 79A, Princess-st., Manchester.

Thomson, W. W., director Lyndhurst Electric Lighting & Traction Co., Ltd.

Thomson & Co., installation contractors, Glebe-st., Falkirk.

Thomson, D. F., & Co., telegraph pole makers, 17, Victoria-st., London, S.W. (Telegs.: "Trapezoid, London." Teleph. No. 1786, Victoria.)

Thomson, Son & Co., Ltd., turbine manufacturers, Dundee. (Telegs.: "Turbine, Dundee." Teleph. No. 402.)

Thomson, W. R. M., & Co., consulting engineers & patent agents, 96, Buchanan-street, Glasgow. (Telegrams: "Inventions, Glasgow." Telephone No. 829.)

Thomson-Davis Telephone System, Ltd., manufacturers of & dealers in telephones, telegraphic apparatus, &c., 66, Victoria-st., Westminster, S.W. (Telegrams: "Wrenching, London." Telephone No. 516, Westminster.) Registered Jan. 30, 1900. Nominal capital: £6000 in £1 shares. Issued: 5695 shares. £1 per share has been called up on 842 & 7*s.* 6*d.* per share on 360 shares, resulting in the receipt of £947. 4493 shares are considered as fully paid. Directors: Max Byng, Esq.; A. T. M. Thomson, Esq.; A. H. Holmes, Esq. Electrical engineer, R. P. Wilson; secretary, C. H. Wilson.

Thonet Bros., manufacturers of electroliers in bent wood, 68, Oxford-st., London, W. (Telegrams: "Gebhonet, London." Telephone No. 2034, Gerrard.)

Thorman, F., Newton Kyme, Tadcaster. Director Tadcaster Electricity Co., Ltd.

Thornbery, W. H., consulting & electrical engineer, 32, Paradise-st., Birmingham. (Teleph. No. 1989.)

Thorne, A., 11, Austin Friars, E.C. Director Gloucestershire Electric Power Co.

Thorne-George, Grey, A.M.I.E.E., 15, Moorgate-st., London, E.C.

Thornhill, E. B., A.M.I.E.E., borough electrical engineer, St. James-st., Taunton.

Thornton, Edwin, A.I.E.E., 24, Oxford-st., Barrow-in-Furness. (Teleph. No. 38.)

Thornton, F. H., J.P., Kingsthorpe Hall, Northampton. Chairman Northampton Electric Light & Power Co., Ltd.

Thornton, Robert, maker of staples for telegraph wire & all other purposes, Paragon Works, Cleckheaton, Yorks.

Thornton, S. E., A.M.I.C.E., Sanctuary House, Tothill-st., Westminster, London, S.W. (Teleph. No. 650, Victoria.)

Thornton, W. M., D.SC., D.ENG., M.I.E.E., professor of electrical engineering, Armstrong College, Newcastle-on-Tyne.

Thornton & Crebbin, iron castings, Hammerton-st. Ironworks, Bradford, Yorks. (Telegrams: "Ironfounders, Bradford." Telephone No. 226.)

Thornton, Frank, & Co., electrical contractors, 6A, Hove-st., Burnley.

Thornton, W. R., & Son, electrical engineers, Ramsden-sq., Barrow. (Telegrams: "Thornton & Son, Barrow." Telephone No. 38.)

Thornycroft, John I., & Co., Ltd., electric light engine builders, Church Wharf, Chiswick, London, W. (Telegrams: "Thornycroft, London." Telephone No. 6, Hammersmith.)

Thorp, Edgar Leslie, A.M.I.E.E., 44, Parliament-st., Nottingham.

Thorp, Joseph, station superintendent, Corporation Electricity Supply Works, Liverpool.

Thorp, Payne & Simpson, electrical, mechanical & motor engineers, Dryden Works, Shakespeare-st., Nottingham.

Thorpe, S., electric light & power contractor, Mansfield.

Thorpe, Wilfred B., A.M.I.E.E., 60, St. Martin's-lane, London, W.C.

Thorrowgood, W. J., A.M.I.E.E., 2, Waldemar-rd., Wimbledon Park.

Threadgold, A. H., electrical engineer, Calverley-rd., Tunbridge Wells. (Telegrams: "Threadgold, Tunbridge Wells." Telephone No. 173.)

Threlfall, Richard, M.I.E.E., F.R.S., consulting electro-chemist, 30, George-rd., Birmingham.

Thrift, Prof. Wm. E., M.A., HON.M.I.C.E.I., M.I.E.E., 80, Grosvenor-sq., Rathmines, Dublin; & University, Dublin.

Thrupp, Edgar C., A.M.I.C.E., consulting engineer, 39, Victoria-st., London, S.W.

Thursfield, F., A.M.I.C.E., M.I.E.E., Preece & Cardew, H.M. Dockyard, North Yard, Devonport.

Thursfield, C. J., & Co., manufacturers of electric light fittings & metal workers, Cecil Works, Clement-st. Parade, Birmingham; & 21A, Berners-st., Oxford-st., London, W. (Telegs.: "Electrolier, Birmingham;" "Thursfield, London." Teleph. Nos.: 05067, Birmingham; & 5409, Gerrard.)

Thwaite, B. H., A.M.I.C.E., civil engineer & metallurgist, 29, Great George-st., London, S.W. (Telegs.: "Calcinator, London." Teleph. No. 708, Westminster.)

Thwaites Bros., dials & indicator fronts, 25, St. John-st.-rd., Clerkenwell, London, E.C.

Thwaites Bros., Ltd., steam engine & fan makers, Vulcan Ironworks, Bradford. (Telegrams: "Thwaites, Bradford." Telephone No. 325.)

Thys, M. le Col., 24, Chaussée de Charleroi, Brussels. Director Marconi International Marine Communication Co., Ltd.

Tibbits, Oliver, A.M.I.E.E., Geo. Nelson Dale & Co., Ltd., Warwick. (Telegrams: "Opaque, Warwick." Telephone No. 0191.)

Ticehurst, F. Gorham, consulting engineer, Langton House, Battle, Sussex.

Tidd, E. George, A.M.I.C.E., M.I.E.E., engineer, hon. sec. Glasgow Local Section of the I.E.E., 68, Gordon-st., Glasgow. (Teleph. Nos. 1020, P.O. & Royal Nat.)

Tiddeman, P. J. S., M.I.E.E., borough electrical engineer to the Corporation, Stoke-on-Trent. (Teleph. No. 412.)

Tidswell's Patent Tram Car Guard Co., 23, Bank-st.-chbrs., Bradford. (Telegs.: "Lifeguard, Bradford.")

Tiffin, F. J., maker of "Xelsior" electric incandescent lamps, 3, Great Winchester-st., London, E.C. (Telephone No. 1993, Central.)

Tight, Charles, electrical instrument case maker, 12, Percival-st., Clerkenwell, London, E.C.

Tilghman's Patent Sand Blast Co., Ltd., for obscuring & decorating incandescent electric lamps, Broadheath, Altrincham. (Telephone No. 14.)

Tilley, Herbert B., A.M.I.E.E., Bruce Peebles & Co., Edinburgh.

Tilley Bros., electrical engineers & contractors, 53, Kingsland-rd., London, N.E. (Teleph. No. 126, Dalston.)

Tillyer, E. G., A.M.I.E.E., electrical engineer, High-rd., Mottingham, Eltham, S.E.

Tilney, M. J. E., A.M.I.E.E., 8, Astwood-rd., South Kensington, London, S.W.

Timings & Rose, electrical engineers & contractors, West Bute-street, Cardiff.

Timmins, R. D., A.M.I.E.E., Engineers' Office, St. James' Gate Brewery, Dublin.

Timmis, Illius A., M.I.C.E., M.I.E.E., 2, Great George-st., Westminster, London, S.W. (Telegrams: "Timmis, London." Telephone No. 481, Westminster.)

Timms, Percy G., A.M.I.E.E., East Park-ave., Holderness-rd., Hull.

Timpson, H. S., electrical engineer & contractor, 29 & 30, High-st., Ealing.

Tindall, J. E., B.A., B.SC., teacher of magnetism & electricity, Leeds Institute Technical School, Leeds.

Tinker, Shenton & Co., Ltd., boiler makers, Hyde Boiler Works, Hyde, Manchester. (Telegrams: "Duplex, Hyde." Telephone No. 21, Ashton-under-Lyne.)

TINKERS, LIMITED, boiler makers, Hyde, Manchester (Telegrams: "Tinkers, Hyde." A.B.C. & A1 Codes. Telephone No. 20); & 52, Queen Victoria-st., London, E.C. Price & Belsham, agents. (Telegrams: "Belsham, London." Telephone No. 6003, Central.)

Tinsley, Henry, electrician, "Penlee," Elmer's-end-rd., Beckenham, Kent.

Tipton Electricity Works, Ocker Hill, Tipton, Staffs. Midland Electric Corporation for Power Distribution, Ltd., proprietors. J. Hardie McLean, M.I.E.E., general manager & chief engineer.

Titchener, Geo. R., electrical engineer, manager J. Main & Co., Station-rd., Brixton, S.W.

Tite, Robt, electric clock alarms, 113, Lavender Hill, Battersea, London, S.W.

Titherley, C. P. L., electrical engineer, Northern Electrical & Ventilating Co., Granite-bldgs., Stanley-st., Liverpool.

Tittensor, Walter H., M.I.E.E., Scottish manager for J. H. Holmes & Co., 19, Waterloo-st., Glasgow.

Tizzard, J., M.I.MECH.E., electrical engineer & wiring contractor, Faraday House, Abbey-rd., Torquay.

Tobiesen, F. C., director Great Northern Telegraph Co., Ltd., of Copenhagen, 3, St. Helen's-pl., London, E.C.

Todd, D., electric lighting contractor, 249, Canterbury-st., Gillingham.

Todd, E. T., engineer, Oldham, Ashton & Hyde Electric Tramway, Tramway Depôt, Denton. (Telegrams: "Tramways, Denton." Telephone No. 265.)

Todd, F. L., A.M.I.E.E., electrical engineer, Occold Rectory, Eye, Suffolk.

Todd, Harry E., A.M.I.E.E., 27, Upper Tulse Hill, London, S.W.

Todd, John, A.I.E.E., 34, Patshull-rd., Kentish Town, London, N.W.

Todd, R. R., M.I.C.E., M.I.E.E., 109-111, New Oxford-st., London, W.C.; & 54, Aberdare-gdns., West Hampstead, London, N.W.

Todhunter & Elliot, Ltd., ironmongers & electricians, Duke-st., Douglas, Isle of Man. (Telegs.: "Iron, Douglas." Teleph. No. 15.)

Todmorden Corporation Electricity Works, Todmorden. Engineer, H. Talbot.

Tokio Construction Co., Ltd., Billiter-sq.-bldgs., London, E.C. Registered Aug. 28, 1903. Nominal capital: £150,000 in £10 shares. Issued: £5000, fully paid. Directors: Hon. Sir Malcolm D. McEacharn (chairman); A. McIlwraith, Esq.; G. Flett, Esq.; W. Rutherford, Esq.; T. B. Robinson, Esq. Secretary, R. Gambles.

Toll, Wm. Edwin, A.I.E.E., Grove House, Surbiton, Surrey.

Tolley, F., A.I.E.E., 26, Budge-row, Cannon-st., London, E.C. (Telephone No. 8021, Bank.)

Tolman, G., & Son, electrical engineers, 53, Drayton-st., Wolverhampton.

Tomes, W., J.P., 31, Billing-rd., Northampton. Director Northampton Electric Light & Power Co., Ltd.

Tomey, J., & Sons, Ltd., manufacturers of glass tubing for electric purposes, &c., Aston, Birmingham. (Telegs.: "Tomey, Aston, Birmingham.") Est. 1853.

TOMEY & SONS, gauge glass manufacturers, Tay Glass Works, Perth. (Telegrams: "Tomey, Perth.")

Tomkins, G. G., A.M.I.E.E., 120, Lexham-gdns., Kensington, London, W.

Tomkins, W. A., metal stamper & piercer, 132, De Beauvoir-rd., Kingsland, nr. Dalston Junction, London, N.

Tomlinson, E. T., electrical engineer, 8, St. George's-sq., London, S.W.

Tomlinson, H. J., A.I.E.E., 56, Harold-rd., Upper Norwood, London, S.E.

Tomlinson, Thomas, M.I.E.E., Northumberland House, Beresford-pl., Dublin.

Tomlinson, E., & Co., electrical engineers, 40, Page-st., Westminster, London, S.W.

Tomlinson-Lee, H., A.M.I.E.E., chief electrical engineer, Electricity Works, Wimbledon. (Telegrams: "Electricity Works, Wimbledon." Telephone No. 60.)

Tompkins, J. B., electric light fittings maker, 79, Plashet-lane, East Ham, London, E.

Tompkinson, J., M.P., Willington Hall, Tarporley, Cheshire. Director North Wales Power & Traction Co., Ltd.

Tonbridge Urban District Council Electricity Works, Tonbridge, Kent. (Teleph. No. 60B.) Engineer, J. A. Bernard Horsley, A.M.I.E.E.

Tonge, J. H., M.I.E.E., engineer, National Electric Supply Co., Ltd., Preston.

Tongue & Birkbeck, patent agents, Birkbeck Bank-chbrs., Chancery-lane, London, W.C. (Telegrams: "Lingua, London.")

Tonks, Ltd. (late Tonks, W., & Sons), art metal workers, 201, Moseley-st., Birmingham (Telegrams: "Brass, Birmingham." Telephone No. 52); & 57, Holborn Viaduct, London, E.C. (Telephone No. 6789, Holborn.)

Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 138, High-st., Ton-yr-efail. Registered Sept. 24, 1903. Nominal capital: £5000 in £1 shares. Issued: £935 debentures, part of series created Dec. 6, 1904, to secure £1500. Directors: W. T. Rees, Esq. (chairman); D. L. Jones, Esq.; D. N. Morgan, Esq.; L. Jenkins, Esq.; Wm. James, Esq.; Thos. Williams, Esq.; W. Evans, Esq. Engineer, A. J. Arthur.

Tookey, Wm. A., gas & oil engine specialist, 19, Old Queen-st., Westminster, London, S.W. (Teleph. No. 233, Victoria.)

Topham, H., A.M.I.E.E., 64, Viton-st., Fulham Palace-rd., London, S.W.

Topham, Charles, & Co., weavers of wire gauze for dynamos, 3, Dufferin-st., Bunhill-row, London, E.C. (Telephone No. 1877, London Wall.)

Topham, Jones & Railton, Ltd, constructors & owners of electric & other works, 2, Great George-st., Westminster.

Toppin, W. A., A.M.I.E.E., 35, Robertson-st., Greenock, N.B

Topping, F. W., M.I.E.E., superintendent Direct United States Cable Co., Ballinskelligs, Ireland.

Topsham Electricity Supply Co., Ltd., Topsham, Devon. Registered April 30, 1904. Nominal capital: £3000 in £1 shares. Issued: 1330 shares with £1 called. Directors: T. J. Holman, Esq. (chairman); A. A. Amos, Esq.; C. J. Gale, Esq; C. F. Gale, Esq.; T. E. Hopewell, Esq.; R. H. Cummings, Esq. Secretary & manager, H. C. Gould.

Torpy, R. N., A.I.E.E., deputy chief engineer, Corporation Electricity Works, Wimbledon. (Teleph. No. 60.)

Torquay Corporation Electricity Works, Torquay. P. Storey, M.I.M.E., A.M.I.E.E., engineer. (Telegrams: "Storey, Electricity Works, Torquay." Telephone No. 192.)

Torquay Tramways Construction Syndicate, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered Aug. 24, 1905. Nominal capital: £140,000 in £1 shares. Secretary, L. D. H. Jacobs.

Tose, G., chief superintendent of the telegraph branch, Liverpool.

Tosh, D., & Son, manufacturers & erectors of lightning conductors, 77, Queen-st., Glasgow. Works: 12, Houston-st., Greenock. (Telegrams: "David Tosh, Greenock." Telephone No. 256.)

Tothill, Chas., M.I.E.E., Eastern Telegraph Co., Electra House, Moorgate, London, E.C.

Totnes Electricity Co., Ltd., Salisbury House, London Wall, London, E.C. Nominal capital: £10,000 in 10,000 shares of £1 each, the whole of which are held by The Electric Supply Corporation, Ltd. Directors: C. F. Tufnell, Esq. (chairman); Home Gordon, Esq.; Col. H. Wood, C.B.; Major C. Heaton-Ellis; J. G. B. Stone, Esq. Chief engineer & general manager, K. A. Scott Moncrieff; secretary, F. R. Reeves.

Touche, G. A., director United Electric Tramways of Montevideo, Ltd., Basildon House, Moorgate-st., London, E.C.

Toulmin, E. H., M.S.E., art metal worker & lighting engineer, Wotton-under-Edge, Gloucestershire. (Telegrams: "Toulmin, Wotton-under-Edge.")

Toulmin, Jas., A.M.I.E.E., manager & engineer, Burton & Ashby Light Railways Power Station, Swadlincote, nr. Burton-on-Trent. (Nat. Teleph. No. 1.)

Tourtel, John, consulting engineer, Wardrobe-chbrs., 146A, Queen Victoria-st., London, E.C.

Tourtel Manufacturing Co., Ltd., engineers, Wardrobe-chbrs., 146A, Queen Victoria-st., London, E.C. (Telegrams: "Tourtel, London." Telephone No. 359, Bank.)

Tovey, H. T., A.I.E.E., 39, Nevern-sq., Earl's Court, London, S.W.

Toward, T., & Co., manufacturers of tarboilers, St. Lawrence Ironworks, Ouseburn, Newcastle-on-Tyne. (Telegs.: "Towards, Newcastle-upon-Tyne." Teleph. No. 515.)

Tower Manufacturing Co., Ltd., rivets, hooks, electric staples, &c., Central Works, Shrub Hill, Worcester. (Telegrams: "Nails, Worcester." Telephone No. 66.)

Towle, J. W., M.I.E.E, M.I.C.E.I., resident engineer, Underground Electric Railways Co. of London, Ltd., Power Station, Lots-rd., Chelsea, London, S.W. (Teleph. No. 1691, Kensington.)

Townsend, E., M.A., D.SC., professor of engineering & registrar, Queen's College, Galway.

Townsend, Prof. J. S. E., M.A., professor of physics, University, Oxford.

Townson & Mercer, electrical instrument makers, 89, Bishopsgate-st.-within, & 34, Camomile-st., London, E.C. (Telegrams: "Townson, London." Telephone No. 2537, Avenue.)

Toy, W. E., A.I.E.E., 11, St. Ann's-rd., New Wandsworth, London, S.W.

Tozer, Kemsley & Fisher, Ltd., agents for L. J. Healing & Co., Yokohama & Japan, 84, Fenchurch-st., London, E.C.; & at Lloyds. (Telegs.: "Tozer, or Kemsley, London." Teleph. No. 2754, Avenue. Engineering, 2nd edit., A1, A.B.C., Leviathan, Commercial, Scotts, Garsins, Liebers & Private Codes.)

Tracey, H. J., manager for Glasgow, Commercial Cable Co., Glasgow. (Telephone Nos.: 3349, Nat.; & 2349, Corp.)

Traction Corporation, Ltd., 16, Great George-st., Westminster, S.W. (Telegs.: "Overtrip, London." Teleph. No. 331, Westminster.) Works: Wednesfield-rd., Wolverhampton. Registered Nov. 4, 1904. Nominal capital: £100 in £1 shares. Secretary, J. D. Meane.

Traction Insurance Association, Ltd., St. Mildred's-ct., London, E.C. (Telegs.: "Tractasset, London." Teleph. No. 9613, London Wall.)

Traction & Power Securities Co., Ltd., 2, Norfolk-st., London, W.C. (Telegs.: "Unbuckling, London." Teleph. No. 3261, Gerrard.) Registered July 27, 1901. Nominal capital: £2,000,000 in 100,000 5 per cent. non-cumulative preference shares of £10 each & 100,000 ordinary shares of £10 each. Issued: 85,410 ordinary shares, fully paid up. Directors: G. Westinghouse, Esq.; M. Hunsiker, Esq.; J. H. Lukach, Esq. (managing); H. A. Vernet, Esq.; A. Bonar Law, Esq., M.P. Secretary, W. G. Dunstall. Dividends: 1901–02, 4¼ per cent.; 1903, 1904 & 1905, *nil.*

Trade Mark Protection Society, registration of trade marks, designs, copyrights, &c., 322, High Holborn, London, E.C. (Telegrams: "Discovery, London.")

Trade Marks Journal (weekly) (annual subscription, 35*s.*; single copies, 6*d.*; post free, 8*d.*), Patent Office Sale Branch, 25, Southampton-buildings, Chancery-lane, London, W.C.

Traders Supply Co., electric lamps, 40, South King-st., Manchester.

Trafford, Wilfred B., assist. electrician, Sun Fire Office, Threadneedle-st., E.C. (Tel. No. 9346, Central.)

Trafford Park Estates, Ltd. (Tramways), Trafford Park, Manchester. (Telegs.: "Developing, Manchester." Teleph. No. 61, Trafford Park.) Electrical engineer, Chas. Gould.

Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester. (Telegs.: "Quickstep, Manchester." Teleph. No. 2684.) Registered Jan. 27, 1902. Nominal capital: £150,000 in £1 ordinary shares & £43,900 debentures. Issued: £115,600, fully paid. Directors: A. L. Ormrod, Esq. (chairman); E. A. Claremont, Esq. (joint managing); Ll. B. Atkinson, Esq. (joint managing). Resident engineer, John McGregor; assistant engineer, W. Mills; secretary, F. J. Warren.

Traill, A., D.L., LL.D., M.D., Provost, Trinity College, Dublin. Chairman Giants' Causeway & Portrush Electric Tramway Co.

Traill, Wm. A., C.E., electric railway engineer & managing director Giants' Causeway & Portrush Electric Tramway Co., Portrush, Co. Antrim, Ireland. (Telegrams: "Trailway, Bushmills.")

TRAMWAY & RAILWAY WORLD, Amberley House, Norfolk-st., Strand, London, W.C. (Telegrams: "Tramigro, London." Telephone No. 2948, Gerrard.) *See advt., page* 16.

Tramways Construction Syndicate, Ltd., 22, Staines-rd., Ilford.

Tramways Development Co., Ltd. Registered Dec. 20, 1904. Nominal capital: £100 in £1 shares.

Tramways Extension Syndicate, Ltd. *In voluntary liquidation.* Liquidator, E. Davies, 5, London Wall-bldgs., E.C.

Tramways Institute (J. G. B. Elliot, secretary), 18, Elden-street, & 19, Finsbury-circus, London, E.C. (Telegrams: "Surmisable, London." Telephone No. 825.)

Tramways & Light Railways Association, 35, Parliament-st., London, S.W. (Teleph. No. 2110, Victoria.) Secretary, Ernest Benedict, M.I.C.E.

Tramways & Light Railways Estates Co., Ltd., Lennox House, Howard-st., London, W.C.

Transactions of the Institution of Mining Engineers (monthly), edited by the secretary, M. Walton Brown, Neville Hall, Newcastle-upon-Tyne. (Telegs.: "Moneo, Newcastle-upon-Tyne." Nat. Teleph. No. 2201, Central.) (Price, £3 12*s.* per annum.)

Tranter, J., local manager, National Telephone Co., Ltd., Blackpool.

Travers, Lindon, jun., electrical engineer, Rodney House, Newcastle-on-Tyne. (Telegs.: "Lindon Travers, Newcastle-on-Tyne.")

Treacher, C. W., & Co., manufacturing electricians, 165, Queen Victoria-st., London, E.C.

Treasure, J. B., & Co., makers of gauge glasses & electric cylinders, Vauxhall-road, Liverpool. (Telegrams: "Treasure, Liverpool." Telephone No. 1529.)

Tredegar Dry Dock & Engineering Co., Mill-parade, Newport, Mon. (Telegrams: "Screw, Newport." Telephone Nos.: 38, Nat.; & P.O. 41.)

Treeton Parish Council Electricity Works. Engineer, W. H. Barwell.

Treglohan, Thomas P., electrician, c/o Plymouth & District Students' Association, Plymouth.

Treharne, F. W., electrician, Llynderw, Llanishen, near Cardiff.

Tremain, F., A.I.E.E., superintending engineer of Postal Telegraphs, Newcastle-on-Tyne.

Trenbath, G., A.M.I.E.E., electrical engineer, Corporation Electricity Works, Salford.

Trench, Colonel The Hon. W. Le Poer, R.E., A.I.E.E., 3, Hyde-park-gardens, London, W. (Telegrams: "Heusden, London.")

Trenery, E. T., & Sons, electric casing makers, Bridge-st., Northampton. (Telegrams: "Trenery, Northampton." Nat. Telephone No. 123.)

Trenow, E. H. R., director Bath Electric Tramways, Ltd., 18, St. Helen's-pl., E.C.

Trentham, W. H., M.I.M.E., M.I.E.E., consulting electrical engineer, 39, Victoria-st., London, S.W. (Telephone No. 1048, Victoria.)

Trezise, J. M. G., M.I.E.E., technical officer, engineer-in-chief's office, G.P.O., London, E.C.; & 2, Colinette-rd., Putney, S.W.

Tricket & Co., electrical engineers & contractors, 130, Norwood-rd., & Electric Parade, West Norwood, S.E.

Trier Bros., lubricator makers, & sole makers of Stauffer's Lubricant, 19, Great George-street, Westminster, London, S.W. (Telegrams: "Viscosity, London.")

Trimnell, L. C. B., A.I.E.E., electrical engineer, Richmond (Surrey) Electric Light & Power Co., Ltd., Richmond, Surrey; & Whitecliffe, Woldingham, Caterham Valley.

Trinity College Electrical Engineering School, Dublin.

Trinity House, Tower Hill, London, E.C. (Telegs.: "Dioptric, London." Teleph. No. 2242, Avenue.)

Triplex Co., electrical engineers & contractors, Wrexham. (Telegrams: "Triplex, Wrexham." Telephone No. 8 Y. 3.)

Trippe, C. F., A.M.I.E.E., electrical engineer, General Electric Co., 71, Queen Victoria-st., London, E.C.

Trippett, J., & Son, steel castings manufacturers, Coleridge-rd., Sheffield.

Tritton, J. Herbert, chairman Indo-European Telegraph Co., Ltd., 18, Old Broad-st., E.C.

Tritton, Wm. Ashbee, A.I.E.E., c/o W. Forster & Co., Wellington Foundry, Firth-rd., Lincoln.

Triumph Stoker, Ltd., 85, Kirkstall-rd., Leeds. (Telegs.: "Stoker, Leeds." Teleph. No. 2184.)

Trollope, G., & Sons, electric light engineers, 14, Mount-st., Grosvenor-sq., & 5, Victoria-st., London, S.W. (Telephone No. 533, Westminster.)

Trotman, John Price, A.I.E.E., 31, Balchier-rd., East Dulwich, London, S.E.

Trotter, Alexander, gas & steam tubes & fittings & electrical accessories, 1A, Bowling Green-lane, Farringdon-rd., London, E.C. (Telegrams: "Overspan, London." Telephone No. 1973, Holborn.)

Trotter, A. P., B.A., M.I.M.E., M.I.C.E., M.I.E.E., electrical adviser to the Board of Trade, 8, Richmond-ter., Whitehall, London, S.W.

Trotter, H. A., 7, Mincing-lane, E.C. Director La Capital Tramways Co., Ltd.; La Capital (Extensions) Tramways Co., Ltd.; La Capital Traction & Electric Co. (Buenos Ayres), Ltd.; & Buenos Ayres New Tramways Co., Ltd.

Trotter, Howard B., A.I.E.E., electrician, 63, Queen Victoria-st., London, E.C. (Telegrams: "Lithium, London." Telephone No. 8042, Bank.)

Trotter, John, electrician, 40, Gordon-st., Glasgow. (Telephone Nos.: 5865, Nat.; & 3636, Corp.)

Trotter, W., chairman United Electric Tramways of Montevideo, Ltd., Basildon House, Moorgate-st., E.C.

Trotter, H. B., & Co., electrical & mechanical engineers, 63, Queen Victoria-st., London, E.C. (Telegrams: "Lithium, London." Telephone No. 8042, Bank.)

Troughton, J. A., A.I.E.E., 101, Beaufort-st., Chelsea, S.W.

Troup, Curtis & Co., electrical engineers, 102, Fenchurch-st., London, E.C. (Teleph. No. 1826, Central); 282, Victoria Dock-rd., Custom House, London, E. (Telegs.: "Voltejar, London." Teleph. No. 571, East); & Avonmouth Dock, Bristol.

Trouton, Fredk. Thos., M.A., D.SC., F.R.S., M.I.E.E., professor of physics, University College, Gower-st., London, W.C.

Troy & Co., installation contractors, 194, Finchley-rd., London, N.W.

Trube, G. A., electrical engineer, c/o British Westinghouse Co., Trafford Park, Manchester.

Truman, W., electrical agent, 4, Newick-rd., Clapton, London, N.E.

Trump, H. J. van, East-st., Taunton. Director Bridgwater & District Electric Supply & Traction Co., Ltd.

Trusler, W. T., A.I.E.E., Windmill Hill, Enfield.

Tuchman, H., aluminium & arc lamps, 2, Dyer's-bldgs., Holborn, London, E.C. (Telegs.: "Hurdle, London." Teleph. No. 9706, Central.)

Tuck & Co., Ltd., engineers' stores contractors, 19–22, Lower Abbey-st., Dublin. (Telegrams: "Tucks, Dublin." Telephone No. 575.)

Tucker, Wm. Sansome, A.I.E.E., Municipal Technical Institute, Romford-rd., West Ham; & 50, Empress-ave., Ilford.

TUCKER, J. H., & CO., manufacturers of fittings & accessories for electrical contractors, Sampson-rd. North, Birmingham (Telegrams: "Switches, Birmingham." Telephone No. 2978); 217, Shaftesbury-ave., London, W.C. (Telephone No. 3215, Gerrard); & 11, Bothwell-st., Glasgow. (Telephone Nos.: 5645, Corporation; & 34, Argyle. Codes A.B.C., 4th edit., & A1.)

Tucker, W., & Co., electric lighting contractors, 3, High-st., Putney, London, S.W. (Telephone No. 3, Putney.)

Tuckett, P. D., A.I.E.E., 92, Palace Gardens-ter., London, W. Director City of London Electric Lighting Co., Ltd.

Tudman, A. R., A.M.I.E.E., engineer & manager, District Council Electricity Works, Colwyn Bay. (Telegrams: "Tudman, Colwyn Bay." Telephone No. 63.)

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London." Telephone No. 24, Victoria.) Works at Dukinfield, nr. Manchester. Registered Sept. 16, 1897. Nominal capital: £100,000 in 8800 "A" & 1200 "B" shares of £10 each. Issued: 3800 "A" & 1200 "B," fully paid. Directors: L. Cellérier, Esq. (chairman); H. O. Tudor, Esq.; A. B. Pescatore, Esq. (managing). Electrical engineer & secretary, E. S. Jacob. *See advt.*, ACCUMULATORS.

Tudor Storage Battery Export Syndicate, Milton House, Surrey-st., Strand, London, W.C. (Telegs.: "Tudorious, London." Teleph. No. 13193, Central.)

Tudsbery, Dr. J. H. T., M.I.C.E., secretary of the Institution of Civil Engineers, Great George-st., Westminster, S.W.

Tudsbury, Rd., & Sons, influence machine makers, Edwinstowe, Newark, Notts.

Tufnell, Carleton F., "Watendone Manor," Kenley, Surrey. Director Hove Electric Lighting Co., Ltd.; director Crompton & Co., Ltd.; chairman Chelmsford Electric Lighting Co., Ltd.; chairman Electric Supply Corporation, Ltd.; chairman Totnes Electricity Supply Co., Ltd.

Tullis, John, & Son, Ltd., St. Ann's Leather Works, John-st., Bridgeton, Glasgow.

Tulloch, H. A., engineer, Electricity Works, Dalkeith, Midlothian.

Tulloch, Major H., C.B., R.E. (retired), director United Kingdom Tramway, Light Railway & Electrical Syndicate, Ltd., 28, Victoria-st., S.W.

Tulloch & Co., mica importers & exporters, 4, Fenchurch-ave., London, E.C. (Telegrams: "Target, London." Telephone No. 1131, Avenue.)

Tully, Alfred, electrical engineer, 48, North Bridge-st., Sunderland.

Tully, J. E., West Quarter, Hexham. Chairman Hexham & District Electric Supply Co., Ltd.

TULLY & STRAKER, mica merchants, 16, Water-lane, Great Tower-st., E.C. (Telegrams: "Glist, London." Telephone No. 975, Central.) *See advts.*, DYNAMO MANUFACTURERS & MICA MERCHANTS.

Tunbridge, W. T., A.I.E.E., Chase View, Colwich, Stafford.

Tunbridge Wells Corporation Electricity Works. Horace Boot, M.I.E.E., consulting engineer & manager. (Telegrams: "Boot, Tunbridge Wells." Telephone No. 565.)

Tunzelmann, G. W. de, B.SC., M.I.E.E., consulting engineer, 82, Victoria-st., London, S.W. (Telegrams: "Tunzelmann, London." Telephone No. 5162, Westminster.)

Turbutt, P. C., director East India Construction Syndicate, Ltd., 19, St. Swithin's-lane, London, E.C.

Turing & Findlay, mica importers & merchants, 41, Gracechurch-st., London, E.C. (Telegrams: "Thorite, London." Telephone No. 5840, Central. A.B.C. Code.)

Turnbull, Charles, A.M.I.E.E., borough electrical engineer, County Borough of Tynemouth Corporation Electricity Works, North Shields. (Telegs.: "Electricity Works, N. Shields." Tel. No. 27, Nat.)

Turnbull, Frederick, A.I.E.E., The Terrace, West Newport, Dundee.

Turnbull, Herbert, A.M.I.E.E., 3, Myddleton Park, Whetstone, London, N.

Turnbull, Jas. L., electrical engineer, Corporation Electricity Works, Broughty Ferry, Forfarshire.

Turnbull, R. E. S., A.I.E.E., chief assistant electrical engineer, Electric Light Works, Bromley, Kent.

Turnbull, Walter A., A.M.I.E.E., station superintendent, Electricity Works, York.

Turnbull, Alex., & Co., Ltd., manufacturers of boiler mountings, Bishopbriggs, Glasgow. (Telegs.: "Valve, Bishopbriggs, Glasgow." Teleph. No. 4394.)

Turnbull, John, jun., & Sons, turbine makers, Canal Basin Foundry, Dobbies Loan, Glasgow. (Telegs.: "Turbine, Glasgow." Teleph. Nos.: 861, Corp.; & 3032, Royal, Nat.)

Turner, Albert R., A.I.E.E., Winfield Mount, Dumbarton, N.B.

Turner, Arnold, A.I.E.E., Denton, nr. Manchester.

Turner, A. W., dealer in electric safety lamps, Cobden-bldgs., Birmingham. (Telegrams: "Acumen.")

Turner, Chas. J., A.I.E.E., resident engineer, District Council Electricity Works, Hoylake. (Teleph. No. 203.)

Turner, C. L., M.I.E.E., consulting electrical & mechanical engineer, Post Office-chbrs., 26, Brown-st., Manchester.

Turner, Dr. Dawson, medical electrician, Royal Infirmary, Edinburgh.

Turner, F., electrical engineer, 61B, Western-rd., Hove. (Nat. Teleph. No. 714 X. 1.)

Turner, Geo. Charles, B.SC., A.I.E.E., Wrens, Church-ave., Sidcup.

Turner, G. P., electrical engineer, 16A, Eccleston-st., London, S.W.

Turner, H. H., electrical engineer, Denton, Lancs.

Turner, H. W., A.M.I.E.E., consulting engineer, Oswaldestre House, Norfolk-st., Strand, London, W.C. (Telegs.: "Quadrature, London." Teleph. No. 6497, Central.)

Turner, John W., A.I.E.E., 88, Clonmore-st., Southfield, London, S.W.

Turner, J. W., chief electrical assistant, Electricity Works, Huddersfield.

Turner, Major, Cae Synamon, Carnarvon. Director Snowdon Mountain Tramroad & Hotels Co., Ltd.

Turner, Marten, electrical engineer & general manager, Colne & Trawden Light Railway Co., Colne.

Turner, Percy W., engineer (Kincaid, Waller, Manville & Dawson), 29, Great George-st., London, S.W. & lecturer in electrical engineering, Great Eastern Railway Technical Institute, Stratford, E.

Turner, Stuart, small electric lighting engines & castings, Shiplake, Henley.

Turner, T. E., electrical engineer, 66, Chesterfield-gdns., Harringay Park, London, N.

Turner, Wm., Stowmarket, Suffolk. Director Suffolk Electricity Supply Co., Ltd.

Turner, Wm. H., A.M.I.E.E., 62, Bentley-lane, Meanwood, Leeds.

Turner, Atherton & Co., Ltd., electrical & general engineers, Turner-st., Denton, Manchester. (Telegs.: "Machines, Denton, Lancs." Teleph. No. 5. A.B.C. Code used.)

Turner Bros., iron & steel, brass & copper manufacturers & merchants, 134, Upper Thames-st., London, E.C. (Telegrams: "Sheetiron, London." P.O. Telephone No. 355, Central.)

TURNER & BURGER, manufacturers & agents for electrical accessories, fittings, main switches, & all electrical goods, Audrey House, Ely-pl., London, E.C. (Telegs.: "Automaton, London." Teleph. No. 9687, Central.)

Turner, E. R. & F., Ltd., steam engine & boiler makers, Ipswich. (Telegrams: "Gippeswyk, Ipswich." Telephone No. 24.)

Turner, G. & H, electrical engineers, 2, High-st., Harlesden, N.W. (Teleph. No. 99, Harlesden.)

Turner & Hudson, makers of electric wire casings, 31, Ivy-st., Hoxton, London, N. (Telegrams: "Sculptends, London." Telephone No. 341, Dalston.)

Turner, Son & Walker, electrical engineers, 59, Bold-st., Liverpool. (Telephone No. 2042.)

Turner & Sons, ironmongers & electricians, 5, Woodstock-rd., Oxford.

Turner, Sydney R., & Co., electrical engineers, London-rd., Derby. (Telegs.: "Coronet, Derby." Teleph. No. 115.)

Turners & Manville, Ltd., manufacturers of asbestos, electrical insulating materials, &c., 81, Fenchurch-st., E.C. (Telegrams: "Asbestino, London." Telephone Nos. 1458 & 1437, Avenue.)

Turney, A. T., A.M.I.E.E., 15, Elderslie-rd., Eltham, S.E.

Turnor, Algernon, C.B., Goadby Hall, Melton Mowbray. Director South London Elec. Supply Corp., Ltd.

Turquand, W. A., A.I.E.E., 29, Gledstanes-rd., West Kensington, London, W.

Turton Bros. & Matthews, Ltd., manufacturers of tool steel, files, &c., Steel File & Spring Works, Sheffield.

Tuson, C., A.M.I.E.E., electrician, "Seaton," Welldon-cres., Harrow.

Tutt, C. B., A.M.I.E.E., electrical engineer, County Asylum, Rainhill, Lancs.

Tutte, H. E., A.M.I.E.E., 10, West-st., Fareham, Hants.

Tuxford, Jas. Geo., maker of slate insulators, Conway & Deganwy Quay, nr. Llandudno, North Wales.

Tweddell, G. H., district manager, British Westinghouse Electric & Mfg. Co., Ltd., Newcastle-on-Tyne.

Tweedales & Smalley, Ltd., machine makers, Castleton, nr. Manchester. (Telegs.: "Globe, Castleton, Manchester." Teleph. Nos. 83 & 148, Rochdale.)

Tweeddale, the Most Hon. the Marquis of, K.T., 6, Hill-st., Berkeley-sq., W. Chairman Europe & Azores; chairman Direct Spanish; director Eastern; director Eastern & South African; chairman West African; & director Eastern Extension Australia & China Telegraph Cos., Ltd.; chairman Globe Telegraph & Trust Co., Ltd.

Tweedie, John, A.M.I.E.E., 149, Lewisham-rd., Blackheath, S.E.

Twelvetrees, W. Noble, A.M.I.E.E., 91, Louisville-rd., Upper Tooting, London, S.W.

Twickenham & Teddington Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Tothill-st., Westminster, London, S.W.; & Twickenham. (Telegs.: "Twickenham Electric." Teleph. No. 54, Richmond.) Resident engineer at Twickenham, C. E. Hume. *The whole of the capital is held by the Urban Electric Supply Co., Ltd.*

Twyford, T. W., Whitmore Hall, Newcastle-under-Lyme. Chairman North-Western Electricity & Power Gas Syndicate, Ltd.; director North-Western Electricity & Power Gas Co.

Twyfords, Ltd., earthenware manufacturers, Cliffe Vale Works, Shelton, Staffs.

Tyack, W. J. & C., Ltd., electric bell fitters & telephone engineers, Camborne, Cornwall. (Telegrams: "Tyack, Ironmongers, Camborne." Telephone No. 4 X.)

Tychsen, Colonel V. E., D.R.E., director Great Northern Telegraph Co., Ltd., of Copenhagen, 3, St. Helen's-pl., London, E.C.

Tyer, Ed., F.R.A.S., F.R.G.S., M.I.E.E., 16, Ashwin-st., Dalston, London, N.E.

Tyer & Co., Ltd., railway signal telegraph instrument manufacturers, Ashwin-st., Dalston Junction, London, E. (Telegs: "Switchmen, London"); & Metcalfe-st., Carlisle. Registered March 31, 1898. Nominal capital: £25,000 in £1 shares. 22,007 have been taken up, 20,000 are considered as paid, & £1 per share has been called on the others. £2000 has been paid, & £7 has yet to be sent in.

Tylecote, L. H., chief assistant electrical engineer, Electricity Works, Llandudno.

Tyler, Edward H., M.I.E.E., A.M.I.C.E., 74, Croxted-rd., West Dulwich, London, S.E.

Tyler, H. W., electrical engineer & contractor, 45, High-st., Beckenham.

Tyler, Ralph Gooch, M.I.E.E., 20, New Bridge-st., Blackfriars.

Tyler & Freeman, electrical & mechanical engineers, 20, New Bridge-st., London, E.C. (Telegrams: "Potential, London." Telephone No. 859, Holborn.)

Tylor, J., & Sons, Ltd., sanitary, consulting & electrical engineers, 2, Newgate-st., London, E.C.; & Belle Isle, York-rd., N. (Telegs.: "Tylosis, London." Teleph. No. 683, North.)

Tyne Wire Drawing Co., wire drawers & manufacturers, South Shore, Gateshead. (Telegrams: "Haggie, Gateshead." Telephone Nos.: 1167, Nat.; & 332, P.O.)

Tynemouth, County Borough of, Corporation Electricity Works, Tanners Bank, North Shields. (Telegs.: "Electricity Works, North Shields." Nat. Teleph. No. 27.) Engineer, C. Turnbull, A.M.I.E.E.

Tynemouth & District Electric Traction Co., Ltd., Donington House, Norfolk-st., W.C.; & Tramways Depôt, Cullercoats. (Telegs.: "Tramways, Cullercoats." Teleph. No. 17, Whitley.) Registered Jan., 1890, name changed as above in 1899. Nominal capital: £60,000 in £5 ordinary shares & £40,000 in £5 preference shares. Debenture stock limited to one-half subscribed capital. Issued: £46,410 ordinary & £30,500 preference shares. A trust deed, dated Feb. 6, 1903, to secure £20,000 debentures, created by resolution of Aug. 10, 1902 (power being taken to make further issues). Directors: W. L. Madgen, Esq. (chairman); W. J. Greer, Esq.; H. S. Day, Esq.; J. H. Robinson, Esq.; J. B. Williamson, Esq., J.P. Engineer, R. Simpson; secretary, S. Neville Wells.

Tyneside Electrical Development Co., Ltd., St. Nicholas-chbrs., Amen Corner, Newcastle-on-Tyne. Registered Nov. 20, 1906. Nominal capital: £100,000 in £1000 shares.

Tyneside Electrical Pioneer (monthly), Royal Exchange-bldgs., Newcastle-on-Tyne.

Tyneside Supply Co., wholesale electrical suppliers, 1, St. Nicholas-bldgs., Newcastle-on-Tyne. (Telegrams: "Paratus, Newcastle-on-Tyne." Telephone Nos.: 735, Nat.; 139, P.O.)

Tyneside Tramways & Tramroads Co., Neptune Bank, Wallsend, Northumberland. (Telegrams: "Tramways, Wallsend." Nat. Telephone No. 84.) Nominal capital: £200,000 in £10 ordinary shares & £65,000 debentures. Issued: £133,900 ordinary shares, fully paid, & £40,000 debentures. Directors: Lord Armstrong (chairman); J. H. Armstrong, Esq.; G. E. Henderson, Esq.; Summers Hunter, Esq.; J. T. Merz, Esq., D.C.L.; J. H. B. Noble, Esq. Resident engineer, F. H. Briggs; secretary & manager, J. C. Little. Dividends: 1903, 2¼ per cent.; 1904, 2 per cent.; 1905, 1 per cent.: & first half of 1906, 1½ per cent.

Typewriting Telegraph Corporation, Ltd., 31, Devonshire-chbrs., Bishopsgate-st. Without, E.C. (Telegrams: "Atypic, London." Telephone No. 1278, London Wall.) Registered June 26, 1900. Nominal capital: £100,000 in £1 ordinary shares & £1150 debentures. Issued: £69,833, fully paid. Directors: A. J. Parker, Esq. (chairman); R. W. Nash, Esq., C.E. Secretary, R. J. Barrow, A.C.I.S.

Typke & King, Ltd., manufacturers of chemicals for electrical purposes, 16, Mincing-lane, London, E.C. (Telegs.: "Valerianic, London." Teleph. No. 279, Avenue.)

Tyrrell, G. N. M., A.I.E.E., Bourton Rectory, Rugby.

Udall, Chas., A.M.I.E.E., Metropolitan Power Station, Neasden, London, N.W.

Ullett, J. W., M.I.E.E., British L. M. Ericsson Manufacturing Co., Ltd., Telephone Works, Beeston, Notts.

Ullmann, W. C., M.I.E.E., M.I.MECH.E., engineer & manager, Corporation, Nelson-st., East Ham.

Ulster Electric Power Distribution Co., Ltd., 1, Lombard-st., Belfast. Registered July 9, 1903. Nominal capital: £10,000 in £1 shares. Consulting engineers, Preece & Cardew, & L. L. Macassey & Son; secretary, S. B. Quin.

Umney, Herbert W., A.M.I.E.E., electrical engineer, 46, King William-st., London, E.C.

Umney, H. W., & A. Peckett, electrical engineers, 46, King William-st., E.C.

"Unbreakable" Pulley & Mill Gearing Co., Ltd., pulley manufacturers, 40, Boundary-st., West Gorton, Manchester (Telegrams: "Strength, Manchester." Telephone Nos. 52 & 4452); & 56, Cannon-st., London, E.C. (Telegrams: "Horsepower, London." Telephone No. 15,051.)

Underdown, E. M., K.C., 98, Eaton-pl., London, S.W. (Telephone No. 3407, Gerrard.) Chairman Direct U.S. Cable Co., Ltd.

Underfeed Stoker Co., Ltd., Coventry House, South-pl., London, E.C. (Teleph. No. 6079, Bank.)

Underground Electric Railways Co. of London, Ltd., Hamilton House, Victoria Embankment, London, E.C. (Telegs.: "Underneath, London." Teleph. Nos.: 2400, 2401, 2402 & 2403, Holborn); & Lots-rd., Chelsea. (Teleph. No. 1691, Kensington.) Registered April 9, 1902. Nominal capital: £5,000,000 in £10 shares; £2,500,000 paid up. £7,000,000 5 per cent. profit sharing secured notes. A trust deed, dated Oct. 25, 1904, & an instrument of charge, bearing same date, to secure £850,000 debentures, known as Power House 4½ per cent. Debentures, of which £700,000 have been issued, created by resolution of Oct. 18, 1904, have been registered. Directors: Sir Edgar Speyer, Bart. (chairman); W. Abbott, Esq.; F. Dawes, Esq.; Rt. Hon. Lord Farrer; The Rt. Hon. Lord Geo. Hamilton; C. J. Cater-Scott, Esq.; C. A. Spofford, Esq.; Sir Clifton Robinson; J. A. Blair, Esq.; T. J. Coolidge, jun., Esq.; L. F. Loree, Esq.; J. Speyer, Esq.; Jonkheer H. Teixera de Mattos; Hon. S. G. Holland; Raleigh B. Phillpots, Esq. Secretary, W. E. Mandelick.

Underhill, Walter R., A.I.E.E., 79, Bath-st., Glasgow.

Underwood, A. H., electrical contractor, Renshaw-st., Hulme, Manchester.

Underwood, Capt. W. J., A.I.E.E., 18, Colebrook-ave., West Ealing, London, W.

Underwood, H., & Co., electrical engineers, Renshaw-st., Hulme, Manchester. (Telephone No. 08587.)

UNION CABLE CO., LTD., cable manufacturers, 27, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 975, North.) Registered Aug. 24, 1900. Nominal capital: 25,000 in £1 shares. Secretary & manager, J. A. Blackwood. *See advt., page* 4.

Union Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. Registered Oct. 16, 1901. Nominal capital: £200,000 in £20 shares. Director: J. R. Chapman, Esq.; W. E. Mandelick, Esq. (secretary).

UNION ELECTRIC CO., LTD., manufacturing electrical engineers. Head office & stores: Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) Registered Aug. 13, 1901. Nominal capital: £25,000 in £1 shares. Issued: 24,250 shares, of which 4250 are fully paid & 19,500 are 1*s.* paid. Directors: M. Korting, Esq.; H. Garbe, Esq.; M. Muller, Esq. Chief engineer, manager & secretary, Justus Eck, M.A., M.I.E.E. *See advt.*, ENGINEERS—ELECTRICAL.

Union Engineering Co., electrical engineers, Union-st., Darwen, Lancs.

Union Ironworks Co., Ltd., mechanical stoker makers, Ryecroft-st., Ashton-under-Lyne. (Telegs.: "Union, Ashton-under-Lyne." Teleph. No. 51 Y., Ashton.)

United Alkali Co., Ltd., chemical & metal manufacturers, 30, James-st., Liverpool (Telegs.: "Ubique, Liverpool." Teleph. No. 5001); Netham Works, Bristol (Telegs.: "Netham, Bristol." Teleph. No. 810); Newcastle-on-Tyne (Telegs.: "Ubique, Newcastle-on-Tyne." Teleph. Nos.: 41, G.P.O.; & 1692, Nat.); Glasgow (Telegs.: "Ubique, Glasgow"); St. Helens, Lancs. (Telegs.: "Greenbank, St. Helens." Teleph. No. 60); & Sullivan Works, Widnes.

United Asbestos Co., Ltd., asbestos manufacturers & merchants, Dock House, Billiter-st., London, E.C. (Telegrams: "Asbestos, London." Telephone No. 2872, Avenue); & 34, Deansgate, Manchester.

United Berlin-Frankfort India Rubber Co., insulating materials manufacturers, 11A, Upper Thames-st., London, E.C. (Telegs.: "Axolotl, London." P.O. Teleph. No. 1355, Central.)

United Electric Car Co., Ltd., Strand-rd., Preston (Telegs.: "Electram, Preston." Teleph. No. 395); & Hadley, nr. Wellington, Salop. (Telegs.: "Prescar, Hadley." Teleph. No. 22, Wellington.)

United Electric Light & Power Supply Co., Ltd., Ardwick-pl., 184, Stockport-rd., Manchester. Registered Nov. 29, 1901. Nominal capital: £15,000 in £1 ordinary shares, 2830 of which are issued & fully paid. Lien registered Nov. 25, 1904, for £450 6 per cent. debentures, part of £3000; £2375 previously issued. Directors: A. R. Parker, Esq.; F. Taylor, Esq.; S. Taylor, Esq. Electrical engineer, R. D. Marshall; secretary, F. Denby Ashton.

United Electric Supply Co., Micklehurst, Mossley, near Manchester. (Telegrams: "United, Mossley.")

United Electric Tramways Co. of Caracas, Ltd. Registered July 25, 1906. Nominal capital: £200,000 in £1 shares.

United Electric Tramways of Montevideo, Ltd., Basildon House, Moorgate-st., London, E.C. (Teleph. No. 302, London Wall.) Registered March 24, 1904. Nominal capital: £800,000 in 40,000 £10 ordinary shares & 40,000 6 per cent. cumulative £10 preference shares. Issued: 33,600 ordinary & 32,000 preference shares. £500,000 5 per cent. first debenture stock, secured by trust deed, has been issued & paid up. A trust deed, dated June 19, 1906, securing a further £300,000 debenture stock, has been registered. Directors: W. Trotter, Esq. (chairman); H. F. Gunning, Esq.; T. F. Thomson, Esq.; G. A. Touche, Esq. Secretary, A. J. Side. Dividends: year to March 31, 1906, 2 per cent. per annum on ordinary shares.

United Electrical Co., Ltd., telegraph instrument makers, 67, Aldersgate-st., London, E.C. (Teleph. No. 12367, Central.)

United Flexible Metallic Tubing Co., Ltd., manufacturers of flexible tubes, 112, Queen Victoria-st., London, E.C. (Telegrams: "Tuyaux, London." Telephone No. 773, Bank.)

United Kingdom Tramway, Light Railway & Electrical Syndicate, Ltd., 28, Victoria-st., Westminster, S.W. (Telephone No. 5008, Westminster.) Registered June 1, 1899. Nominal capital: £20,000 in £1 shares. Issued: 6630 with 17*s.* 6*d.* per share paid. Directors: Major H. Tulloch, C.B., R.E. (retired); J. Parnell, Esq., J.P., C.E. Secretary, G. E. S. Venner, F.I.D., F.C.I.S. Dividends: 1903, 10 per cent.; first half of 1904, 15 per cent.

United River Plate Telephone Co., Ltd., 340, Dashwood House, New Broad-st., London, E.C. (Telegrams: "Untel, London." Telephone No. 2643, London Wall.) Registered Dec. 17, 1886. Nominal capital: £1,000,000 in £5 shares, of which 40,000 are 5 per cent. cumulative preference, 100,000 are ordinary shares, & balance unclassed. 84,000 ordinary shares have been taken up, the full amount has been called & paid, £16,000 issued to vendors has been agreed to be considered as fully paid, 5 per cent. debenture stock, outstanding: £164,247. Directors: J. Irving Courtenay, Esq. (chairman); Frederick Green, Esq.; George Keith, Esq.; A. Le Rossignol, Esq. David Smith, secretary. Dividends: 1899–1903, 7 per cent.; 1904, 1905 & 1906, 8 per cent.

United States Metallic Packing Co., Ltd., steam packing manufacturers, Thornton-rd., Bradford. (Telegrams: "Metallic, Bradford." Telephone No. 604, Nat.)

United States Steel Products Export Co., 71 & 72, King William-st., London, E.C.

United Wire Works, Ltd., manufacturers of wire cloths & dynamo brushes, Edina Works, Edinburgh (Telegs.: "Scotia, Edinburgh." Teleph. No. 165); Baltic Wire & Metal Works, Glasgow (Telegs.: "Durable, Glasgow." Teleph. No. 2527); & Trafalgar Works, Newcastle-on-Tyne. (Telegs.: "Mountains, Newcastle-on-Tyne." Teleph. No. 1494.)

Universal Battery Co., sole manufacturers of "E. S.," "A1" & "U. B. C." Dry Batteries, Mid Kent Works, Southey-st., Penge, S.E. (Telegs.: "Unibaco, London." Teleph. No. 166, Sydenham.)

Universal Electric Supply Co., electrical sundries, 60, Brook-st., C.-on-M., Manchester.

UNIVERSAL ELECTRICAL DIRECTORY (J. A. Berly's). Sole proprietors: H. Alabaster, Gatehouse & Co., 4, Ludgate-hill, London, E.C. (Telegrams: "Ageekay, London." Telephone Nos.: 933, Holborn; & 4425, Central.)

Universal Electrical Manufacturing Co., switchboards, switches & accessories, 14, Station Parade, Queen's-rd., Peckham, London, S.E. (Telegs.: "Uemcoy, London." Teleph. No. 423, Hop.)

Universal Engineering Co., Ltd., lightning conductor manufacturers, Nottingham.

Universal Telegraphex & Telegraphone Syndicate, Ltd., 22, Cullum-st., London, E.C. Registered April 9, 1906. Nominal capital: £35,000 in 34,900 ordinary shares of £1 each & 2000 deferred shares of 1s. each.

University College, Department of Electrical Engineering (Prof. R. M. Ferrier), Bristol. (Telephone No. 5405.) *See* SCHOOLS.

University College, classes in electrical engineering, Dundee. (Telephone No. 660.)

University College (Prof. J. A. Fleming, M.A., D.SC. & M.I.E.E.), Gower-st., London, W.C. *See* SCHOOLS, &c.

University College (Rev. J. E. Symes, M.A., principal; P. H. Stevenson, F.S.A.A., sec.), Nottingham. (Telephone No. 776.)

University College of North Wales, Bangor. *See* SCHOOLS, &c.

University College, Reading. *See* SCHOOLS, CLASSIFIED SECTION.

University College of South Wales & Monmouthshire, classes in electrical engineering, Cardiff. (Telephone No. 512.) *See* SCHOOLS, &c.

University College of Wales, Aberystwyth. *See* SCHOOLS, &c.

University of Aberdeen. *See* SCHOOLS, &c.

University of Birmingham, classes in electrical engineering, Birmingham. *See* SCHOOLS, &c.

University of Cambridge. *See* SCHOOLS, &c.

University of Dublin. *See* SCHOOLS, &c.

University of Edinburgh. *See* SCHOOLS, &c.

University, The, Glasgow. (Telephone No. 2405.) *See* SCHOOLS, &c.

University of Leeds, special courses in electrical engineering. (Telephone No. 228.) *See* SCHOOLS, &c.

University of Liverpool. *See* SCHOOLS, &c.

University of London, South Kensington, London, S.W. (Telegrams: "University, London." Telephone No. 64, Treasury.) *See* SCHOOLS, &c.

University of Oxford. *See* SCHOOLS, &c.

University of Sheffield. *See* SCHOOLS, &c.

UNSWORTH, G. B., & SONS, LTD., (estab. 1827) electric wire manufacturers, telegraph, telephone & insulated wires of all descriptions, Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See* WIRE COVERERS—COTTON.

Unwin, P. Ibotson, A.I.E.E., electrical & motor expert, 5, Carlton-rd., Croydon.

Unwin, Prof. W. C., LL.D., F.R.S., M.I.C.E., M.I.E.E., 29, Palace-gate, Kensington, London, W.

Upton, G. R. T., New-sq., Lincoln's Inn, London, W.C. Director Ecuador Telephone Co., Ltd.

Urban, Chas., Trading Co., Ltd., manufacturers of arc lamps for stage & cinematograph purposes, 48, Rupert-st., London, W.

Urban Electric Supply Co., Ltd., electrical engineers & contractors, Broad Sanctuary-chbrs., Tothill-st., Westminster, London, S.W. (Telegrams: "Urbaniora, London." Telephone No. 14, Westminster); Hawick (Telegrams: "Urbanbo, Hawick." Telephone No. 407, Hawick); Godalming (Telephone No. 8, Godalming); Dartmouth; Glossop; Camborne & Redruth; Twickenham; Stamford; Grantham; Weybridge; Newton Abbot; Newbury; Caterham; & Berwick-on-Tweed. Registered June 29, 1898. Capital: £650,000 in £5 shares. 80,000 ordinary & 50,000 preference shares have been taken up, & £5 per share has been called up. £200,000 4½ per cent. first mortgage debenture stock issued & paid up. Directors: H. Wolfenden (chairman); F. E. Gripper, Esq.; E. Charrington, Esq.; H. B. Grotrian, Esq.; Wm. Page, Esq. Secretary, C. H. Jones. Guaranteed dividend of 5 per cent. till 1910.

Ure, Robert A., A.I.E.E., electrical engineer, 192A, St. Vincent-st., Glasgow.

Urquhart, D., C.E., consulting & electrical engineer, Harvey's-bldgs., 427A, Strand, W.C.

Urquhart, Lindsay & Co., Ltd., engineers, Blackness Foundry, Dundee. (Telegs.: "Engineers, Dundee.")

Urton, W., electrical & mechanical engineer, West Bars, Chesterfield. (Telephone No. 54.)

Usher, Thos. G., & Co., electrical engineers, 44, Leazes Park-rd., Newcastle. (Telegrams: "Electric, Newcastle." Nat. Telephone No. 1058.)

Uskside Engineering Co., mechanical & general engineers, Uskside Iron Works, Newport, Mon. (Telegrams: "Uskside, Newport." Telephone No. 53.)

Utley, C. J., & Co., electrical engineers & steeple jacks, Overton & Quenby-rd., Leicester.

Utting, Samuel, A.M.I.E.E., 65, Warwick-rd., London, S.W.

Uxbridge & District Electric Supply Co., Ltd., electricity supply contractors, Waterloo-rd., Uxbridge. P.O. Teleph. No. 46, Uxbridge.) Registered June 24, 1899. Nominal capital: £50,000 in £5 ordinary shares & £35,000 in £100 5 per cent. debentures. Issued: £25,005, fully paid. 5 per cent. debentures issued: £37,400. 6 per cent. second debentures issued: £11,000. Directors: A. L. Radford, Esq. (chairman); J. F. Stilwell, Esq., J.P.; W. F. Thomas, Esq.; Lt.-Col. W. G. Renton; H. W. Couzens, Esq., M.I.E.E. (managing); Admiral Lord John Hay, G.C.B.; F. Leverton Harris, Esq.; F. Bailey, Esq., M.I.C.E.; J. Carr Saunders, Esq. Engineer, A. Randall Bell, A.M.I.E.E.; secretary, B. H. F. Hitchens.

Vacuum Oil Co., Norfolk-st., Strand, W.C. (Telegs.: "Vacuum, London." Teleph. No. 6840, Gerrard.)

Vail, T. N., 62, London Wall, E.C. Chairman La Capital Tramways Co., Ltd.; La Capital (Extensions) Tramways Co., Ltd.; La Capital Traction & Electric Co. (Buenos Aires), Ltd.; & Buenos Ayres New Tramways Co., Ltd.; director Buenos Ayres Grand National Tramways Co., Ltd.

Valentine, W. A., A.I.E.E., National Telephone Co., Ltd., Royal Exchange, Glasgow.

Valler, A. W., & Co., electric lighting contractors, 4, Sydney-st., Brighton. (Nat. Teleph. No. 877 Y.)

Valor Co., Ltd., stamping manufacturers, Rocky-lane, Aston, Birmingham. (Telegrams: "Valor, Birmingham." Telephone No. 1653.)

Vance, Claude Edward, A.I.E.E., c/o British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C.

Vandervell, C. A., & Co., electrical engineers, Warple Way, Acton Vale, London, W. (Telegs.: "Vanteria, London." Teleph. No. 544, Chiswick, P.O.)

Van Horne, Sir W. C., K.C.M.G., director Commercial Cable Co., 23, Royal Exchange, E.C.

Van Raden & Co., Ltd., electrical engineers & motor ignition manufacturers, 567, Foleshill-rd., Coventry.

Vansittart, A., director Costa Rica Electric Light & Traction Co., Ltd., 249, Dashwood House, E.C.

Vapour Preventer Co., Ltd., makers of electric vapour preventers, 68, Victoria-st., Westminster, S.W.

Varley, F. H., M.I.E.E., 82, Newington Green-road, Islington, London, N.

Varley, Jno., director Direct U.S. Cable Co., Ltd., 11, Stanley-gardens, W.

Varley, S. A., electrical engineer, 17, Lynton-rd., Crouch End, London, N.

Varley, W. Mansergh, B.A., D.SC., PH.D., assistant professor of physics & electrical engineering, Heriot-Watt College, Edinburgh.

Vaudrey, J. C., M.I.C.E., M.I.E.E., electrical engineer, Grassdale, Westfield-rd., Edgbaston, Birmingham. (Telephone No. 3539.)

Vaudrey, W. H., Winter's-bldgs., St. Ann's-st., Manchester. Director Manx Electric Railway Co., Ltd.

Vaughan, Chas. J., A.I.E.E., 53, Guildford-st., Russell-sq., London, W.C.

Vaughan, J. M., electric light & power engineer & contractor, 9, Halsbury-rd., Redland, Bristol.

VAUGHAN, BROWN & COOK, HEATING & LIGHTING ENGINEERS, 298 & 300, Goswell-rd., London, E.C. (Telegs.: "Vaughan Brown, London." Teleph. No. 8804, London Wall.) Established 1838.

Vaughan & Co., electrical engineers, 124, Thomas-st., Temple, Bristol.

Vaughan & Marriott, dealers in electrical fittings, 32 & 34, St. George's-rd., Southwark, London, S.E. (Telephone No. 1385, Hop.)

Vaughan & Son, Ltd., engineers & manufacturers of overhead electric travellers, West Gorton, Manchester. (Telegrams: "Vaunting, Manchester." Telephone No. 5113, Central.)

Vaughton, W. S., A.I.E.E., electrical engineer, Birmingham.

Vaughton Bros., metal stampers, Livery-st., Birmingham.

Vaux, Walter, M.I.M.E., tramways engineer & contractor, 23, Bank-st.-chbrs., Bradford. (Telegs.: "Lifeguard, Bradford.")

Vaux of Harrowden, Lord, director Associated Cos. The British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, W.C.

Vauxhall Engineering Co., electrical & general engineers, Liverpool. (Teleph. No. 603A.)

Vauxhall Ironworks Co., Ltd., engine & pump makers, 45, Leadenhall-st., London, E.C.

Vedel, P., D.C.L., director Great Northern Telegraph Co., Ltd., of Copenhagen, 3, St. Helen's-pl., E.C.

Velvril Co., Ltd., manufacturers of insulating materials, Lonesome, Streatham Common, S.W.; & 29, New Bridge-st., E.C., London.

Venezuela Telephone & Electrical Appliances Co., Ltd., 3, Copthall-bldgs., London, E.C. (Telegrams: "Furcation, London." P.O. Telephone No. 4936, Central.) Registered April 22, 1890. Nominal capital: £85,000 in 70,000 £1 ordinary & 1500 £10 preference shares. All the ordinary & 860 preference shares have been taken up, & are fully paid. There are also £70,000 in 5 per cent. first mortgage debentures, all of which were issued at 85 per cent., with interest payable January 31 & July 31. Bonds redeemable at par in 1910, & £12,900 (part of £20,000 authorized) in 7 per cent. second debentures, with interest payable March 31 & September 30 (£5600 are issued as security against loan). Directors: Sir D. Fox (chairman); J. S. Austen, Esq.; C. E. S. Bishop, Esq. Electrical engineer, E. A. Wallis; secretary, H. Simmonds. Dividends: 1901, preference 8 per cent., ordinary *nil;* 1902, preference 4 per cent., ordinary *nil;* 1903, 1904, 1905 & first half of 1906, *nil.*

Venndt, C. F., A.I.E.E., superintendent Great Northern Telegraph Co., St. Helen's-pl., London, E.C.

Venner, G. E. S., 28, Victoria-st., S.W. (Teleph. No. 5008, Westminster.) Director Leatherhead & District Electricity Co., Ltd.

Venner & Co., electrical engineers & agents, 6, Old Queen-st., Westminster, S.W. (Telegrams: "Trydan, London." Telephone No. 351, Westminster.)

Venning, A., consulting engineer, Sanctuary House, Tothill-st., Westminster, London, S.W.

Ventnor Electricity Works (Isle of Wight Electric Light & Power Co.). Head office: Ventnor. (Teleph. No. 43.) A. E. Mayes, engineer & manager.

Vera Cruz Electric Light, Power & Traction Co., Ltd., 35, Great St. Helen's, London, E.C. Registered July 28, 1906. Nominal capital: £300,000 in £1 shares.

Verdin Technical School, Northwich. *See* SCHOOLS.

Vere, C. M., & Co., installation contractors, 5, Park Parade, North Finchley, London, N.

Verey, A., & Co., dealers in electrical apparatus & gutta-percha merchants, Dover.

Verity, George, chairman Veritys, Ltd., 31, King-st., Covent Garden, London, W.C.

VERITYS, LTD., electrical engineers, manufacturers of all kinds of electrical machinery & apparatus, dynamos, motors, arc lamps, switchboards, accessories, fans, fittings, &c. Merchants supplied with every requisite for electric light, power & traction. Secretary, A. Barraud.

	Telegrams.	*Telephone Nos.*
Head Offices: 31, King-st., Covent Garden, London, W.C.	Verity, London.	6863 & 6864, Gerrard; & P.O. 9984, Central.
Works: Plume & Victoria Works, Aston, Birmingham.	Verity, Birmingham.	225 & 135, Aston.
Branch Offices:		
Birmingham: Carlton House, 28, High-st.		4721.
Bristol: 3, Queen-sq.	Verity, Bristol.	01528.
Dublin: 52, William-st.		1988.
Glasgow: 40, Bath-st.	Veritys, Glasgow.	3570, Mun.; 3726, Nat.
Liverpool: 1, Hackin's Hey.		6248, Central.
Manchester: Hardman-st., Deansgate.	Verity, Manchester.	2011 & 5830.
Newcastle-on-Tyne: 26, Eldon-sq.		2900.

Vernet, H. A., 66, New Broad-st., E.C. Director The Traction & Power Securities Co., Ltd.

Vernier, Chas., A.M.I.E.E., 43, Alwinton-ter., Gosforth, Newcastle.

Vernon & Guest, engineers, Alma Works, Soho, nr. Birmingham.

Vernon Mechanical & Electrical Registers, Ltd., manufacturers of electrical indicating appliances, Eldon-st. House, London, E.C.

Vernon-Harrap, F., A.I.E.E., "Clevedon," Therapia-rd., Honor Oak, London, S.E.

Verrall, G. H., J.P., Sussex Lodge, Newmarket. Chairman Newmarket Electric Light Co., Ltd.

Verrill, W. S., district superintendent, County of Durham Electrical Power Distribution Co., Electricity Works, Durham.

Viaduct Co., electrical accessory manufacturers, 48, Farringdon-st., London, E.C.

Vicarey, Robert W., M.AM.C.S., M.F.S., Pen-y-Wern, Black Hill, Clun, Salop.

Vicarey, R. W., Ltd., consulting experts & analysts of storage batteries & their electrolytes, Clun, Salop. (Telegs.: "Vicarey, Clun.")

Vicars, T. & T., mechanical stoker makers, Earlestown, Lancs.; & 20, Bucklersbury, London, E.C. (Telegrams: "Vicars, Earlestown;" "Vicarship, London." Telephone No. 5211, Bank.)

Vickers, H., A.M.I.E.E., assistant tramways electrical engineer, Corporation Electricity Works, Wolverhampton.

Vickers, T., C.E., consulting tramway engineer, 10, Montgomery Mount, Nether Edge, Sheffield.

Vickers Sons & Maxim, Ltd., steel manufacturers & electrical manufacturers, 32, Victoria-st., London, S.W. (Telegrams: "Vickers, London." Telephone No. 842, Westminster); & River Don Works, Sheffield. (Telegs.: "Vickers, Sheffield.")

Victor Arc Lamp Co., Ltd., Terminus-chbrs., 6, Holborn Viaduct, London, E.C.

Victoria Garage & Electrical Co., electrical engineers & motor ignition manufacturers, 68, St. John-st., Coventry.

Victoria Rubber Co., Ltd., manufacturers, Victoria Rubber Mills, Edinburgh.

Victoria University of Manchester, classes in electrical engineering, Manchester. (Telephone No. 518.) *See* SCHOOLS, &c.

VIGERS BROTHERS, manufacturers of wood casings, switch blocks & cleats for wires, 67, King William-st., London, E.C. (Telegs.: "Vigentes, London." Teleph. Nos.: 601 & 602, Avenue; & P.O. 311, Central.) *See advt.*, CASINGS.

VIGERS, SONS & CO., makers of improved wood casings, &c., Eagle Wharf & Mills, High-st., Peckham. (Telegs.: "Thickly, London." Teleph. No. 332, Hop.) Branches at Walham Green, Sloane-sq. & Poland-st., W.

Vignoles, E. B., M.I.E.E., Acton-lane Works, Chiswick, London, W.; & Streatley, Berks. (Telegrams: "Dorothea, London." Telephone No. 221, Hammersmith.) Managing director Evershed & Vignoles, Ltd.

Vignoles, Leonhard, A.I.E.E., British Westinghouse Co., Trafford Park, Manchester.

Vignoles, W. A., M.I.E.E., corporation electrical engineer, Great Grimsby.

Vigor & Co., electric light & telephone engineers, 15, King-st., Poplar, E. (Telephone No. 338, East.); & 49, Southampton-row, London, W.C.

Vincent, Col. Sir C. E. Howard, K.C.M.G., C.B., M.P., 1, Grosvenor-sq., S.W. Director Calcutta Tramways Co., Ltd.

Vincent, W. H., M.I.E.E., electrical engineer, 14, Cranworth-gdns., Brixton, London, S.W.

Vines, Clement E., A.I.E.E., R.A. Mess, Woolwich.

Vint, M. E. M., & Co., wholesale electrical engineers. Head office: 92, Rusholme-rd., Manchester. (Telephone No. 3583, Manchester.) Branch, 40A, London-st., Southport.

VINTER, W., DIVIDER & ENGRAVER, every variety of scientific instruments accurately divided & engraved, 10 & 11, Dyers-bldgs., London, E.C. (Teleph. No. 12713, Central.) *See* ENGRAVERS.

Virginia Electric Co., electrical engineers, Falcon Works, 10A, Virginia-st., Southport. (Teleph. No. 683 X.)

Viscose Development Co., Ltd., manufacturers of insulating material, 3, New-ct., Lincoln's Inn, London, W.C. (Telegrams: "Viscoid, London." Telephone No. 1629, London.)

Visger, Harman, A.M.I.E.E., "Clevedon," North Park-ave., Roundhay, Leeds.

Vitty, W. L., assistant, Corporation Electricity Works, Southend-on-Sea.

Vivian, G., electrical engineer, Oxford-st., Southampton.

Vivian, H. H., & Co., Ltd., brass & copper wire manufacturers, 46, George-st.-parade, Birmingham. (Telegrams: "Vivians, Birmingham." Telephone No. 54.)

Vivian & Sons, copper manufacturers, 4, Crooked-lane, Liverpool (Telephone No. 1029); & Hafod Copper Works, Swansea. (Telegrams: "Vivians, Liverpool;" & "Vivians, Swansea.")

Vogel, J. L. F., M.I.E.E., electro-chemist, Steinhart, Vogel & Cloud, 4, Lloyds-ave., Fenchurch-st., London, E.C. (Telegrams: "Item, London." Telephone No. 9736, Central.)

Volder, M. de, 141, rue Stassart, Brussels. President Marconi International Marine Communication Co., Ltd.

Volenite, Ltd., manufacturers of electrical insulating materials, &c., Dunster House, Mark-lane, London, E.C. (Telegrams: "c/o Drabbling, London." Telephone No. 1807, Avenue.) Works: Alperton, nr. Wembley, Middlesex.

Volk, Magnus, electrical engineer (Volk's Electric Railway), Madeira-rd., Brighton. (Telegs.: "Volk, Brighton." Teleph. No. 14, Corp.) Chairman Magnus Volk, Ltd.

Volk, Magnus H., managing engineer, Volk's Electric Railway, Brighton. Director Magnus Volk, Ltd.

Volk, Magnus, Ltd., Madeira-rd., Brighton. (Telegs.: "Volk, Brighton." Teleph. No. 14, Corp.) Registered June 3, 1901. Nominal capital: £10,000 in 5000 ordinary & 5000 6 per cent. preference £1 shares. Issued: £8800. Directors: Magnus Volk, Esq. (chairman); M. H. Volk, Esq. (engineering).

Von Ammon, S., A.M.I.E.E., c/o British Westinghouse Electric Co., Trafford Park, Manchester.

Von Glehn, Alexander, & Co., agents for the Decauville portable railway plant, Tower House, 40, Trinity-sq., London, E.C. (Telephone No. 2276, Avenue.)

Vorley, H. B., A.I.E.E., 32, Cheapside, London, E.C.

Vormeister, Chas. E., A.M.I.E.E., Electric Illuminating & Power Co., Lowther Arcade, Carlisle; & 4, Dyke's-ter., Brampton-rd., Carlisle.

Vosper & Co., Ltd., steam yacht & electric launch builders, Broad-st., Portsmouth. (Telegrams: "Repsov, Portsmouth.")

Voysey, A. A., M.I.E.E., electrical engineer to the Corporation of London Public Health Dept., Guildhall, London, E.C.

Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester (Telegrams: "Boiler, Manchester." Teleph. Nos.: 1188, 4708, 5214, Nat.; & 7 P.O.); Birmingham; Bradford; Exeter; Leeds; Liverpool; Glasgow; Swansea; Nottingham; Newcastle-on-Tyne; Bristol; Dublin; Belfast; & 20, King William-st., London, E.C.

Vulcan Dynamo & Motor Co., Ltd., 72A, St. Thomas-st., London, S.E.

Vulcan Electric Co. (W. J. Woodward, proprietor), 43, The Broadway, Stratford, E.; & 293, High-rd., Ilford.

Vulcan Foundry, Ltd., submarine cable machine manufacturers, Newton-le-Willows. (Telegrams: "Vulcan, Newton-le-Willows." Telephone No. 4.)

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.), (F. WINTER, MANAGER), EBONITE & VULCANITE MANUFACTURERS, SPECIALITY—MAKERS OF BOXES & CELLS FOR ELECTRIC BATTERIES, &c., 8, REDCROSS-ST., LONDON, E.C. *See* EBONITE & VULCANITE.

Vyle, Gilbert C., A.M.I.E.E., consulting mechanical & electrical engineer, Armstrong Works, Chester-st., Birmingham.

Vyle, W. W., superintending engineer, Postal Telegraphs, South Wales District, Cardiff. (P.O. Telephone No. 550.)

Waddell, G., Merkland House, Ravelston Park, Edinburgh. Director Mersey Railway Co.
Waddell, John, works manager, D.P. Battery Co., Ltd., Bakewell, Derbyshire.
Waddon, J. H., Northfield House, Bridgwater. Director Bridgwater & District Electric Supply & Traction Co., Ltd.
Wade, E. J., M.I.E.E., electrical engineer, 16, Elm-st., London, W.C.
Wade, J. L., & Co., Ltd., Boiler Scale Removing Works, Manor House Wharf, Nine Elms-lane, S.W.
Wade, Joseph, & Sons, engineers & makers of Tate's electric valve-closing apparatus, Bradford, Yorks. (Telegs.: "Wade, Bradford." Teleph. No. 121.)
WADE, R., SONS & CO., LTD., makers of telegraph poles & arms, Garrison-side, Hull. (Telegs.: "Wade, Hull." Teleph. Nos.: 80 & 1366, Nat.; 780, Corp.) *See advt., page* 15.
Wadham's Engineering Co., engineers, 146A, Queen Victoria-st., E.C. (Telegrams: "Wadham, London.")
Wadsworth, Russell, electric bell fitter, 121, Vauxhall Bridge-rd., London, S.W.; & 33, Churton-st., Warwick-sq., S.W.
Wadsworth, Thomas, A.I.E.E., 125, Coldershaw-rd., West Ealing, London, W.
Wadsworth, Wm., & Sons, makers of electric lifts, School Hill, Bolton. (Telegs.: "Hoists, Bolton." Nat. Teleph. No. 171.)
Wagg, Henry John, A.I.E.E., consulting electrical engineer, 15, Gt. George-st., Westminster, London, S.W.
Waghorn, J. W., D.Sc., Royal Naval College, Greenwich, London, S.E.
Wagner, C. T., manufacturing electrician, 206 & 207, Upper Thames-st., London, E.C. (Telegrams: "Odhams, London." Telephone No. 5853, Central.)
Wagner, L., director Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., E.C.
Wagstaffe, J. W., chairman Fladbury Electric Light & Power Co., Ltd., Fladbury.
Wainwright, G. A., electro-plater, enameller, lacquerer, &c., Grape-st., Leicester. (Telephone No. 808.)
Wainwright Bros., electrical & sanitary contractors, Pritchard-st., Manchester. (Teleph. No. 213 Y.)
Waite, B., district manager, National Telephone Co., Ltd., Victoria-bldgs., Bute-st. Docks, Cardiff.
Waite, R. H., A.I.E.E., 108, Albemarle-rd., York.
Wakefield, J. H. M., A.I.E.E., Engineer-in-Chief's Office, G.P.O. (W.), London, E.C.
Wakefield Corporation Electricity Works, Wakefield. (Teleph. No. 137.) Engineer, H. A. Nevill.
Wakefield & District Light Railway Co., Belle Isle, Wakefield. C. E. Davies, resident engineer; H. England, general manager. (Telegs.: "England, Belle Isle, Wakefield." Teleph. No. 213.)
Wakefield Electrical Engineering Co., electric light contractors, Southgate, Wakefield. (Teleph. No. 176.)
Wakefield, J., & Sons, Ltd., electric fittings manufacturers, &c., Birmingham. (Telegrams: "Theodore, Birmingham." Telephone No. 1041, Birmingham.)
Wakeford, J. P., engineer, Urban District Council, Bilston, Staffs.
Wakelin, John F., A.M.I.E.E., electrical engineer, 5, Tottenham-st., Tottenham Court-rd., London, W.
Wakelin & Co., electrical engineers, 5 & 6, Tottenham-st., Tottenham Court-rd., London, W. (Teleph. No. 4736, Gerrard.)
Wakeman-Newport, H. A., Sandbourne, Bewdley. Director Mersey Railway Co.
Wakley, W. R. C., A.M.I.E.E., 108, Kenilworth Court, Putney, London, S.W.
Wakley, W. W., A.I.E.E., Drayton Court-chbrs., The Avenue, Ealing, London, W.
Wales, W. A., A.M.I.C.E., A.M.I.E.E., chief assistant elec. engineer, Electricity Works, Ashton-under-Lyne.
Walker, A. R., A.I.E.E., L. & S. W. R. Carriage & Wagon Works, Eastleigh, Hants.
Walker, Alfred, A.I.E.E., Municipal Technical Institute, Romford-rd., West Ham.
Walker, C. R., A.I.E.E., engineer & manager, Mansfield & District Tramways, Ltd., Sutton-rd., Mansfield, Notts.
Walker, Capt. R. S., R.E., professor of experimental science, R. M. Academy, Woolwich, S.E.
Walker, D. B., A.M.I.E.E., 5, Ennis-rd., Plumstead, Woolwich.
Walker, E. O., C.I.E., M.I.E.E., 77, Iverna-ct., Kensington, London, W.
Walker, F., A.M.I.E.E., electrical engineer, c/o British Westinghouse Co., 65, Renfield-st., Glasgow.
Walker, Frederic Morier, A.M.I.E.E., 37, Newington-rd., Brocco Bank, Sheffield.
Walker, G. J., 3, Golden-sq., Aberdeen. Director Aberdeen Suburban Tramways Co.
Walker, H., A.M.I.E.E., c/o Crompton & Co., Ltd., Arc Works, Chelmsford.
Walker, H., A.M.I.E.E., engineer & secretary, Bridgewater & District Electric Supply & Traction Co., Ltd., Mount-st., Bridgwater.
Walker, Henry, A.M.I.E.E., 36, Machon Bank, Nether Edge, Sheffield.
Walker, H. C., 33, Wickham-rd., Brockley. Director Power & Traction Co., Ltd.
Walker, Henry John, A.I.E.E., M.I.M.E., director Clarke, Chapman & Co., Ltd., Victoria Works, Gateshead-on-Tyne.
Walker, Jas. A., A.M.I.E.E., of William Bryden & Son, 206, Bath-st., Glasgow.
Walker, J. C., director Ingleton Electric Lighting & Power Co., Ltd., Ingleton.
Walker, J. R., A.M.I.E.E., L.C.C. Generating Station, East Greenwich, London, S.E.
Walker, Miles, B.A., A.I.E.E., electrical engineer, British Westinghouse Electric & Manufacturing Co., Ltd., The Cottage, Leicester-rd., Hale, Altrincham.
Walker, R. E., Trancylow, Dunfermline. Chairman Fife Electric Power Co., Ltd.; & Fife Electric Power Co.

Walker, Sydney F., M.I.E.E., A.M.I.C.E., consulting engineer, Bloomfield-cres., Bath.
Walker, W., director Blackpool & Garstang Light Railway Co., 5, Clifton-st., Blackpool.
Walker, William, maker of induction coils, 81, Alexandra Park-st., Dennistoun, Glasgow.
Walker, Wm., A.I.E.E., Cedar Villa, Highfield, Gorton, Manchester.
Walker, Wm., A.M.I.E.E., electrician, 32, City-rd., Edgbaston, Birmingham.
Walker, W. A., A.M.I.E.E., engineer, U.D.C. Electricity Works, Rockingham-rd., Kettering. (Tel. No. 98.)
Walker, W. B., A.M.I.E.E., Wm. Bryden & Son, 55, George-st., Edinburgh.
Walker, W. G., A.M.I.C.E, M.I.M.E., consulting engineer, Emery Hill-st., London, S.W. (Telegs.: "Versuchen, London.")
Walker, Wm. Izett, A.M.I.E.E., 6, Ingleby Drive, Dennistoun, Glasgow.
Walker Bros., electrical engineers, Upper Priory, Birmingham. (Telephone No. 1510.)
Walker, E. O., & Co., electrical & mechanical engineers, Trevelyan-bldgs., Manchester.
Walker, F. W., & Co., electric light engineers & contractors, 124 & 125, Queen-st., Portsea. (Telegrams: "Walker, Portsea." Telephone No. 180.)
Walker, Henry, & Son, Ltd., electric bell makers, Gallowgate, Newcastle-on-Tyne. (Telegrams: "Reklaw, Newcastle-on-Tyne." Telephone No. 1867.)
Walker, Hill & Co., consulting & mechanical engineers & patent agents, 2, Church-gate, Low-pavement, Nottingham. (Telegrams: "Hill, Churchgate, Nottingham." Nat. Telephone No. 968.)
Walker & Hutton, electric light engineers, 37, Huntriss-row., Scarborough. (Nat. Teleph. No. 149.)
Walker, J., & Son, electric light contractors, Tangier-st., Whitehaven.
Walker, Samuel, Ltd., brass & copper wire, &c., Fazeley-st., Birmingham. (Telegrams: "Seamless, Birmingham." Telephone No. 29.)
Walkley, S. C., electrical engineer, 15, Amott-rd., East Dulwich, London, S.E.
Wall, G. P., specialities in steel & steel wire, Magneto Works, Penistone-rd., Sheffield. (Telegrams: "Magnetic, Sheffield.")
Wallace, A. C., Heatheryknowe, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.
Wallace, Geo. S., A.M.I.E.E., chief electrician, National Telephone Co., Portland-st., Manchester.
Wallace, H. W., electrical engineer, 178, London-rd., Croydon. (Telephone No. 223, Croydon.)
Wallace, R. W., K.C., A.I.E.E., 2, Harcourt-bldgs., Temple, E.C. (Telephone No. 178, Holborn); & 36, Campden Hill-gdns., Kensington, London, W. Director Kensington & Knightsbridge Electric Lighting Co., Ltd.; director Westminster Electric Supply Corporation, Ltd.; director Central Electric Supply Co., Ltd.; director Loch Leven Water & Electric Power Co.
Wallace, Wm., M.A., F.R.S.E., A.I.E.E., principal Cockburn High School, Leeds.
Wallace, W. G., A.M.I.E.E., The Old Orchard, Broadstone, Wimborne.
Wallace Bros., iron, steel, copper & metal merchants & refiners, enamellers, &c., 284–290, Crownpoint-rd., Glasgow. (Telegrams: "Opportune, Glasgow.")
Wallace, Hugh, & Co., Ltd., manufacturing chemists & merchants, 5, Fenchurch-st., London, E.C.; & at Palace Wharf, Nine Elms (Telegrams: "Sulphuric, London." Telephone No. 1031, Avenue); & Invicta Works, Crayford, Kent.
Wallace Lamp Syndicate, Ltd., manufacturers of incandescent electric lamps, 5–9, Peacock-st., Newington Butts, London, S.E. *In voluntary liquidation with a view to reconstruction.* Liquidator, S. Worley.
Wallace, Wilkie, & Newton, indiarubber & gutta-percha manufacturers, 5, York-street, Glasgow.
Wallach Bros., engineers' furnishers & contractors, asbestos & rubber manufacturers, makers of gauges, steam & boiler fittings, safety appliances, pulleys & beltings, whitewashing machines, labour saving appliances, drilling machines, "Hipresto" & "Amabestine" jointings, 57, Gracechurch-st., London, E.C. (Telegs.: "Hammerman, London." Teleph. Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.
Wallasey Urban District Council Electricity Works & Electric Tramways. (Telegrams: "Electric, Birkenhead." Telephone No. 204, Liscard.) J. H. Crowther, engineer.
Waller, J. E., M.I.C.E., consulting engineer, 29, Great George-st., Westminster, S.W. (Telegrams: "Kincaid, London." Telephone No. 11, Westminster.)
Waller, G., & Son, hydraulic engineers, 165, Queen Victoria-st., London, E.C.; & Stroud, Glos. (Telegrams: "Weighbeam, London.")
Walley, J., engineer & boiler maker, St. Mary's-bridge Works, Derby. (Telegrams: "Boiler, Derby.")
Wallington, Jones & Co., electrical & cold storage engineers, 13, Crutched Friars, London, E.C. (Telegs: "Altruistic, London." Teleph. No. 1065, Avenue.)
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Wallis & Steevens, Ltd., engineers, Basingstoke, Hants.
Wallis & Watson, installation contractors, Trinity-st., Boar-lane, Leeds. (Telegrams: "Volt, Leeds." Telephone Nos.: 399, Office; & 862, Works.)
Wallis-Jones, Reginald J., M.I.E.E., A.M.I.C.E., 50, Queen Anne's-gate, Westminster, London, S.W. (Telegrams: "Alteration, London." Telephone No. 689, Westminster.)

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Wallsend Slipway & Engineering Co., engines for electric light central stations, Wallsend-on-Tyne.

Wallwin, J. M., A.M.I.E.E., 2, Sedgley Villas, Bury New-rd., Prestwich, nr. Manchester.

Wallwork, Henry, & Co., Ltd., makers of castings for dynamos, Roger-st., & Charter-st., Manchester. (Telegs.: "Foundry, Manchester." Nat. Teleph. Nos. 567 & 5200.)

Walmisley, Arthur Thomas, A.I.E.E., 9, Victoria-st., Westminster, London, S.W. (Telegs.: "Workable, London.")

Walmsley, Arthur Reginald, A.I.E.E., Engineering Apprentices Club, Stretford, Manchester.

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Walmsley, J. T., electrical engineer & secretary District Council, Denton, Manchester.

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Walmsley, Charles, & Co., Ltd., electrical & mechanical engineers, Elton, Bury, Lancs. (Telegrams: "Pumps, Bury." Telephone No. 64.)

Walmsley, T., & Sons, iron & steel manufacturers, Atlas Forge, Bolton. (Telegs.: "Walmsley, Bolton." Teleph. No. 575, three lines.)

Walrond, A. M. H., 17, Rutland Court, S.W. Chairman Madras Electric Supply Corporation, Ltd.

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Walsall Corporation Electricity Works, Walsall. (Telephone No. 260.) Alex. Wyllie, engineer.

Walsall Corporation Tramways Department, Birchills, Walsall. (Teleph. No. 264.) R. L. Horsfield, general manager.

WALSALL ELECTRICAL CO., LTD., electric light contractors, electrical engineers, & manufacturers. Nominal capital: £25,000 in £1 shares. 12,000 ordinary & 4380 preference shares have been taken up, & the full amount called & paid. £2000 is agreed to be considered as paid. Directors: J. Hildick, Esq. (chairman); H. P. Nicklin, Esq.; F. Brown, Esq., M.I.E.E. (electrical engineer). Secretary, G. R. Ridsdale.

	Telegrams.	*Telephone Nos.*
Birmingham: 12, Burlington-chbrs., New-st.	Luminosity, Birmingham.	517.
Liverpool: 6, Central-chbrs., 17A, South Castle-st.	Luminosity, Liverpool.	7283.
London: Leysian Mission-bldgs., City-rd., E.C.	Dynametro, London.	8841, London Wall.
Walsall: 57, Bridge-st.	Electrical, Walsall.	45.

Walsall Hardware Manufacturing Co., steel conduits & fittings, Walsall, Staffs.; & St. Pancras Goods Station, Midland Railway, London, N.W. (Telegs.: "Emitevas, London." Teleph. No. 1933, Central.) Wm. Sevenoaks, London manager.

Walsall Science & Art Institute, Walsall. *See* SCHOOLS.

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Walsh, John Walsh, manufacturer of all kinds of glass for electric lighting. Works: Lodge-rd., Birmingham. (Telegrams: "Vesta, Birmingham." Telephone No. 63.)

Walsh, J., Ltd., installation contractors, 44, High-st., Sheffield.

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Walters & Co., electrical engineers & power specialists, 45, Newhall-st., Birmingham. Midland representatives Rhodes Electrical Manufacturing Co., Ltd., &c. (Telegs.: "Rhodique, Birmingham." Teleph. No. 4764.)

Walters, P., & Co., telegraph & electrical engineers & contractors, 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)

Walters & Son, manufacturing electricians, stage specialties, 57, Lower Mosley-st., Manchester. (Telephone No. 167 Y.)

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WALTHAM & CO., artists in metals, Waltham's artistic electric switches & fittings, 46, York-st., Buckingham Gate, S.W. (two minutes from Army & Navy Stores). (Telegrams: "Switchboard, London." Telephone No. 1103, Victoria.) *See* SWITCH MANUFACTURERS.

Walthamstow District Council Electricity Works, Priory-ave., Walthamstow. (Teleph. No. 71, Walthamstow.) Electric Tramways, Chingford-rd., Walthamstow. Engineer, G. R. Spurr, A.M.I.E.E., A.M.I.MECH.E.

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Walton-on-the-Naze Pier Electric Railway. Coast Development Corp., Ltd., proprietors. Engineer, E. A. Lambert.

Wandsworth Electrical Mfg. Co., Ltd., 9, St. Paul's, Birmingham (Telegs.: "Current, Birmingham." Teleph. No. 86 X.); & Roberts Works, Hampstead-rd., London, N.W. (Telegs.: "Filosophone, London." Teleph. No. 441, North.)

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WARD & GOLDSTONE, electrical engineers & cable makers, Sampson Works, Springfield-lane, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969–1970, & Trunk line.)
See advt. facing first page GEOGRAPHICAL SECTION.

Ward & Newman, electric light contractors & manufacturing electricians, Hope Works, Ley-st., Ilford. (Teleph. No. 513.)

Ward & Son, wiring contractors, Broad-st, Worcester.

Ward, Thos. W., Ltd., iron, steel, metal & machinery merchants, Albion Works, Sheffield. (Telegs.: "Forward, Sheffield." Teleph. Nos. 189, 1472, 2882 & 2911.) London office: 18, Billiter-st., E.C.

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Warde, Henry W., A.M.I.E.E., electrical engineer, Oakbank, Crookston, Renfrewshire.

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Warden, Joseph, & Sons, telegraph wire manufacturers, 110, Cannon-street, London, E.C.

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Wardrop, A. V., A.M.I.E.E., chief electrical engineer, D. C. Electricity Works, Elland, Yorks.

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Waring & Gillow, Ltd., electrical engineers & contractors, 164–180, Oxford-st., London, W. (Telegs.: "Warison, London." Teleph. Nos.: 4000, Mayfair; & 8084, Central); Bold-st., Liverpool; Deansgate, Manchester; & 37, Buccleuch-st., Glasgow.

Waring, J. W., & Co., electric wiring contractors, Regent-st., Rugby.

Waring & Son, electrical engineers, 45, New-st., Daventry.

Waring & Withers, electrical engineers, 10A, Soho-sq., London, W. (Telegs.: "Waringites, London." Teleph. No. 4118, Gerrard.)

Warne, F., & Co., publishers of electrical works, &c., Bedford-street, Strand, London, W.C. (Telegrams: "Warne, London." Telephone No. 2208, Gerrard.)

Warner, G. Townsend, High-st., Harrow. Director Harrow Electric Light & Power Co., Ltd.

Warner, H., & Son, engineers, Corn Exchange Iron Works, Lion-st., Ipswich. (Teleph. No. 0537.)

Warners & Son, manufacturing engineers, Phœnix Foundry, Hanley. (Telegs.: "Warners, Engineers, Hanley." Teleph. No. 22, Central.)

Warnock, Jas. W., A.I.E.E., 14, Percy-st., Kelvinside, Glasgow.

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Warren, S. N., electrical engineer, Lower Commercial-st., Middlesbrough.

Warren, Beattie & Co., Ltd., electric light & power engineers, Lower Commercial-st., Middlesbrough; & 4, St. Nicholas-bldgs., Newcastle-on-Tyne.

Warren, H. N., & Co., chemists & electricians, Liverpool Research Laboratory, 131, St. Domingo-rd., Liverpool.

Warrilow, W. E., A.M.I.E.E., *The Electrician Industrial Supplement*, 1, 2 & 3, Salisbury-ct., Fleet-st., London, E.C.; & 49, Mildred-ave., Watford.

Warrington Corporation Electricity Works & Electric Tramways, Warrington. (Teleph. No. 206.) Engineer, F. V. L. Mathias, A.M.I.E.E.

Warrington Wire Rope Works, Ltd., lightning conductor manufacturers, 13, Goree Piazzas, Liverpool. (Telegrams: "Wirop, Liverpool." Telephone No. 2037.)

Warwick, Benjamin, electrician, 134, Highbury-hill, London, N.

Warwick Machinery Co., Ltd., mechanical & electrical engineers, 83, Cannon-st., London, E.C.

Warwick's Time Stamp Co., manufacturers of electric time-checking machines, &c., 134, Highbury-hill, London, N.

Washington Chemical Co., Ltd., chemical manufacturers, Washington, County Durham. (Telegrams: "Chemical, Washington Station.")

Washington & Co., Ltd., manufacturers of every description of electric wire & cable making machinery, Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Wassell, G., electrical engineer, 25, Centre-st., Glasgow.

Waterbury, J. I., director Commercial Cable Co., 23, Royal Exchange, E.C.

Waterfall, H. & R., & Barber, electrical engineers, Bailey-lane, Sheffield. (Telegrams: "Niagara, Sheffield.")

Waterhouse, L. M., A.M.I.C.E., M.I.E.E., M.S.I.E., managing director Simplex Conduits, Ltd., 11, Queen Victoria-st., E.C. (Telegs.: "Disclosure, London." Teleph. No. 8101, Central.)

Waterhouse, J. C., Ltd., plumbago crucible manufacturers, Soho Works, Wakefield. (Telegs.: "Crucible, Wakefield.")

Waterloo & City Railway, Waterloo Station, S.E. Incorporated July 27, 1893. Nominal capital: £540,000 in shares & £180,000 loans. Issued: 54,000 fully paid shares of £10 each, converted into ordinary stock, & £66,000 in 3 per cent. debenture stock. Directors: Sir C. Scotter (chairman); Lieut.-Col. Hon. H. W. Campbell (deputy-chairman); A. F. Govett, Esq.; F. J. Macaulay, Esq.; P. Mortimer, Esq.; Rt. Hon. Sir A. West, G.C.B. Secretary, G. Knight; resident electrical engineer, Herbert Jones. Dividends: 1903, 1904 & 1905, 3⅛ per cent. per ann.; & first half of 1906, 3 per cent. per ann.

Waterlow & Sons, Ltd., telegraph paper makers, 26 & 27, Great Winchester-street, London, E.C. (Telegrams: "Imprimeric, London." Telephone Nos.: 1264, London Wall; & 4326, Central.)

Waterson & Co., electrical engineers, 39, Glassford-st., Glasgow. (Tel. Nos.: 4609, Nat.; & 4609, P.O.)

Watford Engineering Works, electric light & general engineers, Watford. (Telegrams: "Mechanical, Watford." Telephone No. 35.)

Watford Urban District Council Electricity Works, Watford. (Teleph. No. 95, Watford.) Chief engineer, J. R. Weston.

Wathes, T. H., & Co., Ltd., electrical engineers, Coronation-bldgs., High-st., Leicester. (Tel. No. 1077.)

Watkin, H., Colonel, R.A., A.I.E.E., Royal Small Arms Factory, Enfield Lock.

Watkin Bros., Ltd., engineers, West Bridge Works, Northampton.

Watkins, A. A., A.M.I.E.E., engineer, Sheerness & District Electric Power & Traction Co., Sheerness.

Watkins, Fredk. A., senior engineer-in-charge, Borough Electricity Works, Hornsey, Middlesex.

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Watkinson, Prof. William H., M.I.C.E., M.I.E.E., M.I.MECH.E., A.I.N.A., The University, Liverpool.

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Watlington & Co. Offices: Moorgate Station-chbrs. Stores: 6, New Union-st., London, E.C. (Tēlegs.: "Aetnaco, London." Teleph. No. 1479, London Wall.)

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Watson, Gow & Co., Ltd., electric cable pipe manufacturers, Etna Foundry, Lilybank-rd., Glasgow (Telegrams: "Etna, Glasgow." Telephone Nos.: 77, Gorbals, Nat.; & X. 191, Corp.); & Etna Iron Works, Grahamston, Falkirk, N.B.

Watson, H., & Sons, mechanical engineers, High Bridge Works, Walker-gate, Newcastle-on-Tyne. (Telegrams: "Watsons, Newcastle, Tyne." Telephone No. 6517.)

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Watson, T. B., & Sons, wiring contractors, Bishopton-lane, Stockton-on-Tees.

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Webb, F. H., A.I.E.E., 37, Briardale-gdns., Finchley-rd., London, N.W.

Webb, G. S., electric bell fitter, 148, High-st.; & Benhill-st., Sutton, Surrey.

Webb, Herbert Laws, M.I.E.E., M.AM.I.E.E., telephone expert, 35, Old Queen-st., London, S.W. (Telegrams: "Marcomagus, London." Telephone No. 348, Westminster.)

Webb, Seward W., director Commercial Cable Co., 23, Royal Exchange, E.C.

Webb, Thos., electric bell fitter, 45, Great Knollys-st., Reading.

Webb, W. L., electrician, County of Northampton Electric Power & Traction Co., Ltd., Wellingborough.

Webb, Chas., & Son, Ltd., light brass & steel stampings manufacturers, 80, William-st., Lozells, Birmingham. (Telegs.: "Lansdown, Birmingham." Teleph. No. 85, Handsworth.)

Webb, F., & Son, electrical engineers, & street lamp manufacturers, Kelvin Works, 15, Cank-st., Leicester. (Nat. Telephone No. 398.)

Webb & Son, leather driving band makers, Combs Tannery, Stowmarket. (Telegrams: "Webb, Combs.")

Webber, Capt. O. T. O'Kelly, R.E., A.M.I.E.E., 7, Bedford Circus, Exeter.

Webber, G. E. F., assistant engineer, Corporation, Bristol.

Webber, H., A.M.I.E.E., chief assistant electrical engineer to the Corporation, Hastings.

Webber, Wallace J., A.I.E.E., M.S.A., electrical engineer, Parfitt & Webber, Keynsham R.S.O., Bristol.

Webster, Chas. W., A.I.E.E., electrical engineer, 166 & 168, Thornton-rd., Bradford.; & 86, St. Margarets-rd., Bradford.

Webster, G. M., electrical contractor, 71, Upper Parliament-st., Nottingham.

Webster, J. T., A.I.E.E., assistant general manager & secretary Simplex Conduits Ltd., Garrison-lane, Birmingham.

Webster, S. M., electrical engineer, 421, Victoria-rd., Aston, Birmingham.

Webster, W., 50, Lee Park, Blackheath, S.E. Chairman Frinton-on-Sea & District Electric Light & Power Co., Ltd.

Webster, W. G. F., manufacturing electrical & mechanical engineer, Alexandra Works, Folkestone. (Telegrams: "Webster, engineer, Folkestone.")

Webster & Bennett, Ltd., machine tool makers, Atlas Works, Coventry. (Telegs.: "Profile, Coventry." Teleph. No. 221.)

Webster & Horsfall, steel wire manufacturers, Hay Mills, near Birmingham. (Telegrams: "Latch, Hay Mill." Telephone No. 3338.)

Websters, Ltd., electrical & mechanical engineers, & makers of dynamos & motors, Tipton, Staffs.

Weddell, Alexander H., B.SC., A.M.I.E.E., electrical engineer, George Russell & Co., Ltd., Motherwell, N.B.

Wedekind, Julius Edward, A.M.I.E.E., Fern Glen, Holmesdale-rd., South Norwood, S.E.

Wedmore, Edmund Basil, A.M.I.E.E., c/o British Thomson-Houston Co., Ltd., Rugby; & Elmhurst, 167, Clifton-rd., Rugby.

Wednesbury Corporation Electricity Works, Camp-st., Wednesbury. Engineer & manager, W. Fennell. (Teleph. No. 15B.)

Weekes, A. L., A.M.I.E.E., The Electrical Works, Harpenden, Herts.

Weekes, R. W., WH.SC., A.M.I.C.E., M.I.E.E., consulting engineer, Maxwell House, Arundel-st., Strand, London, W.C. (Teleph. No. 11488, Central.)

Weeks, G., & Sons, electric light, bell & telephone fitters, High-st., Bromley; & Beckenham. (Telephone Nos. 7 & 3, Bromley.)

Weguelin, T. Hugh, 7, Draper's-gdns., London, E.C. Director South Wales Electrical Power Distribution Co.

Weighton, R. L., professor of electrical engineering, Durham College of Science, Newcastle-upon-Tyne.

Weights of Steel Bars & Sheets (Frank Barker), 2, Osgathorpe-rd., Pitsmoor, Sheffield.

Weinbrenner & Co., manufacturers of chemically engraved metal tablets, name plates, &c., 2, Aldermanbury-bldgs., London, E.C. (Telegs.: "Syntonator, London." Teleph. No. 11217, Central.)

Weir, J., superintendent Commercial Cable Co., Leith.

WEIR, G. & J., LTD., makers of feed pumps, circulating pumps, independent air pumps, feed heaters, condensers, &c., Cathcart, Glasgow (Teleph. Nos.: Nat., 3223, Royal; 113, Langside; 113 T, Langside (Trunk calls); & Post Office, Z 32); 77, Billiter-bldgs., London, E.C.; & Bank-chbrs., Mosley-st., Newcastle-upon-Tyne. (Telegs.: "Giweir, Glasgow;" "Hydrokineter, London;" & "Efficiency, Newcastle-upon-Tyne.")

Weiss, Chas., A.M.I.C.E., M.I.E.E., consulting engineer, 34, Victoria-st., Westminster, London, S.W.

Weiss, Sydney, A.I.E.E., c/o The Shrubbery, Park-rd., Harborne, Birmingham.

Weiss & Biheller, glass & enamelled iron agents, 70 & 71, Chiswell-st., London, E.C. (Telegrams: "Biheller, London." Telephone No. 1597, London Wall.)

Welbourn, Burkewood, A.M.I.E.E., contract manager, British Insulated & Helsby Cables, Ltd., Prescot, Lancashire.

Welby, C. W., electric bell fitter & contractor, Herne Bay, Kent. (Telephone No. 049.)

Welch, W. B., M.R.C.S., Wolstonbury, Burgess Hill. Director Burgess Hill & District Electric Supply Co., Ltd.

Welch, Fry & Skelton, electrical & gas engineers, 70, Finsbury Pavement, London, E.C. (Teleph. No. 978, London Wall.)

Welch, Francis B., & Co., general & electrical engineers, Manchester-chbrs., Market-st.; & 5, Deansgate, Manchester. (Telegrams: "Paratus, Manchester." Telephone No. 1527.)

Weldhen & Bleriot, Ltd., electric lamp makers, 54, Long Acre, London, W.C. (Telegs.: "Bleriot, London." Teleph. No. 7876, Central.)

Welding, T. C., & Co., Ltd., manufacturers of & dealers in electric fittings & general supplies, 3, Redcross-st., Liverpool. (Telephone No. 8076.)

Weldless Steel Tube Co., steel tube makers, 303 & 304, Icknield Port-rd., Birmingham.

Weller, Thomas, electric bell fitter, 11, Westhill-road, Brighton.

Wellingborough Electricity Works, Wellingborough, Northamptonshire. County of Northampton Electric Power & Traction Co., Ltd., proprietors. Managing engineer, G. W. Bunting.

Wellman-Seaver-Morgan Co., Ltd., general engineers, 47, Victoria-st., London, S.W. (Telegs.: "Principium, London." Teleph. No. 237, Westminster.)

Wells, D., assistant telegraph superintendent, North British Railway Co., Edinburgh.

Wells, E. J., A.M.I.E.E., electrical engineer, Llanover, The Grove, Aldershot.

Wells, G. F., electric light engineer, Waterhouse-lane, Scarborough.

Wells, Herbert H., electrician, 219, High-st., Lewes, Sussex.

Wells, Norman, A.I.E.E., Hibbert-lane, Marple, Stockport.

Wells, Sidney H., WH.SC., A.M.I.C.E., A.M.I.M.E., principal of the Polytechnic, Battersea, London, S.W.

Wells, T. H., The Anglo-American Telegraph Co., 26, Old Broad-st., London, E.C.

Wells, W. H., manager British Westinghouse Co., Westinghouse-bldg., Norfolk-st., London, W.C.; & Trafford Park, Manchester.

WELLS, A. C., & CO., oil filter manufacturers, 102, 103 & 104, Midland-rd., St. Pancras, London. Works: Manchester. (Telegrams: "Unbreakable, London;" "Unbreakable, Manchester." Telephone No. 341, North.) *See* OIL FILTER MANUFACTURERS.

Wells, A. T., & Co., electrical engineers, 95, High-st., Southampton.

Wells, C. A., & Co., electrical engineers, Etna Works, Lewes, Sussex. (Telegrams: "Wells, Etna, Lewes.")

Wells & Co., electrical engineers, 8, Ashfield-rd., Aigburth Vale, Liverpool. (Teleph. No. 29x, Lark-lane.)

Wells, Mathew, & Co., manufacturers of lubricating oils for high-speed engines & dynamos, Hardman-st. Oil Works, Manchester. (Telegrams: "Oilwells, Manchester." Telephone No. 2593.)

Wells, Rayner & Co., Ltd., electrical engineers, 56, Paddington-st., London, W. (Telegrams: "Welfaring, London." Telephone No. 193, Paddington.)

Welsh, F. E., electrical engineer, Broome House, near Fence Houses, co. Durham.

Welsh Electric Traction Co., Ltd., 33, Brazennose-st., Manchester. Registered Dec. 14, 1901. Nominal capital: £25,000 in £1 shares. A floating charge on the Co.'s undertaking & property, including uncalled & unpaid capital (subject to prior charge for £12,000), dated Oct. 31, 1902, to secure £338 16*s.* 3*d.*, has been registered. Directors: J. M. Leake, Esq.; J. C. Howe, Esq. Secretary, John Morris, A.C.A.

Wemyss, R. E., director Wemyss & District Tramways Co., Ltd., Royal Bank-bldgs., High-st., Leven.

Wemyss & District Tramways Co., Ltd., Royal Bank-bldgs., High-st., Leven. (Teleph. No. 38, Leven.) Registered Nov. 8, 1905. Nominal capital: £55,000 in 10,000 ordinary shares of £1 each, 9000 preference shares of £5 each & £30,000 mortgage debenture stock. Issued: all the ordinary & preference shares, fully paid, & £30,000 debentures. Directors: J. Budge, Esq. (chairman); R. E. Wemyss, Esq.; J. Oswald, Esq.; A. Bowman, Esq.; Wm. Shepherd, Esq.; S. Sellon, Esq. Resident electrical engineer, L. C. Knocker; secretary, J. O. Shepherd.

Wenger, A. F., director North-Western Electricity & Power Gas Synd., Ltd., 37, Cross-st., Manchester.

Wenham, James, electrical engineer, Paragon Works, Croydon.

Wenham & Waters, Ltd., sanitary, heating & electrical engineers, &c., Paragon Works, Croydon. (Telegs.: "Wenham, Croydon." Teleph. No. 11, Croydon.) Electrical engr., Jas. Wenham; sec., C. Hunt.

Wentworth & Co., electric light engineers, 102, Newgate-st., London, E.C. (Teleph. No. 4535, Holborn.)

Werner, Sir Julius, 1, London Wall-bldgs., E.C. Director African Transcontinental Telegraph Co., Ltd.

Werner, Pfleiderer & Perkins, Ltd., carbon & gutta-percha machinery, Westwood Works, Peterborough. (Telegs.: "Arktos, Peterborough." Nat. Teleph. No. 34.)

Wernet, O. J. B., assistant, Corporation Electricity Works, Wakefield.

Wernher, J., 120, Bishopsgate-st.-within, E.C. Director African Transcontinental Telegraph Co., Ltd.; chairman Chilian Electric Tramway & Light Co., Ltd.

Wertheimer, Prof. J., B.A., B.SC., F.I.C., F.C.S., principal of the Merchant Venturers' Technical College, Bristol. (Telephone Nos. 407, 1190 & 630.)

West, A., 118, Queen Victoria-st., London, E.C. Director & manager National Provincial Electricity Corporation, Ltd.; director Bridgwater & District Electric Supply Co.; director Penzance & District Electric Supply Co.; director St. Austell & District Electric Supply Co.; director Tavistock & District Electric Supply Co.

West, A. W., 18, Lowndes-sq., S.W. Director Peking & North China Electrical Corporation, Ltd.

West, C., A.I.E.E., Cherry-st., Coventry.

West, G., electric light silk & lace shade manufacturer, 4, Soho-st., Oxford-st., London, W.

West, Harold, A.I.E.E., electrical engineer, Cyclops Steel & Iron Works, Sheffield. (Telegrams: "c/o Cammell, Sheffield." Telephone No. 939.)

West, J., brass & gun metal founder, 157 & 159, Back Church-lane, E. (Telegs.: "Jumpweld, London.")

West, Norman, A.M.I.E.E., 11, Marianople-st., Newcastle-on-Tyne.

West, P., electrical & mechanical engineer, Birmingham Electrical Fittings Co., Baskerville Electrical Works, Broad-st., Birmingham.

West, Right Hon. Sir A., G.C.B., 1, Mount-st., London, W. Director Waterloo & City Railway Co.; director Baker-st. & Waterloo Railway.

West, R. J., 3, Bank-bldgs., London, E.C. Director New General Traction Co., Ltd.

West, Robert A., Electrical Dept., Ordnance College, Woolwich.

West, T. J., supt. engineer, P.O. Telegraphs, Nottingham.

West African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Gorilla, London.") Nominal capital: £400,000 in £10 shares, 23,109 of which have been taken up, & the full amount called & paid thereon. Directors: The Most Hon. the Marquess of Tweeddale, K.T. (chairman); Sir H. C. Mance, C.I.E.; R. K. Gray, Esq.; Hon. A. G. Brodrick; Sir John Denison-Pender, K.C.M.G. (managing). Secretary, John Cambrook.

West Bromwich Corporation Electricity & Tramways Generating Station, West Bromwich. Engineer, W. A. Jackson. (Telephone No. 145, West Bromwich.)

West Bromwich Municipal Science School, West Bromwich. *See* SCHOOLS.

West Bromwich Spring Co., Ltd., makers of spiral springs of every description, Lyndon Works, West Bromwich. (Telegs.: "Helical, West Bromwich." Teleph. No. 151.)

WEST COAST OF AMERICA TELEGRAPH CO., LTD., ELECTRA HOUSE, FINSBURY PAVEMENT, LONDON, E.C. (Telegs.: "Woolpack, London.") F. L. Robinson, secretary. Directors: Sir J. Denison-Pender, K.C.M.G. (chairman); Sir Albert J. Leppoc Cappel, K.C.I.E.; F. Walters, Esq. This company was reconstructed under the same title in 1897. Registered April 12. Nominal capital: £132,520 in ordinary shares of £2 10*s.*, & £150,000 4 per cent. debentures. Issued: £112,520 in ordinary shares, & all the debentures, both fully paid. The cables & land lines, 2100 nautical miles, extend from Concepcion (Chili) to Lima (Peru), touching at Talcahuano, Coronel, Santiago, Valparaiso Coquimbo, Serena, Antofagasta, Iquique, Pisagua, Arica (Chili), & Mollendo Callao (Peru).

West Cumberland Electric Tramways Co., Bank-chbrs., St. Helen's, Lancs. Directors: C. B. Craven, Esq.; J. Beecham, Esq., J.P.; Jno. Hammill, Esq.; Jno. Forbes, Esq. Secretary, W. Simpson, A.M.I.MECH.E., A.I.E.E.; consulting engineer, Sir D. Fox. Capital: £400,000 in £10 shares. Loan, £100,000. *Works not yet commenced.*

West End Decorating Co., electric light engineers, 38, Sloane-st., London, S.W.

West Ham Chemical Works (Bacon, W. C., & Co.), sulphuric acid manufacturers, 14, Mincing-lane, London, E.C. (Telegs.: "Nocab, London." Teleph. No. 544, Stratford.)

West Ham Corporation Electricity Supply, 84, Romford-rd., Stratford, E. Engineer & manager, A. H. Seabrook, A.M.I.E.E. (Teleph. No. 1069, East.) Power Station, Canning Town, E. (Teleph. No. 865, East.)

West Ham Municipal Technical Institute, Romford-rd., West Ham, E. (Teleph. No. 962 E., Stratford.) *See* SCHOOLS.

West Hartlepool Corporation Electricity Works, West Hartlepool. H. F. Friederichs, M.I.C.E., engineer. (Nat. Telephone No. 378.)

West Hartlepool Technical College, West Hartlepool. *See* SCHOOLS.

West, Henry, & Son, electrical engineers, 31, High-st., Taunton.

West India & Panama Telegraph Co., Ltd. Offices: Dashwood House, 9, New Broad-street, London, E.C. Incorporated 9th January, 1877. Issued capital: ordinary shares of £10 each, fully paid, £883,210; 6 per cent. first preference shares of £10 each, fully paid, £345,630; 6 per cent. second preference shares of £10 each, fully paid, £46,690. The full amount has been called, resulting in the payment of £1,275,530; & 5 per cent. debentures, £80,000. Directors: W. B. Kingsford, Esq. (chairman); T. W. Goulding, Esq.; G. Von Chauvin, Esq.; Henry Holmes, Esq.; Sir Jno. C. Lamb, C.B., C.M.G. Manager & secretary, R. T. Brown. Dividends on ordinary & second preference shares, *nil*; on first preference shares: 1903, 14*s.*; 1904, 12*s.*; 1905, 10*s.* on account of arrears.

West London & Provincial Electric Supply Co., Ltd., 14, Ironmonger-lane, E.C. Registered May 13, 1899, with a capital of £150,000 in £1 shares, of which 80,000 are £6 per cent. cumulative preference. Proprietors of the Chiswick Electricity Supply Corporation, Ltd. Directors: Sir Thos. Brooke-Hitching (chairman); M. Ansell, Esq.; Harry Kahn, Esq.; J. Courthope Peache, Esq., M.I.C.E.; W. B. Esson, Esq., M.I.C.E. (managing). Consulting engineers, Kincaid, Waller & Manville; & R. W. Weekes. Secretary, O. Wyatt Williams.

West London Scientific Apparatus Co., electrical & magnetic apparatus makers, Premier-pl., High-st., Putney, London, S.W.

Western, W. T., 44, Charing Cross, S.W. Director River Plate Electricity Co., Ltd.; director Rosario Electric Co., Ltd.

Western Counties Light Railway Co., Ltd., 28, Victoria-st., London, S.W.

WESTERN ELECTRIC CO., manufacturers of telephonic & telegraphic apparatus, telephone, telegraph & electric light cables, Bridge-chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. (Telegrams: "Relay, London." Telephone Nos.: 418, Bank; 2389, P.O. Central; & 549, East.) *See* CABLES & TELEPHONE APPARATUS MAKERS.

Western Electric Distributing Corporation, Ltd., 38, Parliament-st., Westminster, S.W. Registered Nov. 5, 1903. Nominal capital: £10,000 in £1 shares. Issued: £1004. Directors: T. Glyn, Esq. (chairman); — Egerton, Esq.; T. Kirkland, Esq.; W. T. Pressland, Esq. Secretary, Seymour Williams.

Western Electric Railways Development Co., Ltd., Moorgate-ct., London, E.C. Registered Aug. 28, 1902. Nominal capital: £120,000 in £1 shares & £100,000 debentures. Issued: 24,607 ordinary shares & 15,600 5 per cent. cumulative preference shares. Debentures issued Oct. 20, 1902: £10,000. Directors: M. St. B. Prichard, Esq.; C. C. Wright, Esq. Secretary, H. Blondell.

Western Telegraph Co., Ltd., Electra House, Finsbury-pavement, London, E.C. (Telegrams: "Amulet, London." Telephone No. 1118, London Wall.) Registered Jan. 8, 1873. Name changed to above Nov. 10, 1899. Nominal capital: £2,500,000 in £10 shares. Issued: 207,930 shares, fully paid; & 4 per cent. debenture stock, £800,000. Directors: Sir J. Wolfe Barry, K.C.B. (chairman); Sir J. Denison-Pender, K.C.M.G. (deputy-chairman); The Rt. Hon. Lord Balfour of Burleigh, K.T.; The Rt. Hon. St. John Brodrick; Lord R. H. Browne; Sir A. J. Leppoc Cappel, K.C.I.E.; J. Coppen, Esq.; F. A. Johnston, Esq.; Duke de Loulé. Secretary, E. Steer Hodson. Dividends: 1895-1906, 7 per cent. per annum.

Western Union Telegraph Co., 21, Royal Exchange, London, E.C. (Telegs.: "Western Union, London;" & "Unpack." Teleph. No. 41, Avenue); 1, Draper's-gdns., E.C. (Teleph. No. 1830, Central); 7, Waterloo-pl., S.W.; The Baltic, E.C. (Teleph. No. 976, London Wall); 40, Mark-lane, London, E.C. (Teleph. No. 61, Avenue); Effingham House, Arundel-st., W.C. (Teleph. No. 1713, Gerrard); 109, Fenchurch-st., E.C. (Teleph. No. 953, Avenue); 2, Northumberland-ave., W.C. (Teleph. No. 3598, Gerrard); & 48, Tooley-st., London, S.E. (Teleph. No. 984, Hop.) General offices: 252, Gresham House, E.C. (Telegs.: "Teletique, London." P.O. Teleph. No. 11444, Central); 7, Waterloo-pl. (Teleph. No. 2073, Central); Liverpool; Bristol; Bradford; Dundee; Edinburgh; Glasgow; Leith; Manchester; & Newcastle-on-Tyne. Secretary, A. R. Brewer.

Westinghouse, G., director Traction & Power Securities Co., Ltd.; chairman British Westinghouse Electric & Manufacturing Co., Ltd., Norfolk-st., W.C.

Westinghouse Brake Co., Ltd., engineers, York-road, King's Cross, London, N. (Telegrams: "Westinghouse, London." Telephone No. 620, North.)

Westinghouse-Cooper, Hewitt Co. Ltd., Westinghouse-bldg., Norfolk-st., Strand, London, W.C.

Westinghouse Electric Co., Ltd., Westinghouse-bldg., 2, Norfolk-st., Strand, W.C. (Telegrams: "Mobilized, London." Telephone No. 3261, Gerrard.)

Westinghouse Metal Filament Lamp Co., Ltd., Westinghouse-bldg., Norfolk-st., Strand, London, W.C.

Westman, E. B., Swedish iron & steel merchant, 39, Lombard-st., London, E.C. (Telegrams: "Jernagent, London." Telephone No. 4604, Central.)

Westminster Electric Supply Corporation, Ltd. Head offices: Eccleston-place, Belgravia, London, S.W. Central & transforming stations, Eccleston-pl., Millbank-st., Westminster, S.W., Davies-st., & Duke-st.-gdns., Mayfair, London, W. (Telegrams: "Visual, London." Telephone No. 271, Westminster.) Registered June 30, 1888. Nominal capital: £2,000,000 in 200,000 ordinary & 200,000 preference shares of £5 each. Issued capital: ordinary shares, £550,000, £5 each (fully paid); 4½ per cent. cumulative preference shares, £5 each, £406,395 (fully paid); £100 debentures, £250,000 (fully paid). Frank Iago, F.C.I.S., secretary; Sir A. B. W. Kennedy, LL.D., F.R.S., M.I.C.E., engineer-in-chief; C. O. Grimshaw, M.I.C.E., assistant engineer-in-chief; L. H. Hordern, manager. Directors: Lord Suffield, G.C.V.O., K.C.B. (chairman); Capt. E. I. Bax; Edmund Boulnois, Esq.; W. Hayes Fisher, Esq.; Lord Kinnaird; J. Browne Martin, Esq.; R. W. Wallace, Esq., K.C. Dividends: on ordinary shares, 1903, 13½ per cent.; 1904, 14 per cent.; 1905, 13 per cent.; & first half of 1906, 11 per cent.

WESTMINSTER ELECTRICAL TESTING LABORATORIES, York Mansion, York-st., Westminster, London, S.W.

Westminster Engineering Co., Ltd., electrical & general engineers, Victoria-rd., Willesden Junction, London, N.W. (Telegrams: "Regency, London." Telephone No. 90, Harlesden.) Branch: 16, Davies-st., London, W. (Telephone No. 2635, Gerrard.)

Weston, Geo., A.M.I.E.E., 153, Fenchurch-st., London, E.C.

Weston, G. C., A.M.I.M.E., M.I.E.E., Kensington & Knightsbridge Electric Lighting Co., Ltd., Distribution Department, Albert Vaults, Prince Consort-rd., South Kensington, London, S.W. (Teleph. No. 1162, Western.)

Weston, J. R., chief electrical engineer, Council Offices, Watford.

Weston, Robert, electrician, 102, Mortimer-rd., Kingsland, London, N.

WESTON ELECTRICAL INSTRUMENT CO., manufacturers of electrical measuring instruments & appliances, Audrey House, Ely-pl., London, E.C. (Telegs.: "Pivoted, London." Teleph. No. 2029, Holborn. A.B.C. Code.) *See inset advt.*, INSTRUMENTS—ELECTRICAL.

Weston, G., & Sons, electric light & telephone contractors, 153, Fenchurch-st., London, E.C. (Telegrams: "Ardentness, London." Telephone No. 7748, Central.)

Weston-super-Mare & District Electric Supply Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. (Telegrams: "Weston, c/o Tramways, London.") Registered May 26, 1899. Nominal capital: £40,000 in £1 ordinary shares, £40,000 in 6 per cent. cumulative £1 preference shares & £40,000 debentures. Issued: 35,000 ordinary & 35,000 preference shares, & £35,000 4½ per cent. first mortgage debenture stock. Trust deed, dated Oct. 29, 1903, to secure £35,000 debenture stock, has been registered. Directors: G. J. Somerville, Esq. (chairman); G. R. Hulme, Esq.; Geo. Offor, Esq. Engineer, M. Nash; secretary, C. H. Godward. Dividends: 1902 to 1904, 4 per cent.

Westwood, Chas., dealer in fine & alloyed bullion in flat, wires, &c., 53, Great Hampton-st., Birmingham. (Telegrams: "Aurum, Birmingham." Telephone No. 2194.)

Westwood, A., & Son, electric bell fitters, electric light & telephone engineers, 30, Bank-st., Dundee (Telephone No. 708); & 21, Princes-st., Perth. (Telephone No. 92.)

Wethered, O., 30/31, St. Swithin's-lane, London, E.C. Director Perth Electric Tramways, Ltd.; director Kalgoorlie Electric Tramways, Ltd.; director Cornwall Electric Power Co.

Wetter, J., patent agent, 37 & 39, Essex-st., Strand, London, W.C. (Teleph. No. 2227, Central.)

Wetton, C. E., A.I.E.E., British Insulated & Helsby Cables, Ltd., Lennox House, Norfolk-st., London, W.C. (Telegrams: "Airlike, London." Telephone No. 2995, Gerrard.)

Wetzler, Joseph, M.I.E.E., president of the Electrical Engineer Institute of Correspondence Instruction, 13, Southampton-st., High Holborn, London, W.C. (Telegrams: "Electracor, London." Telephone No. 7723, Gerrard.)

Weybridge Electricity Works (Urban Electric Supply Co.), Weybridge. H. W. Watts, A.M.I.M.E., A.M.I.E.E., chief engineer. (Teleph. No. 46, Weybridge.)

Weymouth & Melcombe Regis Corporation Electricity Works, Weymouth, Dorset. (Telephone No. 21.) Engineer, R. G. Simpson.

Whaite, W. H., 8, Winchester-pl., Highgate, N. Director Lanarkshire Tramways Co.

Whalley, Alfred, M.I.E.E., electrical engineer, 19, Croxteth Grove, Liverpool.

Wharam, Wm., A.M.I.E.E., electrical & general engineer, Grove Engineering Works, Claypit-lane, Leeds. (Telegs.: "Arclight, Leeds." Teleph. No. 1488, Central.)

Wharfe, J., electrical engineer, 3, Charlotte-st. West, Macclesfield.

Wharton, C. Courtenay, A.I.E.E., electrical engineer, British Thomson-Houston Co., Ltd., Rugby.

Wharton, Charles J., M.I.E.E., Palace-chbrs., Bridge-st., Westminster, London, S.W. (Telegrams: "Endosmose, London." Telephone No. 18, Victoria); & engineer, Taunton & West Somerset Electric Railways & Tramways Co., Taunton, Somerset.

Wheatley, A. J., A.M.I.E.E., R.E. Office, Royal Victoria Hospital, Netley.

WHEATLEY KIRK, PRICE & CO., electrical & mechanical auctioneers, valuers & arbitrators, 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077, Bank.) *See* AUCTIONEERS—ELECTRICAL & MECHANICAL.

Wheatley & Mackenzie, patent agents, 40, Chancery-lane, London, W.C. (Telephone No. 4608, Holborn.)

Wheeler, C. W., supervisor, Postal Telegraph Factory, Mount Pleasant, London, E.C.

Wheeler, Percy A., electrical engineer, Muscovy House, Trinity-sq., London, E.C.

Wheeler, W. T., A.M.I.E.E., 8, Neeld-ter., Station-rd., Hendon, London, N.W.

Wheeler Condenser & Engineering Co., 2 & 3, Norfolk-st., Strand, London, W.C. (Telegrams: "Suspend, London." Telephone No. 6889, Gerrard.)

Wheeler, E. H., & Co., manufacturers & exporters of indiarubber goods, steam packing, &c., 8 & 9, South Parade, Deansgate, Manchester (Telegs.: "Flanges, Manchester." Teleph. No. 5121, Central); & Lloyd's-ave. House, London, E.C. (Telegs.: "Pothaska, London." Teleph. No. 5856, Avenue.)

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Whitcher, J., A.M.I.E.E., Wolseley Villa, Clifton-rd., Rugby.

Whitchurch & Pangbourne Electric Supply Co., Ltd., King Edward-bldgs., Reading; & Whitchurch, Oxon. (Telephone No. 51 Y., Pangbourne.) Registered Nov. 12, 1902. Nominal capital: £10,000 in £5 ordinary shares. Issued: £4500, fully paid. Directors: F. J. Ferguson, Esq. (chairman); P. O. Payze, Esq.; P. F. H. Ferguson, Esq. Resident electrical engineer, D. H. Coombs; secretary, C. T. Watson.

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White Bros., electrical & mechanical engineers, 12, Holmside, Borough-rd., Sunderland. (Teleph. No. 6X.)

White & Co., gas & electrical engineers, Blackfriars-rd., Salford, Manchester. (Telegrams: "Revolution, Manchester." Telephone No. 4591.)

White, J., & Co., installation contractors, 19, South St. Andrew-st., Edinburgh.

WHITE, J. G., & CO., LTD., electrical, mechanical & civil engineers, 9, Cloak-lane, Cannon-st., London, E.C. (Telegs.: "Whitterick, London." Teleph. Nos.: 3306, 3307, 3308, London Wall; & 9886, Central.) Registered July 10, 1900. Nominal capital: £200,000 in 15,000 preference shares of £10 each & 50,000 ordinary shares of £1 each, all issued. Directors: J. G. White, Esq. (chairman); Lord Arthur Butler; A. N. Connett, Esq.; W. C. Burton, Esq.; J. B. White, Esq. Secretary, A. H. Beatty. New York correspondents: J. G. White & Co., 43-49, Exchange-pl.

White, Jacoby & Co., Ltd., electrical & mechanical engineers, 54, Bayham-pl., Camden Town, N.W. (Telephone No. 2066, North.) Registered May 12, 1897. Capital: £4000 in £1 shares. 3207 shares have been taken up & are fully paid. Mortgages & charges, £1500. Directors: F. W. White, Esq. (managing); W. J. B. Odhams, Esq.; H. C. E. Jacoby, Esq.

White & Johnson, electric light fitters, &c., 17, College-pl., King's-rd., Chelsea, S.W.

White, Richard, & Sons, representatives of F. H. Lovell & Co., New York, Widnes, Lancs. (Telegrams: "Rails, Widnes." Telephone Nos. 25 & 27.)

White, T., & Sons, steel wire makers, Balsall Heath, Birmingham. (Telegrams: "White, Birmingham.")

WHITE, WM., & CO., 3, Budge-row, Cannon-st., E.C., electrical & mechanical engineers & suppliers, sole British agents for Crocker-Wheeler Dynamo Electric Machinery. (Telegs.: "Rostator, London." Teleph. No. 3577, London Wall.)

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Whitecross Co., Ltd., manufacturers of telegraph wire, wire drawers, &c., Milner-st., Warrington. (Telegrams: "Whitecross, Warrington." Telephone No. 9.)

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Whiteley, Wm., Ltd., electric light engineers & contractors, Queen's-rd. & Westbourne-grove, London, W. (Telegrams: "Whiteley, London." Telephone Nos. for 10 lines, 4013, Paddington.)

Whiteley, Wm., & Sons, Ltd., manufacturers of dynamos & motors, Prospect Iron Works, Lockwood, Yorks. (Telegrams: "Whiteley, Huddersfield." Telephone Nos. 598 & 599.)

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Whittaker Bros., Ltd., electrical contractors, Wolverhampton-st., Dudley. (Telegs.: "Electrical, Dudley." Teleph. No. 112, Dudley.

Whittaker & Co., publishers of electrical & scientific books, 2, White Hart-st., Paternoster-sq., London, E.C. (Telegs.: "Whittaker, Publishers, London." P.O. Teleph. No. 11964, Central.)

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Wickwar Electricity Works, Wickwar, Glos. Arnold Perrett & Co., Ltd., proprietors. Engineer, F. G. Ansell, F.C.S.

Widnes Foundry Co., Ltd., ironfounders & bridge builders, Widnes, Lancashire. (Telegs.: "Foundry, Widnes." Nat. Teleph. No. 9.)

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Wilesmith, John, & Co., manufacturers of electrical wire casings, The Bridge Works, Worcester.

Wilhelm & Co., incandescent & arc lamps, tools, &c., 7, New Zealand-ave., Barbican, London, E.C. (Telegrams: "Voltage, London.")

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Wilkes, J., Sons & Mapplebeck, Ltd., brass & copper tube makers, 9, New Broad-street, London, E.C. (Telephone No. 1981, London Wall); & Liverpool-st., Birmingham. (Telegrams: "Wilkes, Birmingham." Telephone No. 109. A.B.C. Code used.)

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Wilkins Wire Rope Co., Ltd., Eastwood, Notts. (Telegs.: "Cordelero, Eastwood." Teleph. No. 17, Langley Mill.)

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Wilkinson, G., & Sons, tool makers, Keighley. (Telegs.: "Wilkinsons, Engineers, Keighley." Teleph. No. 10 Y.)
Wilkinson, Heywood & Clark, Ltd., varnish manufacturers, 138 & 140, Vauxhall-rd., Liverpool. (Telegs.: "Woodhey, Liverpool." Teleph. No. 1378, Central.)
Wilkinson, P., & Sons, copper & brass merchants, Tottenham Mews Foundry, near Tottenham-court-rd., London, W. (Telegs.: "Rapid, London." Teleph. No. 6631, Gerrard.)
Willan, Urmson, A.I.E.E., 56, Angell-rd., Brixton, London, S.W.
Willans & Robinson, Ltd., steam turbine & high speed engine builders, Victoria Works, Rugby (Telegs.: "Willans, Rugby"); & Ferry Works, Queensferry, Chester.
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WILLCOX, W. H., & CO., LTD., engineers' stores & lubricating oil refiners. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." A.B.C. Code, 5th edit. Teleph. Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*
Willeringhaus, Hans F., insulation tapes, 35, Friday-st., London, E.C.
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Willesden Electrical Engineering Co., electric lighting work, &c., 95, High-street, Harlesden, N.W
Willesden Paper & Canvas Works, Ltd., paper for insulating purposes, Willesden Junction, N.W. (Telegrams: "Impermeable, London." Telephone No. 65, Harlesden); 61, South John-st., Liverpool; & 134, St. Vincent-st., Glasgow.
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Williams, Seymour, director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.
Williams, Thos., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 138, High-st., Ton-yr-efail.
Williams, W., B.SC., assistant lecturer in electrical engineering, University College of North Wales, Bangor.
Williams, W., superintendent Anglo-American Telegraph Co., Ltd., 71, Old Broad-st., E.C.; & 24, Throgmorton-st., E.C. (Telegrams: "Anglo, London." Telephone No. 2054, London Wall.)
Williams, W. E. O., electrical engineer, Cardiff.
Williams, Wilbur H., A.M.I.E.E., 120, The Grove, Hammersmith, London, W.
Williams, W. J., "Ammanfryn," Brynamman, Carmarthenshire. Chairman Brynamman & District Electric Supply Co., Ltd.
Williams, W. Stanley, electrical engineer & contractor, 44, Chester-st., Wrexham.
Williams, A., & Co., hydraulic engineers, 814, Old Ford-rd., Bow, London, E. (Telegrams: "Ventulus, London." Telephone No. 694, Eastern.)
Williams & Bach, electricians, 92, New Bond-st., London, W. (Telegrams: "Moluccas, London." Telephone No. 972, Mayfair.)
Williams & Co., electric bell fitters, High-st., Colchester.
Williams, Foster & Co., & Pascoe Grenfell & Sons, Ltd., copper smelters & manufacturers, Morfa & Middle Bank Copper Works & Upper Bank Spelter Works, Swansea. (Telegrams: "Willfost, Swansea." Telephone No. 109.) Warehouse: 5, Creechurch-lane, Leadenhall-st., London, E.C. Office: Leadenhall-bldgs., E.C. (Telegrams: "Willfost, London." Telephone No. 229, Avenue.)
Williams & Geils, machinery exporters & shippers, 35, King William-st., London, E.C. (Telegrams: "Williams Geils, London." Telephone No. 5103, Bank.)
Williams, Hal, & Bridges, consulting engineers, 3, Salters' Hall-ct., London, E.C. (Telegs.: "Kawaka, London." Teleph. Nos.: 3333, Central; & 5550, Bank.)
Williams, Jno., & Co., slate for electrical purposes, Rotherhithe-st., London, S.E. (Telegs.: "Pulverizer, London." Teleph. No. 199, Hop.)
Williams, J., & Sons (Cardiff), Ltd., iron founders, poles for electric trams, &c., 9–17, Queen-st., & Globe Foundry, Cardiff. (Telegs.: "Metal, Cardiff." Nat. Teleph. Nos.: 501, 608, 635, 1244; & P.O. 516.)
Williams & Michell, copper merchants, 7 & 8, Cross-st., Swansea. (Nat. Teleph. No. 383 X.)
Williams & Norgate, importers of foreign scientific books, 14, Henrietta-st., Covent Garden, London, W.C. (Telegs.: "Librorum, London.")
Williams, Owen & David, manufacturers of electric light fittings, 402 & 404, Scotland-rd., & 12, 14 & 16, Taylor-st., Liverpool. (Telephone No. 2081.)
Williams, T. C., & Sons, Ltd., ironfounders & electric light engineers, London-st. Ironworks, Reading. (Telegrams: "Williams, Reading." Telephone No. 79.)
Williams, W. E. O., & Co., electrical & mechanical engineers & electric light & power contractors, 29, West Bute-st., Cardiff.
Williamson, Arthur, A.M.I.E.E., Western Electric Co., North Woolwich.
Williamson, A. D., M.I.E.E., River Don Works, Sheffield.
Williamson, E., district manager, National Telephone Co., Telephone-bldgs., George-st., Nottingham.
Williamson, Edgar, A.M.I.E.E., 4, Colville-st., Nottingham.
Williamson, John, M.I.E.E., St. Nicholas Lodge, Harpenden, Herts.
Williamson, J. B., J.P., 1, Camp-ter., North Shields. Director Tynemouth & District Electric Traction Co., Ltd.
Williamson, J. C., 3, Palace Houses, London, W. Director Hastings & District Electric Tramways Co., Ltd.
Williamson, J. C., manufacturing electrician, Lanehurst, Woodford Green, Essex.
Williamson, J. H., borax, cobalt, & nickel refiner, Golden-hill, Stoke-on-Trent. (Telegrams: "Henshall, Goldenhill (Staff.)." Telephone No. 523.)
Williamson, Percy M., A.M.I.E.E., 17, Westbourne-terrace-rd., London, W.
Williamson, R., director Cumberland Power Synd., Ltd., 4, South Parade, Leeds.
Williamson, R. S., electrical engineer, c/o Cannock & Rugeley Call Co., Hednesford, Staffs.

Williamson Bros., electric lighting contractors, 25, Ondine-rd., Peckham, London, S.E.
Willis, A., Hall Farm, Sevenoaks, Kent. Director Baker-st. & Waterloo Railway.
Willis, J. B., A.I.E.E., Brougham House, Hartlepool.
Willis, J. E., electric bell manufacturer, Flint House, Dunstable.
Willis, R. F., Capt., R.M.L.I., A.I.E.E., United Service Club, Pall Mall, London, S.W.
Willis, Roger H., A.M.I.E.E., managing director British Electric Plant Co., Ltd., Alloa, N.B.
Willis & Co., manufacturing electrical engineers, 2, Commercial-st., Knott Mill, Manchester.
Willis, Sindall & Co., Ltd., exporters of electrical machinery, 4, Lloyd's-ave., London, E.C. (Telegs.: "Auster, London." Teleph. No. 8991, Central.)
Willmot, J. W., I.S.O., M.I.C.E., controller of Postal Telegraph Factories, Office of the Controller of Factories, Holloway, London, N. (Teleph. No. 33, Official.)
Willmott, A., A.M.I.E.E., General Electric Co., Ltd., Witton, Birmingham; & "Elmhurst," Gravelly Hill, Birmingham.
Willmott, J. W., compass centre maker, Iddesleigh Villa, Runnemede-street, Egham. (Telegrams: "Lapidary, Egham.")
Willows, R. Smith, D.SC. (Lond.), B.A. (Cantab.), lecturer in physics & mathematics, Sir John Cass Technical Institute, Jewry-st., Aldgate, London, E.C.
Wills, G. H., director & manager Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness, Kent.
Wills, Robert, B.SC., consulting engineer, Elswick Mechanics Institute & Technical School, 26, Beech Grove-rd., Newcastle-upon-Tyne.
Wills, W. A., 701, Salisbury House, London, E.C. Chairman African Concessions Syndicate, Ltd.
Wills, C., & Sons, electric light & bell fitters, Alumhurst-rd., West Bournemouth.
Willson, J. C., director Railway Lighting, Ltd., 78, King-st., Manchester.
Willway, J. S., & Sons, Ltd., electricians, St. Augustine's, Bristol. (Telegs.: "Willway, Drawbridge, Bristol." Teleph. No. 713.)
Wilmer & Sons, marble & slate for electrical purposes, 11, 12, 13 & 14, Bury-st., St. Mary Axe, London, E.C. (Telegs.: "Ironmaster, London." Teleph. No. 5825, Avenue); & 119, Victoria-st., Bristol. (Telegs.: "Ironmaster, Bristol." Nat. Teleph. No. 46, Bristol.)
Wilmot, Arthur Clement, A.M.I.E.E., 182, Haverstock Hill, Hampstead, N.W.
Wilmshurst, T. P., M.I.E.E., borough electrical engineer, Derby.
Wilskemp, Ltd., makers of smoke consumers & fuel economisers, 20, Bucklersbury, London, E.C. (Telegs.: "Wilskemps, London." Teleph. No. 8652, Central.)
Wilson, Archibald, A.M.I.E.E., Leith Electric Works, Prince Regent-st., Leith.
Wilson, A. H., electrical engineer, 578, Chester-rd., Old Trafford, Manchester.
Wilson, A. Stanley, A.M.I.E.E., c/o British Thomson-Houston Co., 30, Cross-st., Corporation-st., Manchester.
WILSON, C., A.I.E.E., MANAGER ROBERTSON ELECTRIC LAMPS, LTD., BROOK GREEN WORKS, HAMMERSMITH, LONDON, W.; & "Oak Bank," Lena-gdns., Hammersmith, W. (Teleph. No. 27A, Hammersmith.)
Wilson, David, A.M.I.E.E., 68, Sydenham-rd., Croydon.
Wilson, D. T., electrical engineer, 28, West Campbell-st., Glasgow.
Wilson, Ernest, A.I.E.E., "Glynn Wynne," Penn's-lane, Erdington, Birmingham.
Wilson, G., electrical engineer, Abbey-st., Nuneaton.
Wilson, Geo., Keswick Hotel, Keswick. Director Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Lighting Co., Ltd.
Wilson, H., electrical engineer, 1A, Heaton-lane, Stockport.
Wilson, H. A., D.SC., professor of physics, King's College, 160, Strand, W.C.
Wilson, H. W., A.M.I.E.E., T. L. Miller & Wilson, consulting mechanical & electrical engineers 7, Tower-bldgs., Water-st., Liverpool; & 19, Brazennose-st., Manchester. (Telegs.: "Kinetic, Liverpool;" "Kinemetic, Manchester." Teleph. Nos.: 6216, Central, Liverpool; 5020, Manchester.)
Wilson, J., engineer, G. E. Railway, Engineers' Office, Liverpool-st. Station, E.C. Works: Norton Folgate, London, N.E.
Wilson, J., electrical engineer, Clyde Valley Electric Power Co., 53, Bothwell-st., Glasgow.
Wilson, J., A.M.I.E.E., chief of Electrical Department, Tinsley Park Colliery, nr. Sheffield.
Wilson, James, electrical engineer, &c., Ferrier Works, North-st., Wandsworth, London, S.W. (Telephone No. 688, Battersea.)
Wilson, J. A., director Limerick Electric Tramways Co., Ltd., Star Life-bldgs., College Green, Dublin.
Wilson, J. Allan, electrical & mechanical engineer, National Bank-bldgs., Kilmarnock. (Telegs.: "Necessity, Kilmarnock." Teleph. No. 58.)
Wilson, J. B., electrician, City of Carlisle Electric Tramways Co., Ltd., 1, Warwick-rd., Carlisle.
Wilson, J. C., A.I.E.E., St. Thomas' Priory, Stafford.
Wilson, J. G., patent design & registration agent, 55, Market-st., Manchester. (Nat. Telephone No. 594A.)
Wilson, John Gordon, A.M.I.E.E., electrical engineer, Thompson & Wilson, 22, North Bridge-st., Edinburgh.
Wilson, Joseph G., A.I.E.E., 18, St. Thomas-cres., Newcastle.
Wilson, J. M. F., B.SC. (Lond.), A.I.E.E., assistant lecturer in electrical engineering, Municipal Technical Institute, Belfast; & 9, Mount Charles, Belfast.

Wilson, J. R., electric light, bell & telephone engineer, 20, Oxford-rd., Chorlton-on-Medlock, Manchester. (Telephone No. 09233, Nat.)

Wilson, John Reginald, electrical engineer, The Willows, Gosforth, Newcastle-upon-Tyne.

Wilson, N. J., A.M.I.E.E., c/o B. W. E. & M. Co., Ltd., Trafford Park, Manchester.

Wilson, Prof. Ernest, WH.SC., M.I.E.E., professor of electrical engineering, King's College, London, W.C. (Telephone No. 2932, Gerrard.)

Wilson, R., consulting engineer, Electricity Works, Dudley.

Wilson, R. H., chief assistant engineer, Lewes Electric Supply Co., Lewes.

Wilson, R. P. C., M.I.E.E., A.M.I.C.E., consulting electrical engineer, 66, Victoria-st., S.W. (Telegs.: "Wrenching, London." Teleph. Nos.: 516, Westminster; & 1097, Victoria.)

Wilson, Robert, installation contractor, 40, Donegall Quay, Belfast.

Wilson, Robert Martill, A.M.I.E.E., 74, York-st., Glasgow; & "Westwood," Brownside-ave., Cambuslang, N.B.

Wilson, R. P., electrical contractor, 22, King-st., Lancaster.

Wilson, Samuel, A.M.I.E.E., 36, Vicinage Park, Belfast.

Wilson, Sir C. R., G.C.M.G., C.B., 21, Pont-st., S.W. Chairman British Electric Traction Co., Ltd.; director Rand Central Electric Works, Ltd.

Wilson, T., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Wilson, Wm., 52, Princes Gate, London, S.W. Director Buenos Ayres & Belgrano Elec. Tramways Co., Ltd.

Wilson, Wm. Alexander, A.M.I.E.E., Haxtoun West, Bothwell, N.B.

Wilson, W. H., director Limerick Electric Tramways Co., Ltd., Star Life-bldgs., College Green, Dublin.

Wilson, W. Henry, engineer & manager, Municipal Electricity Works, Sleaford.

Wilson, Wm. Hamilton, A.I.E.E., Metropolitan Electric Supply Co., Acton-lane, Willesden Junction, N.W.

Wilson, W. R., B.SC., M.I.E.E., electrical engineer, 142, Hyndland-rd., Glasgow, W.

Wilson, W. S., electrician, High-st., Watford.

Wilson & Briggs, dealers in electrical supplies, 3, Town Hall-bldgs., Brighouse, Yorks. (Tel. No. 8 X.)

Wilson Bros., installation contractors, 12, Bedford-st., Belfast.

Wilson, John, & Son, makers of lead presses, lead cable-covering machines, &c., Vulcan Works, Johnstone, Scotland. (Telegrams: "Vulcan, Johnstone." Telephone No. 25.)

Wilson, L. E., & Co., telephone experts & engineers, 20, Cross-st., Manchester. (Teleph. No. 344, Central.)

Wilson & Pilcher, Ltd., electrical engineers, 32 & 34, Great Peter-st., S.W. (Telegrams: "Wilsonies, London." Telephone No. 107, Westminster.)

Wilson, R. & W., & Sons, Ltd., ironmongers & japanners for electrical work, 90 & 102, Wardour-st.; & 75, Dean-st., Soho, London, W.C. (Telegrams: "Prize Baths, London." Telephone No. 5305, Gerrard.)

Wilson & Smith, electric bell fitters, &c., 7 & 8, King William-st., Strand, W.C.; & 7, Manette-st., Soho, W., London. (Telegrams: "Inasmuch, London.")

Wilson-Wolf Engineering Co., Ltd., Laycocks Mill, Thornton-rd., Bradford. (Telegs.: "Energy, Bradford." Teleph. No. 1753.)

Wilson-Young, H., M.I.E.E., A.M.I.M.E., electrical engineer, 12, Camomile-st., London, E.C. (Telegrams: "Drivingwheel, London." Telephone No. 5850, Avenue); & Cleveland-bldgs., Market-st., Manchester. (Telegrams: "Spider, Manchester." Telephone No. 4543, Central.)

Wimbledon District Council Electricity Works. (Telegs.: "Electricity Works, Wimbledon." Teleph. No. 60, Wimbledon.) Electrical engineer, H. Tomlinson-Lee.

Wimbledon Technical Institute, Wimbledon. *See* SCHOOLS.

Wimperis, H. E., B.A. (Cantab), A.M.I.C.E., A.M.I.E.E., Engineering Inspection Department, Crown Agents for the Colonies, Whitehall-gdns., London, S.W.

Wimshurst, Everden J., M.I.E.E., Spring Bank, Marlborough-rd., Buxton, Derby.

Winchester Electric Light & Power Co., Ltd., Electric Light Station, Winchester. Registered Jan. 14, 1897. Nominal capital: £50,000 in £5 ordinary shares & £30,000 debentures. Issued: £44,195 ordinary shares, fully paid, & £41,000 debentures. Directors: T. F. Kirby, Esq. (chairman); Capt. Clayton Mitchell, R.N.; A. R. Dyer, Esq.; F. E. Gripper, Esq.; Capt. the Hon. Guy Baring, M.P. H. N. Warburton, engineer & secretary. Dividends: 1901, 5 per cent. on ordinary & 5 per cent. on debentures; 1902, 5 per cent. on ordinary & 5 per cent. on debentures; 1903, 1904 & 1905, 5½ per cent. on ordinary & 5 per cent. on debentures.

Winder, R. F., Belgrave Electrical Works, 2, Cross Belgrave-st., Leeds. (Telephone No. 40 Y., Central.)

Windermere & District Electricity Supply Co., Ltd., Troutbeck Bridge Mills, Windermere. (Telegrams: "Electricity, Windermere." Telephone No. 17.) Nominal capital: £50,000 in £5 shares, of which 5000 are preference & £20,000 4½ per cent. first mortgage debenture stock. 5000 preference & 3000 ordinary have been taken up & are fully paid & £16,800 debenture stock. A trust deed, dated Nov. 11, 1902, to secure £20,000 debenture stock, has been registered. Directors: Wm. Long, Esq., J.P. (chairman); W. P. J. Fawcus, Esq.; Rd. Rigg, Esq.; A. M. Sing, Esq.; Geo. Wilson, Esq.; F. A. Roberts, Esq., J.P. Electrician, T. R. Burrell; manager & secretary, Chris. Walker. Dividends: 1903, 1904, *nil.*

Windle, Sydney, A.M.I.E.E., Corporation Electricity Works, Sunderland.

Windschuegl, C., & Co., chemical merchants, 1, Leadenhall-st., London, E.C. (Telegrams: "Windschuegl, London." Telephone No. 1624, Avenue.)

Windsor & District Electrical Co., electrical contractors, 53, Thames-st., Windsor. (Teleph. No. 249.)

Windsor Electrical Installation Co., Ltd., Windsor & Eton, & Old Windsor Central Station, Peascod-st., Windsor. (Telegs.: "Electric, Windsor." Teleph. No. 29.) Registered Dec. 5, 1895. Nominal capital: £100,000, divided into £50,000 in £1 ordinary shares, £50,000 in £1 preference shares & £20,000 debentures (temporary). Issued: all the ordinary shares, fully paid, & 20,000 preference shares, fully paid. Directors: Sir A. W. Shipley (chairman); H. L. Prior, Esq., J.P.; A. A. Somerville, Esq., M.A.; T. Mosley, Esq.; E. Riley, Esq.; H. R. de Salis, Esq., J.P. Electrical engineer, A. E. Farrow, A.M.I.E.E.; secretary, A. E. Drowne. Dividends: 1903, 8 per cent.; 1904, 7 per cent.

Windybank & Ballard, electricians, Albert-rd., Kingston-on-Thames.

Winfield, Wm. Blakeway, A.M.I.E.E., 10, Hornton-ct., Kensington, London, W.

Wing Disc Fan (Potter, F. W., & Co.), dynamo brush & electric fan & motor manufacturers, Phipp-st., E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Wingett, Robert, electrical engineer, 22, Hartfield-rd., Wimbledon, London, S.W. (P.O. Telephone No. 48, Wimbledon.)

Wingfield, Rowbotham & Co., engineers' tool makers, &c., 1, Suffolk-rd., Sheffield. (Telegrams: "Wingfield, Sheffield." Telephone No. 2339.)

Winkley, F. S., Harrow. Director Harrow Electric Light & Power Co., Ltd.

Winkworth, H. St. J., 12, Curzon-st., Mayfair, W. Chairman So. Metropolitan Elec. Light & Power Co., Ltd.

Winn, Jas. Percy, A.M.I.E.E., 46, Albert Park-rd., Broughton, Manchester.

Winn, W., electrical engineer & contractor, 106, Union-st., Borough, London, S.E.

Winn, Charles, & Co., engineers & brass founders, electric light & steam fittings, St. Thomas Works, Birmingham. (Telegrams: "Winn, Birmingham." Telephone Nos. 1437 & 366.)

Winning, W. L., A.M.I.E.E., M.I.E.S. (British Westinghouse Co.), 51, Mains Loan, Maryfield, Dundee.

Winny, Wm. Humphris, A.M.I.E.E., Testing Branch of the Engineer-in-Chief, Postal Telegraphs, Mount Pleasant, London, E.C.

Winsborough, Walter, electrical engineer, Douglas Bank Colliery, 70, Market-st., Wigan. (Tel. No. 91.)

Winslow, I. E., 30, Broadway, Westminster, S.W. (Telegs.: "Issonwin, London." Teleph. No. 902, Victoria.) Director Douglas Southern Electric Tramways, Ltd.; engineer New General Traction Co., Ltd.; engineer Coventry Electric Tramways; engineer Norwich Electric Tramways.

Winstanley-Wallis, T., M.I.E.E., c/o J. H. Holmes & Co., 17, Soho-sq., London, W.

Winston, H. H., A.M.I.E.E., 85, Oxford-gdns., Kensington, London, W.

Winstone, B., & Sons, Ltd., Morse's telegraph & copyable ink manufacturers, 100, Shoe-lane, London, E.C. (Telegs.: "Fulgency, London." Teleph. Nos.: 414, Holborn; & 6230, Central.)

Winstone & Co., electric bell manufacturers, 17, Cross-st., Finsbury, London, E.C.

Winter, C. E., A.I.E.E., Equitable Life Assurance Society of the United States, 6, Princes-st., London, E.C. (Telegrams: "Winter, c/o Incursion, London.")

WINTER, F., ebonite & vulcanite manufacturer; speciality—maker of boxes & cells for electric batteries, &c., 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Winter, G. E., electrician, 60, Caversham-rd., London, N.W.

Winter, J. H., & Co., electrical installations, Narrow Wine-st., Bristol. (Telephone No. 01488.)

Winter, Th., & Co., Ltd., electrical & mechanical engineers, Perseverance Works, Byron-st., Blackburn.

Winterbotham, F., Stroud. Director Gloucestershire Electric Power Syndicate, Ltd.

Winterbotham, W. H., M.I.E.E., 6, Ladbroke-ter., Notting Hill, W. (Telephone No. 7115, Paddington.)

Winterhalder, W. F., mains superintendent, Corporation Electricity Supply Works, Kingston-on-Thames.

Wintle, G. E., station superintendent, Corporation Electricity Supply & Tramways Station, Maidstone.

Wippell Bros. & Row, electrical engineers & contractors, 243 & 244, High-st., Exeter. (Teleph. No. 48.)

Wireless Control Syndicate, Ltd., 706–709, Salisbury House, E.C.

Wise, Sir Wm. Lloyd, C.P.A., patent & trade mark registration agent, 46, Lincoln's Inn-fields, London, W.C. (Telegrams: "Lloyd Wise, London." Telephone No. 4775, Central.)

Wisely, G. A. K., Capt., R.E., A.I.E.E., 12, Palace-ct., Bayswater, London, W.

Wiseman, A., director & engineer Nuneaton & District Light Railway Co., Ltd., 89, Glover-st., Birmingham.

Wishart, E., installation contractor, 29, South Front, Southampton.

Wishart, Jas. A., mains superintendent, Corporation Electricity Works, Leith.

Wishaw Burgh Electricity Works, Wishaw. Engineer, E. F. Cox.

Withers, W. N., A.I.E.E., Kinton House, Nesscliffe, nr. Shrewsbury.

Witney Electric Supply Co., Ltd., Witney, Oxfordshire. Registered May 30, 1899. Nominal capital: £10,000 in £1 shares, half of which are preference. Issued capital: 2802 ordinary & 2849 preference, all fully paid. Mortgages & charges: £3500. Directors: J. Bartlett, Esq.; E. Fyfield, Esq.; H. Fowler, Esq.; A. E. Barrell, Esq.; E. L. Hill, Esq. Engineer, F. G. Curel; secretary, J. F. Bartlett.

Wittin, F., 13, Norfolk-sq., Brighton. Director Costa Rica Electric Light & Traction Co., Ltd.

Wittrick, W. A., electrical engineer, 33, Coleraine-rd., Westcombe Park, London, S.E.

Witty & Wyatt, Ltd., asbestos manufacturers, 88, Leadenhall-st., London, E.C. (Telegrams: "Witwy, London." Telephone No. 4104, Avenue.)

Woakes, Dr. Arnold B., electrician, 78, Harley-st., London, W.

Wokes, Chas., & Co., electrical engineers & wiring contractors, 68, Brook-st., Hull. (Telegs.: "Wokes, Electricians, Hull." Nat. Teleph. No. 958.)

Woking Electric Supply Co., Ltd., Board School-rd., Woking. (Telegrams: "Electric Supply, Woking." Telephone Nos.: 68; Manager's House, 68A.) Registered Dec. 5, 1895. Nominal capital: £50,000 in 25,000 ordinary £1 shares & 25,000 6 per cent. preference shares of £1 each. Issued: 20,042 ordinary shares & 25,000 preference shares, fully paid. Debentures issued: £25,000. A trust deed, dated March 1, 1906, to secure £45,042 4½ per cent. debenture stock & further stock not exceeding, with the existing debentures outstanding, the company's paid up capital, has been registered. Directors: J. Ashby, Esq. (chairman); B. M. Kilby, Esq.; M. W. Ashby, Esq. Engineer & manager, J. G. McLean, M.I.E.E.; secretary, W. Strayton. Dividends: 1903, 4 per cent. on ordinary, 6 per cent. on preference, 4½ per cent. on debentures; 1904, 5 per cent. on ordinary, 6 per cent. on preference, 4½ per cent. on debentures; first half of 1905, 6 per cent. on preference & 4½ per cent. on debentures.

Wolf, Louis J., assistant electrical engineer, Town Council, Faversham.

Wolf, S., & Co., engineers & electric drill makers, 138, Southwark-st., London, S.E. (Telegrams: "Widerstand, London." Telephone No. 5172, Central.)

Wolfenden, H., A.I.E.E., 1, Palace Court, Hyde Park, London, W. Chairman Edison & Swan U. E. L. Co., Ltd.; chairman Altrincham Electric Supply, Ltd.; chairman & joint managing director Edmundsons Electricity Corp., Ltd.; vice-chairman British Aluminium Co., Ltd.; vice-chairman Loch Leven Water & Electric Power Co.; director Camborne Electricity Supply Co., Ltd.; chairman Lancashire Electric Power Co.; chairman Lancashire Power Construction Co., Ltd.; chairman Urban Electric Supply, Ltd.

Wolstenholme, John, gas engine maker, Albert Works, Radcliffe, near Manchester.

Wolverhampton Corporation Electricity Supply & Electric Tramways. Offices & works: Commercial-rd., Wolverhampton. Chairman, W. Gough Allen; electrical engineer, C. E. C. Shawfield, A.M.I.E.E., M.I.MECH.E. (Telephone No. 314.)

Wolverhampton District Electric Tramways, Ltd., Donington House, Norfolk-st., Strand, W.C. (Telegs.: "c/o Tramways, London." Teleph. Nos. 6821 & 6822, Gerrard.) Registered Dec. 17, 1900. Nominal capital: £200,000 in £5 ordinary shares & £100,000 4½ per cent. first debenture stock, secured by trust deed, dated April 11, 1904. 31,950 ordinary shares are issued, fully paid, 250 with 5s. paid, & all the debentures. Directors: S. R. Blundstone, Esq. (chairman); J. A. Lycett, Esq. (managing); A. C. Miles, Esq. Engineering manager, G. Conaty; traffic manager, R. W. Cramp; secretary, B. Kingsford. Dividends: 1902, 3 per cent.; 1903, 4 per cent.; 1904, 2½ per cent.; 1905, 1½ per cent.

Wolverhampton Electric Fittings Co. (Chas. E. Spurrier), electrical engineers, 23, Darlington-st., Wolverhampton. (Teleph. No. 451.)

Wolverhampton Municipal Technical School, Wolverhampton. (Teleph. No. 305.)

Wontner-Smith, J., Gray & Co., electric bell manufacturers & electrical engineers, 81, Finsbury-pavement, London, E.C. (Telegrams: "Warming, London." Telephone No. 1430, London Wall.)

Wood, Arthur, electrician & ironmonger, Newport, Isle of Wight.

Wood, Arthur P., M.I.E.E., electrical engineer, Lancashire Dynamo & Motor Co., Ltd., Trafford Park, Manchester.

Wood, C. J., A.I.E.E., 9, Claremont-rd., Sale, Cheshire.

Wood, Col. H., C.B., 71, Thorpe-rd., Norwich. Director Hove Electric Lighting Co., Ltd.; director Electric Supply Corporation, Ltd.; director Totnes Electricity Supply Co., Ltd.; director Chelmsford Electric Light Co., Ltd.

Wood, D. P., electrical engineer, 41, Loudoun-rd., London, N.W. (Teleph. No. 60, P.O., Hampstead.)

Wood, E. G., scientific instrument maker, 2, Queen-st., Cheapside, London, E.C. (Telegrams: "Euphannuon, London.")

Wood, E. J., local manager & electrical engineer, National Telephone Co., Ltd., 12, Market-pl., Cambridge. (Telephone No. 1.)

Wood, G. St. John, electrical engineer, 60, Castle-st., Liverpool.

Wood, H. A., A.M.I.E.E., electrical engineer, Lancashire County Asylum, Prestwich, nr. Manchester.

Wood, H. Gurney, A.I.E.E, c/o Siemens Bros. & Co., Ltd., Cable Dept., Telegraph Works, Woolwich.

Wood, Henry George, A.M.I.E.E., Electrical Department, South Eastern & Chatham Railway, London Bridge, S.E.

Wood, H. M., electrical engineer, High-st., Staines.

Wood, Henry Raymond, A.M.I.E.E., Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. Nos. 499 & 180 X.)

Wood, Lionel, A.I.E.E., Sleigh & Wood, Milburn House, Newcastle-on-Tyne. (Teleph. No. 2940, Central.)

Wood, M. A., A.I.E.E., c/o C. H. Merz, Collingwood-bldgs., Newcastle-on-Tyne.

Wood, Sir Henry Trueman, M.A., Society of Arts, John-st., Adelphi, London, W.C. (Telegrams: "Praxiteles, London." Telephone No. 110, Westminster.)

Wood, Sir Lindsay, Bart., The Hermitage, Chester-le-Street. Director Newcastle-on-Tyne Electric Supply Co., Ltd.; director County of Durham Electrical Power Distribution Co., Ltd.; director County of Durham Electric Power Supply Co.

Wood, W. J., station superintendent, Corporation Electricity Works, Bolton.

Wood Carving Co., Ltd., covers for electric casing made in all sizes, 302, Windsor-st., Birmingham. (Telegrams: "Carvings, Birmingham." Telephone No. 05166.)

Wood & Crawford, mechanical & electrical engineers, Alma Works, Alma-st., Sheffield.

Wood, F. J., & Co., electrical contractors, Dogshead-st., Ipswich.

Wood, J. & E., Corliss engine makers, &c., Victoria Foundry, Bolton. (Telegs.: "Woods, Bolton." Teleph. No. 45.)

Wood, H. S., & Co., electrical engineers, 3, Clarence-st., Albert-sq., Manchester. (Teleph. No. 08966.)

Wood & Newland, electrical & engineering valuers, 42, Spring-gardens, Manchester. (Telegrams: "Certificate, Manchester." Telephone No. 08586.)

Wood, T. H., & Sons, ironmongers & electricians, 206, Broadway, Bexley Heath, S.E.

Woodall, Harold Whiteman, A.I.E.E., Gas & Water Works, Bourne Valley, Bournemouth.

Woodall & Son, electric glass supplies, St. George's Glass Works, Birmingham; & 12, St. Andrew's-street, Holborn-circus, London, E.C.

Woodbridge, J. E., M.AM.I.E.E., British Thomson-Houston Co., Ltd., Rugby.

Woodbury, W. B., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Woodfield, Sydney, A.M.I.E.E., J. G. White & Co., 9, Cloak-lane, Cannon-st., London, E.C.; & The Bungalow, West Barnes-lane, New Malden.

Woodfin, N. C., A.I.E.E., consulting electrician, Victoria, 60, Ravenswood-rd., Redland, Bristol (Nat. Teleph. No. 2594 Y.); & 100, Bothwell-st., Glasgow.

Woodger, Glenister & Co., installation contractors, 307, Goldhawk-rd., Shepherd's Bush, London, W. (Teleph. No. 615, Chiswick.)

Woodhead, Wilson, Yorkshire representative of J. H. Holmes & Co., electrical engineers, Newcastle-on-Tyne, Royal Exchange, Leeds; Bradford Exchange; & 24, North-lane, Headingley, Leeds.

Woodhouse, Albert E., A.M.I.E.E., c/o A. L. Elder & Co., 7, St. Helen's-pl., E.C.

Woodhouse, A. V., c/o Woodhouse Bros., 20, N. John-st., Liverpool.

Woodhouse, C. H. C., Bordighera, Italy. Chairman Woodhouse & Baillie Riviera Electricity Co., Ltd.; director British Continental Electricity Co., Ltd.

Woodhouse, Noel, A.M.I.MECH.E., A.M.I.E.E., Woodhouse Bros., 20, North John-st., Liverpool.

Woodhouse, Sir Jas. T., 17, Parliament-st., Hull. Director National Telephone Co., Ltd.

Woodhouse, W. B., A.M.I.MECH.E., A.M.I.E.E., Yorkshire Electric Power Co., Thornhill, nr. Dewsbury.

Woodhouse & Baillie Riviera Electricity Co., Ltd., electric light, tramway & general engineers, Bordighera, Italy; & 28, Queen-st., London, E.C. Registered June 29, 1899. Nominal capital: £50,000 in £1 shares, of which 14,000 are ordinary, 16,000 are 5½ per cent. first cumulative preference shares & 20,000 6 per cent. second preference shares. Issued: 4000 ordinary shares, 4000 second preference & 14,700 first preference shares. Directors: C. H. C. Woodhouse, Esq. (chairman); G. H. Baillie, Esq.; A. Hanbury, Esq. Secretary, J. K. Johnson. Dividends: 1899, 5½ per cent. on first preference, 6 per cent. on second preference.

WOODHOUSE BROS., ELECTRICAL ENGINEERS & CONTRACTORS, 20, N. JOHN-ST.; SHOWROOMS & STORES: 66, SCOTLAND-RD., LIVERPOOL. (TELEGS.: "POTENTIAL, LIVERPOOL." TELEPH. NO. 176 Y. CENTRAL.)

Woodhouse & Mitchell, Ltd., steam engine makers, &c., Brighouse, Yorks. (Telegrams: "Woodhouse, Brighouse." Telephone No. 7.)

Woodhouse & Rixson, bent crank & steel forging manufacturers, Chantrey Steel & Crank Works, Attercliffe, Sheffield. (Telegrams: "Rixson, Sheffield." Telephone No. 1113.)

Woodite Co., Mitcham Common, Surrey. (Telegs.: "Woodite, Mitcham." Teleph. No. 169, Croydon.)

Woodland, C. E., electrical engineer, Hightown, Hereford.

Woodley, Frank Triste, A.I.E.E., Whitehall House, Kentish-rd., Belvedere, Kent.

Woodman, Leicester William, M.I.E.E., borough electrical engineer, Dover. (Telegrams: "Electric, Dover." Telephone No. 291.)

Woods, E. H., C.E., 110, Cannon-st., E.C. Director City of Buenos Ayres Tramways Co. (1904), Ltd.

Woods, George H., A.M.I.E.E., Corporation-st., Blackburn.

Woods, J. W., A.I.E.E., superintending engr., Postal Telegraphs, G.P.O. (South), Addle Hill, London, E.C.

Woods, Major W. F., director Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gdns., S.W.

Woods, Richard, & Co., electrical & general manufacturers & merchants, Sanctuary House, Westminster, London, S.W. (Telegrams: "Eleccion, London." Telephone No. 589, Victoria.)

Woods, R. S., & Co., electric light & power contractors, Mansfield; & 10 & 11, Warwick-lane, London, E.C.

WOODS, T. G., & SONS, jewel hole makers, jewels for electrical, telegraphic & scientific purposes, &c., 54, Spencer-st., Clerkenwell, E.C. (Telegrams: "Monomial, London." Telephone No. 11729, Central.) *See* ENGINEERS—ELECTRICAL.

Woodside, John, A.M.I.E.E., consulting electrical engineer, Ocean-bldgs., Donegall-sq. East, Belfast. (Telegrams: "Resistance, Belfast." Telephone No. 1645.)

Woodward, Harvey C., Northway House, Crosby-rd. S., Seaforth. Director Liverpool Overhead Rly. Co.

Woodward, James, cable conduit maker (Archer's patent), Swadlincote, near Burton-on-Trent. (Telegrams: "Woodward, Swadlincote.")

Woodward, J. H., electrical engineer, 8, Queen Anne's-gate, Westminster, London, S.W. (Telephone No. 420, Westminster.)

Woodward, W. J., manufacturing electrician, 43, Broadway, Stratford, E.; & 293, High-rd., Ilford.

WOODWARD, W. R., manufacturing electrician, 155A, Boleyn-rd., Forest-gate, London, E.

Woodward & Co., electrical engineers, Commercial-row, Gloucester.

Woodward & Co., electrical engineers, 157, West Nile-st., Glasgow.

Woodward, Frank, & Co., engineers & electricians, Clerkenwell Close, London, E.C. (Telegrams: "Fenderanno, London." Telephone No. 1482, Holborn.)

Woodward, H., & Co., Ltd., electro-platers, Atlas Works, Paradise-st., Birmingham.

Woolams, T. C., A.I.E.E., Oakleigh, Jockey-rd., Wylde Green, Sutton Coldfield.

Woolard & Co., electrical engineers, Hightown, Hereford.

Wooler, Herbert, A.I.E.E., 99, Bishop-st., Moss Side, Manchester. (Telephone No. 136, Rusholme.)

Wooler & Co., Pemberton, electrical engineers, 66, Victoria-st., London, S.W. (Tel. No. 5043, Westminster.)

Woolf, Joseph, jun., A.I.E.E., 309, St. James Court, Buckingham Gate, London, S.W.

Woollacott & Friederich, tin, lead & copper foil, 5 & 4, Brickhill-lane, Upper Thames-st., London, E.C. (Telegs.: "Sabellum, London." Teleph. No. 5282, Bank.)

Woollard, F., electrician, Northern District, National Telephone Co., Colvestone House, Ridley-rd., Dalston, London, N. (Teleph. No. 103, Dalston.)

Woollcombe, Dr. Robert Lloyd, M.A., LL.D., M.R.I.A., A.I.E.E., barrister-at-law, 14, Waterloo-rd., Dublin. (Telegrams: "Justice, Dublin.")

Woolley, A. H., electrical engineer, Pudding-lane, Maidstone.

Woolley, Chas., 35, Dulwich-rd., Herne Hill, S.E. Director Anglo-Portuguese Telephone Co., Ltd.; director Consolidated Electrical Co., Ltd.

Woolliscroft, J. H., A.M.I.E.E., A.AM.I.E.E., The Mount, Hawarden, Flintshire.

Woolliscroft, G., & Sons, tile manufacturers, Melville-st., Hanley.

Woolnough, F., dynamo & motor manufacturer, electric light & power engineer & contractor, St. Stephen's, Norwich. (Teleph. No. 456.) *See* MOTOR MANUFACTURERS.

Woolwich Borough Council Electricity Works, Globe-lane, Woolwich, S.E.; & White Hart-rd., Plumstead, S.E. (Telegs.: "Resistance, Woolwich." Teleph. Nos. 122 & 128.) Chief engr., T. W. Ellis

Woolwich Polytechnic, Woolwich, E. *See* SCHOOLS, CLASSIFIED SECTION.

Wootten, A. E., electrical engineer, Bourne End Electrical Installation Co., Bourne End, Bucks.

Wootton, G. A. H., electrical engineer, 7, Findon-rd., Shepherd's Bush, London, W.

Wootton & Morrall, manufacturers of electric light fittings, Parade Chandelier Works, Birmingham.

Wootton & Vernon, electrical engineers, 55, Holyhead-rd., Birmingham.

Worcester Corporation Electricity Supply & Electric Tramways. Works: Lower Wick, nr. Worcester; & Hylton-rd., Worcester. Chairman of Electricity Committee, A. H. Parker, Esq.; chief engineer, C. M. Shaw, A.M.I.E.E., A.M.I.M.E. (Telephone No., Engineer's office, Hylton-rd., 42.)

Worcester Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C. Registered Aug. 22, 1902. Nominal capital: £120,000 in £5 ordinary shares & £60,000 debenture stock. Issued: £70,000 in fully paid ordinary shares & £10,000 debenture stock, secured by trust deed, dated Oct. 22, 1903. Acknowledgments of indebtedness under seal, dated Jan. 27, 1905, creating £10,000 further debenture stock, & March 26, 1906, for £15,000, making, with £10,000 already created, a total of £35,000, & being supplemental to deed dated Oct. 22, 1903, registered. Directors: H. S. Day, Esq. (chairman); H. R. Arnold, Esq.; W. G. Bond, Esq.; J. A. Lycett, Esq. Secretary, H. A. Stagg. Dividends: 1904 & 1905, 5 per cent.

Wordingham, C. H., M.I.C.E., M.I.M.E., M.I.E.E., electrical engineer-in-chief to H.M. Navy, Admiralty Offices, London; & Aubrey House, Kew-rd., Richmond, Surrey.

Wordley, F., wiring contractor, 33, Norman-rd., St. Leonards-on-Sea. (Telegs.: "Wordley, St. Leonards." Teleph. No. 106 Y.)

Wordsworth, George, & Sons, wire manufacturers, New Wire-mill, Thurgoland, Sheffield.

Working Men's College (J. J. Denton, teacher of electricity), Crowndale-rd., London, N.W.

Workington Bridge & Boiler Co., Ltd., boiler makers, &c., Workington.

Worksop Urban District Council Electricity Works, Worksop, Notts. Resident engineer, J. P. Crowther.

Wormald, W. E., Mather & Platt, Ld., Queen Anne's-chbrs., Westminster, London, S.W.

Wormit Electricity Works, Wormit, Scotland. Tayside Electric & Gas Light Co., proprietors. Resident engineer, A. Lawrence.

Wormull, F. A. S., A.I.E.E., 31, Stamford-st., Blackfriars, London, S.E.

Worrall, F., chief engineer, District Council's Electricity Works, Long Eaton. (Teleph. No. 22.)

Worrall, Gladstone W., M.SC., M.ENG., elec. engr., The University, Liverpool. (Teleph. No. 621, Royal.)

Worrall, Hallam & Co., steel wire drawers & manufacturers, Needle Works, Warren-st., Sheffield.

Worsley, F. S., electrical engineer, Veritys, Ltd., Aston, Birmingham.
Worster, G. H., electrical engineer, 12, Albany-st., Regent's Park, N.W. (Teleph. No. 2311, North.)
Worster-Hounslow Electrical Engineering Co., 12, Albany-st., Regent's Park, London, N.W.
Wort, Arthur, electric bell, telephone & light fitter, 20, Tavistock-road, Forest-gate, London, E.
Worthing Corporation Electricity Works, Worthing. Engineer, G. Porter, A.M.I.C.E.
Worthington, Prof. A. M., C.B., M.A., F.R.S., Royal Naval Engineering College, Devonport. (Telegrams: "Worthington, Engineering College, Devonport.")
Worthington, W. S. T., A.M.I.E.E., The Cottage, Green Lanes, Eltham.
Worthington Pump Co., Ltd., 153, Queen Victoria-st., London, E.C. (Telegs.: "Pumping, London." Teleph. Nos. 614 & 631, Bank.)
Wotton, Joseph, scientific & optical instrument maker, 212, New North-rd., Islington, London, N.
Wragg, Thos., & Son, Ltd., cable conduit makers, Swadlincote, nr. Burton-on-Trent.
Wragge, G., Ltd., lightning conductor manufacturers & erectors, 152, 154, 156 & 165, Chapel-st., Salford, Manchester. (Telegrams: "Casements, Manchester." Telephone No. 2206.)
Wraith, H. Osborn, A.M.I.E.E., Electrical Department, River Don Works, Sheffield.
Wraith, Wm. H., A.M.I.E.E., "Bank House," Ossett, Yorks.
Wray, Arthur J., A.I.E.E., engineer, Banbury & District Electric Supply Co., Ltd., Banbury, Oxon.
Wray, Peter R., A.I.E.E., A.M.I.C.E., Generating Station, Lot's-rd., Chelsea, S.W.
Wray, Thos., electrical engineer, Petergate, James-st., Harrogate.
Wray, T. H. R., A.M.I.E.E., Estcourt Lodge, Sydenham Hill, London, S.E.
Wray, W. J. R., A.M.I.E.E., electrical engineer, c/o Dick, Kerr & Co., Ltd., 175, West George-st., Glasgow.
Wren, Chas., 30 & 31, St. Swithin's-lane, London, E.C. Director Perth Electric Tramways, Ltd.; director Kalgoorlie Electric Tramways, Ltd.; director North Melbourne Electric Tramways & Lighting Co., Ltd.
Wrench, Wm. G., electrical engineer, 5, Oswald-street, Glasgow.
Wrexham Corporation Electricity Works & Electric Tramways. W. Sillery, borough electrical engineer. (Telegrams: "Electricity Works, Wrexham." Telephone No. 103.)
Wrexham & District Electric Tramways, Ltd., The, Donington House, Norfolk-st., London, W.C. Registered Aug. 26, 1901. Nominal capital: £50,000 in 5000 ordinary & 5000 preference £5 shares, all of which have been issued. Directors: G. Cornwallis-West, Esq. (chairman); E. Hopwood, Esq.; J. F. Albright, Esq. Secretary, W. S. Wreathall.
Wright, Arthur, M.I.E.E., consulting engineer, Brighton Corporation Electricity Works, North-rd., Brighton; & Borough of Stepney. London office: Marble Arch House, Oxford-st., W. Director Rosario Electric Co., Ltd.
Wright, A. C., engineer-in-charge, Corporation Electricity Works, Salford.
Wright, A. D., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Perth.
Wright, C. C., director Western Electric Railways Development Co., Ltd., Moorgate-ct., E.C.
Wright, C. H., A.M.I.E.E., Arc Works, Chelmsford.
Wright, E. H., A.M.I.E.E., Urban District Council Electricity Works, Rhyl. (Telephone No. 39.)
Wright, Frank T., A.I.E.E., 24, Earl's Court-gdns., London, S.W.
Wright, F. T., charge engineer, Borough of Southwark Newington Electricity Works, Penrose-st., S.E.
Wright, G. E., electrical agent, 9 & 11, Wilson-st., Finsbury, E.C. (Telegrams: "Tendrils, London.")
Wright, George H., electrical engineer, 33, Albury Park-rd., Tynemouth.
Wright, H. H., A.M.I.E.E., 5, Queen's Gate, Halifax, Yorks. (Teleph. No. 147 Y.)
Wright, Howard T., consulting engineer, 72, Victoria-st., London, S.W.
Wright, J., electrician, 3, Surbiton Park-ter., Kingston-on-Thames.
Wright, Thomas, A.I.E.E., 136, Bothwell-st., Glasgow.
Wright, T. B., A.M.I.E.E., Laurelhill, Bearsden, Glasgow.
Wright, Warwick J., automobile engineer, 72, Victoria-st., London, S.W.
Wright, Walter T., A.I.E.E., 75, Larkhall Rise, Clapham, London, S.W.
Wright, W. R., consulting & inspecting engineer, 13, Victoria-st., Westminster, London, S.W. (Telegs.: "Pliers, London.")
Wright, Alex., & Co., Ltd., photometers for testing electric lamps, apparatus for ensuring fuel economy, such as the Simmance-Abady CO_2MBUSTION RECORDER, pyrometers, &c., 1, Westminster Palace-gdns., Victoria-st., London, S.W. (Telegs.: "Precision, London." Teleph. No. 1207, Victoria.)
Wright, Archibald J., Ltd., electrical engineers, Leyton Green-rd., London, N.E. (Teleph. No. 637, Walthamstow.)
Wright, A. P., & Co., electrical engineers, 60, Queen Victoria-st., London, E.C. (Telegs.: "Wrikbaar, London." Teleph. No. 1509, Central.)
Wright Bros. & Co., electrical engineers, 27, Garlick Hill, London, E.C.
Wright, C. C., & Co., plumbago importers, 11, Dowgate Hill, E.C.
Wright & Co., of Southwark, Ltd., electrical & general engineers & millwrights, 157, Southwark-bridge-rd., S.E.
Wright, E., & Co., Ltd., brownware & stoneware manufacturers, Wheat-bridge Potteries, Chesterfield.

Wright, F. & P., marine & electrical engineers, 21, Water-st., Liverpool. (Teleph. No. 82 Y., Central.)

Wright, G., & Co., art metal workers, 155, Queen Victoria-st., & 1 & 238, Upper Thames-st., London, E.C. (Telegrams: "Maypole, London." Telephone No. 921, Bank); & 64, Bridge-st., Manchester. Works: Burton Weir, Rotherham.

Wright, John, & Sons, electricians & wiring contractors, 15, Cannon-st., Dover. (Telegs.: "John Wright, Dover." Teleph. No. 0383.)

Wright, Joseph, & Co., makers of feed-water heaters, Tipton, Staffs.

Wright, J. & E., telegraph cable manufacturers, Universe Works, Garrison-street, Birmingham. (Telegrams: "Universe, Birmingham." Telephone No. 707.)

Wright, Layman & Umney, manufacturing chemists, 50, Southwark-st., London, S.E. (Telegrams: "Umney, London." Telephone No. 4608, Hop.)

WRIGHT, METHUEN, & CO., LTD., installation contractors, 34, Pall Mall, Manchester. (Telegs.: "Alternate, Manchester." Teleph. No. 5613, Central.)

Wright, T. & F., ironmongers & electrical fitters, 12, Cannon-st., Dover.

Wright, T. Howard, Bros., Ltd., feed-water heaters, castings, &c., 72, Victoria-st., Westminster, London, S.W. (Telegs.: "Heaterite, London." A.B.C. Code. Teleph. No. 281, Westminster.)

Wright & Wood, dynamo & motor manufacturers, Pellon-lane, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. No. 499.) *See advt.* MOTOR MFRS.—ELEC.

Wrigley, John, contract manager, National Telephone Co., Commercial-st., Sheffield.

Wunderlich, Adolph, A.M.I.E.E., Cuyahoga, Mayfield-rd., Sanderstead.

Wurtemberg Electro-Plate Co., manufacturers of electric light figures & lamps in galvano bronze & electro-plate, copper & brass, 91, Fore-st., London, E.C. (Telephone No. 1441, London Wall.)

Wuthrich, G., London resident engineer, representative of The Maschinenfabrik Oerlikon, Oswaldestre House, Norfolk-st, Strand, London, W.C. (Telegs.: "Oerlik, London.")

Wyand, F. W., A.M.I.E.E., electrical engineer, Elswick Works, Newcastle-on-Tyne.

Wyatt, Chas., A.I.E.E., assistant engineer, Borough Distribution Department, Electricity Works, Croydon.

Wyatt, R. C., 41, Moorgate-st., E.C. Chairman Electricity Supply Co. for Spain, Ltd.; chairman Malaga Electricity Co., Ltd.

Wyatt, T., manufacturing electrical engineer, 11, Neal-st., Long Acre, London, W.C.

Wyatt Bros., manufacturing electrical engineers, Wayland Works, Whitchurch, Salop.

Wyatt & Dixon, electrical engineers, Bright-bldgs., John Bright-st., Birmingham.

Wyatt, G., & Son, ironmongers & electricians, 67, St. Giles, & 7, North-parade, Oxford.

Wyatt-Edgell, Merrik R. A., A.I.E.E., Cowley-pl., Exeter.

Wybrants, D. W., Tighndim, Monifieth. Director Dundee, Broughty Ferry & District Tramways Co., Ltd.

Wycherley, A. E., Corbet Arms Hotel, Market Drayton. Director Market Drayton Electric Light & Power Co., Ltd.

Wycombe (Borough) Electric Light & Power Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.; & High Wycombe. (Telephone No. 43, High Wycombe.) Registered June 29, 1897. Nominal capital: £50,000 in ordinary shares of £5 each & 5 per cent. debentures equal to amount of paid-up share capital. Issued: £40,000 ordinary shares, fully paid. Debentures issued: £32,100, secured by trust deed of April 16, 1902, supplemental to a trust deed dated April 27, 1899, & supplemental trust deed of July 16, 1902. Directors: A. Slatter, Esq. (chairman); F. E. Gripper, Esq.; W. Birch, Esq.; J. C. Wigham, Esq. Engineer & manager, W. E. Brandreth; secretary, E. A. Slatter. Dividends: 1903, 1904 & 1905, 4 per cent.

Wyld, W., M.I.M.E., M.I.E.E., manager Corporation Electric Tramways, Birkenhead. (Telephone No. 1110.)

Wyleys, Ltd., manufacturers of scientific apparatus, Wheatley-street, Coventry. (Telephone No. 17.)

Wylie, John, B.A., demonstrator of natural philosophy, Queen's College, Belfast.

Wylie & Lochhead, electric lighting contractors, 45, Buchanan-st., Glasgow.

Wyllie, Alex., M.I.E.E., resident engineer, Electricity Supply Station, Walsall. (Telephone No. 260.)

Wyman, W. M., & Son, electrical engineers, Commercial-rd., Gloucester.

Wynn, Timmins & Co., Ltd., manufacturers of all kinds of engineers' & telegraph tools, Century Works, Commercial-st., Birmingham. (Telegrams: "Century, Birmingham." Telephone No. 630.)

Wynne, A. A. W., M.A., A.M.I.C.E., c/o C. A. Parsons & Co., 66, Victoria-st., London, S.W. (Telegs.: "Silently, London." Nat. Teleph. No. 586, Westminster.)

Wynne, R., electric light engineer, Corporation Gas Office, Carnarvon.

Wynne, Wm. R., A.M.I.E.E., Wynne & Sons, 3, New-ct., Lincoln's Inn, London, W.C.

Wyver, T., & Co., electrical bell fitters, 13, High-street, Whitstable.

X. Electric Accumulator Co., Ltd., 19A, Carlyle-sq., Chelsea, London, S.W. (Telegs.: "Thexcells, London." Teleph. No. 2019, Kensington.)

Yale, T. P. O., A.M.I.E.E., consulting electrician, managing director & electrical engineer Yale Electric Power Co., Ltd., Blaenau-Festiniog, Merionethshire (Telegrams: "Yale, Blaenau-Festiniog); & 1 & 2, Great Winchester-st., London, E.C.

Yale Electric Power Co., Ltd., Blaenau-Festiniog, Merionethshire (Telegrams: "Yale, Blaenau-Festiniog"); & 1 & 2, Great Winchester-st., London, E.C. Registered 1899. Nominal capital: £20,000 in £25 shares. Issued: 668 shares; & £14,965 has been received. Directors: F. S. Percival, Esq. (chairman); T. P. O. Yale, Esq. (managing); Major-Gen. H. Percival; F. W. Percival, Esq.; & C. E. Green, Esq. Secretary, J. H. Brady.

Yapp, P. A., A.M.I.E.E., engineer, 39, Hogarth-rd., Cromwell-rd., London, S.W.

Yardley, Wm., electrician, Kingston-rd., Leatherhead, Surrey.

Yardley & Co., electrical contractors, Leatherhead.

Yarmouth Corporation Electricity Works, South Denes-rd., Great Yarmouth. (Telegrams: "Electricity Works, Yarmouth." Telephone No. 61.) Engineer, Gordon Bryant, A.M.I.E.E.

Yarmouth (Isle of Wight) Electricity Supply Co., Ltd., supplying electric light & power, Yarmouth, I.W. Registered April 7, 1898. Capital: £5000 in £1 shares. R. H. H. Eden, Esq., managing director; H. G. Thomson, secretary.

Yarrow & Co., electric launch builders, Poplar, London, E. (Telegrams: "Yarrow, London." Telephone No. 114, Eastern.)

Yarwood, Geo., & Co., electrical engineers & contractors, 49, Longmore-st., Birmingham.

Yates, A. T., A.M.I.E.E., 38, Sheen Park, Richmond, Surrey.

Yates & Eagle, electricians, St. Nicholas-st., Leicester.

Yates & Thom, Ltd., engineers & boiler makers, Canal Engineering & Boiler Works, Blackburn. (Telegs.: "Yates, Blackburn." Teleph. Nos.: Engineering Dept., 43; Commercial Dept., 345.)

Yeaman, C. H., A.I.E.E., borough electrical engineer, 85, Park-rd., Hanley.

Yeates, A. M., F.R.A.S., manufacturer of electrical & optical apparatus, 2, Grafton-st., Dublin.

Yeates & Son, manufacturers of optical, electrical & scientific instruments, 2, Grafton-st., Dublin. (Teleph. No. 2079.)

Yelf & Son, practical electricians, 64, King-st., Southsea.

Yerbury, H. E., A.M.I.E.E., M.I.MECH.E., chief electrical engineer, Sheffield Corporation Tramways Department, Division-st., Sheffield.

Yetton, J., Co., electrical & general engineers, 4, Carr-st., Limehouse, E. (Telegrams: "Terminal, London." Telephone No. 3356, East.)

Yockney, S. W., 53, Victoria-st., S.W. Director Chepstow Electric Lighting & Power Co., Ltd.

York Corporation Electricity Works. Engineer, J. W. Hame.

York Electrical Co., Ltd., electrical engineers, Century-bldg., St. Sampson's-sq., York.

Yorkshire District Light Railway Syndicate, Ltd., Central Bank-chbrs., Leeds. Registered March 9, 1899. Nominal capital: 50,000 in £1 shares, 20,000 of which have been issued & fully paid, & £3250 in loans or debentures. Directors: S. W. Meyer, Esq.; B. Day, Esq.; E. Sisterson, Esq. Secretary, G. Parish.

Yorkshire Electric Power Co., Calder-rd., Thornhill, nr. Dewsbury. (Telegs.: "Power, Mirfield." Teleph. No. 155, Dewsbury.) Incorporated 1901. Nominal capital: £2,000,000 in £10 shares. Issued: 4605 shares of £10 each issued as fully paid, 25,675 shares with £10 per share fully paid. Authorized to borrow £80,000. Borrowed on loan, £20,000. Directors: A. G. Lupton, Esq. (chairman); R. Armitage, Esq., J.P., M.P.; Henry Barran, Esq., J.P.; H. A. Earle, Esq.; H. C. Embleton, Esq., F.R.G.S.; W. P. J. Fawcus, Esq.; R. Hudson, Esq.; Sir Rd. Mottram, J.P.; T. O. Callender, Esq.; E. A. Carolan, Esq. Secretary, J. J. H. Stansfield, F.C.I.S.; chief resident engineer, W. B. Woodhouse, A.M.I.MECH.E., A.M.I.E.E.

Yorkshire Machine Tool & Engineering Works & Alma Foundry, Liversedge. (Telegrams: "Alma, Liversedge." Telephone No. 38.)

Yorkshire Private Telephone Co., Ltd., Branch-ave., Batley, Yorks. (Telegrams: "Burlinson, Batley." Telephone No. 82, Batley.)

Yorkshire (West Riding) Electric Tramways Co., Ltd., 14, Victoria-st., Westminster. (Teleph. No. 763, Westminster.) Registered April 5, 1905. Nominal capital: £250,000 in £5 ordinary shares, £350,000 in £5 preference shares & £400,000 4½ per cent. debenture stock. Issued: £200,000 ordinary shares, £231,305 preference shares & £275,000 debenture stock secured by trust deed, all fully paid. Directors: H. S. Leon, Esq. (chairman); W. B. Keen, Esq.; G. E. Leon, Esq.; E. Schenk, Esq. Electrical engineer, C. E. Davis; general manager, H. England; secretary, W. H. Andrews.

Yorkshire (Woollen District) Electric Tramways, Ltd., Donington House, Norfolk-st., Strand, London, W.C.; & Tramway Depôt, Liversedge. (Telegs.: "Tramways, Heckmondwike." Teleph. No. 8.) Registered Nov. 19, 1901. Nominal capital: £500,000 in £1 shares, 200,035 of which have been issued & are fully paid. Debentures: one-half of subscribed capital. Directors: E. Garcke, Esq. (chairman); Lieut.-Col. Sir Thos. E. M. S. Pilkington, Bart.; W. J. Greer, Esq.; J. S. Raworth, Esq.; E. A. Paris, Esq. (managing). Secretary, P. N. Gray; engineer, R. C. Goldston. Dividends: 1903, 1904, & 1905 4 per cent.

Youldon, E. C., practical electrician, 137, Ditchling-rd., Brighton.

Young, A. R., Abbotsford, Kirkcaldy. Director Fife Electric Power Co., Ltd.

Young, B., A.I.E.E., Lock-st., Birmingham.

Young, Ernest Vanderpoel, A.I.E.E., Dyer & Young, Stansted, Essex.
Young, Geo., A.M.I.E.E., 38, Havelock-st., Sheffield.
Young, H. G., engineer, Steam Dept., Robert W. Blackwell & Co., Ltd., 59, City-rd., London, E.C.
Young, Henry Wilson, M.I.E.E., 12, Camomile-st., London, E.C.
Young, J., director South American Light & Power Co., Ltd., 37, Lombard-st., E.C.
Young, Jas., A.I.E.E., 21, Wheelwright-rd., Gravelly Hill, Birmingham.
Young, J. D., maker of the Watmun Automatic Circulator, 111, Union-st., Glasgow; & 7, Brazennose-st., Manchester.
Young, J. Elton, M.I.E.E., electrician, Eastern Telegraph Co., Ltd., Electra House, Moorgate, E.C.
Young, James Reid, A.I.E.E., 5, Great Western-ter., Glasgow.
Young, L. S., assistant electrical engineer, Electricity Works, Kendal.
Young, Thomas, M.I.E.E., 203, West George-st., Glasgow. (Teleph. No. 1114, Argyle.)
Young, T. W., H.D., H.C. copper rod, strip & wire, also brass, German silver & steel wire drawer, 17, Sun-st., Finsbury, London, E.C. (Telephone No. 1499, London Wall.)
Young, W., electrician, Aylesbury, Bucks.
Young, W., station superintendent, Electricity Works, Osborn-st., Whitechapel, London, E.
Young, Walter Frank, electrician, Studley Royal, Ripon.
Young, Alexander (London), Ltd., exporters of electrical material, 160, Newhall-st., Birmingham.
Young, B., & Co., electrical engineers, Leek-st., Birmingham.
Young & Garratt, electrical engineers, Railway-ter., Rugby.
Young & Marten, Ltd., electrical manufacturers, Caledonian Works, Stratford, London, E. (Telegrams: "Yemart, London." Telephone Nos. 801 & 802, Eastern.)
Younger, F. N., A.I.E.E., 44, Northumberland-st., Edinburgh.
Youngs, engineers, Ryland-st. Works, Birmingham. (Telegs.: "Oldens, Birmingham." Teleph. No. 808.)
Ystradgynlais Electric Light Co., Ltd., Brecon. Registered Sept. 19, 1906. Nominal capital: £3000 in £1 shares.
Yuill, H., New Broad-st. House, New Broad-st., E.C. Director Adelaide Electric Tramways, Ltd.
YUILLE, WILLIAM C., & CO., suppliers of all kinds of overhead material for electric traction, 60, Brown-st., Glasgow. (Telegs.: "Tetrad, Glasgow.")

Zadig, C. A., & Co., light railway & tramway plant contractors, 73, Queen Victoria-st., London, E.C. (Telegrams: "Zadig, London." Telephone No. 776, Central.)
Zea Arc Lamp Co., Ltd., electric lamp manufacturers, 2, Staple Inn, Holborn, W.C.
Zedecco Batteries, Ltd., electric battery manufacturers & dealers, 6, Throgmorton-ave., London, E.C.
Zeden, G. A., M.I.E.E., consulting engineer, 9, Queen-st.-pl., London, E.C.
Zimdars, C. E., pneumatic & electric bell manufacturer, 327, Gray's Inn-rd., London, W.C. (Telegrams: "Zimdars, London." Telephone No. 2007, King's Cross.)
Zimmermann, A. & M., chemical merchants, 3, Lloyds-ave., London, E.C. (Telegrams: "Zimmermann, London." Telephone No. 2144, Avenue.)
Zingler, Victor, A.M.I.E.E., 20, Sarre-rd., West Hampstead, London, N.W.
Zircon Syndicate, Ltd., incandescent lamp manufacturers & dealers, 24, Budge-row, London, E.C.
Zobel, G., M.I.E.E., 61 & 62, Chancery-lane, London, W.C.
Zocus Paint Co., manufacturers of the Zocus protective paints, 17, Gracechurch-st., London, E.C.
Zoephel, C. W., A.M.I.E.E., L.C.C. Tramways, 303, Camberwell New-rd., London, S.E.
Zone Dynamo & Motor Patents Co., Ltd., electrical engineers, Parliament Mansions, Victoria-st., Westminster, London, S.W.
ZURICH INCANDESCENCE LAMP CO., THE, 47, Victoria-st., Westminster, S.W. Director, C. H. Stearn. Secretary, C. E. Gordon Stuart. *See* INCANDESCENT LAMP MANUFACTURERS—ELECTRIC.
Zwilgmeyer, Geo., 4, George-yard, Lombard-st., London, E.C. Director Rand Central Electric Works, Ltd.; director Chilian Electric Tramway & Light Co., Ltd.

Telegrams: "THRALDOM, LONDON." Telephone No. 1033, Holborn.

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BRITISH
CLASSIFIED SECTION.

For Telegraphic Addresses & Telephone Numbers, see Alphabetical Section.

Accessories Manufacturers—Electric.

F.—Accessoires pour l'élec.—Fab.
G.—Zubehöre—elek.—Fabr.

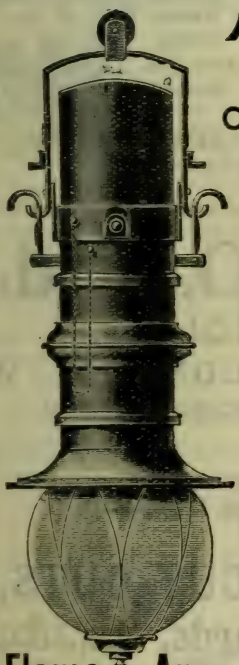
ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; & 114, Warrington.)

Accessories Manufacturers—Electric— *continued.*

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.



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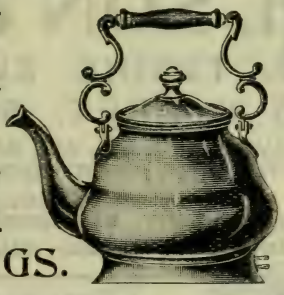

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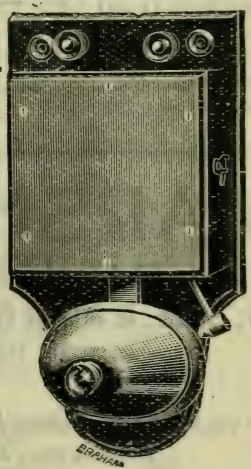

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Accessories Manufacturers—Electric— *continued.*

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Brook Electrical Works Co., The Crescent, Hockley Brook, Birmingham.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Cable Accessories Co., Tividale, Tipton.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Davies, C. H., & Co., 160, Francis-st., Birmingham.

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

Accessories Manufacturers—Electric— *continued.*

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Groos & Graf, 59–61, Hatton Garden, London, E.C.

Harris, A. E., & Co. (stampings, &c.), 95, Camden-st., Birmingham.

IMPROVED ELECTRIC SUPPLIES CO., LTD., 7, Gt. Newport-st., St. Martin's-la., W.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Tel. No. 441, North.) Show-room: St. Andrew's Mansions, 15, Newman-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

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Branches at 20, DEVONSHIRE ST., ALL SAINTS, MANCHESTER, and at 11, UPPER PRIORY, BIRMINGHAM.

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Accessories Manufacturers—Electric— *continued.*

Lyell, J. C., & Co., Ltd., 55, Victoria-st., Westminster, S.W.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat., 2181 (4 lines); Corp., 101 & 2.)

MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Telephone No. 2414, Gerrard.) *See advt.* OPPOSITE.

Moores, Martin & Co., 37, Blackfriars-st., Manchester. Electroliers, switches, ceiling roses, cut-outs, wall plugs, lampholders, lamps, &c.

Northern Accessories Co., Carr-st., Blackfriars-st., Manchester.

Patterson, Percy, 77, Fore-st., E.C.

Seeck, Max, 6, Henrietta-st., Covent Garden, London, W.C.

Smart, J., Eagle Chemical Works, Barchester-st., Poplar, London, E.

Sperryn & Co., Ltd., Hospital-st., Birmingham.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Sutcliffe, John W., & Co., Ltd., 4, Arthur-st., New Oxford-st., W.C.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

Trotter, Alex., 1A, Bowling Green-lane, Farringdon-rd., London, E.C.

Turner & Burger, Audrey House, Ely-pl., London, E.C.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Viaduct Co., 48, Farringdon-st., E.C.

Wakefield, J., & Sons, Ltd., Birmingham. (Telegrams: "Theodore, Birmingham." Telephone No. 1041, Birmingham.)

Accumulator Acid Manufacturers.

Berk, F. W., & Co., Ltd., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, London, E. (Telegs.: "Berk, London." Teleph. No. 4013, Avenue.) MAKERS OF BAA. WHICH IS ESPECIALLY PREPARED & TESTED FOR ELECTRICAL PURPOSES. *See advt.* BELOW.

Accumulator Boxes & Trays—Makers of

F.—Boîtes d'Accumulateurs.

G.—Accumulatoren Kasten—Fab. von.

Braulik, G., 217 & 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bristol Electric Safety Lamp Works. Offices & Works: 40, Gt. Smith-st., S.W. *See advt., page* 392.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.

FALKIRK IRON CO., 67, Upper Thames-st., London, E.C. Works: Falkirk, N.B.

Frazer, Norwich, Ltd., Palace Plain Joinery Works, Norwich.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.

Harburg & Vienna Indiarubber Co., 9–14, Towerchbrs., Finsbury Pavement, E.C.

HARRIS, J. F. & G. Offices & mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria-wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

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Accumulator Boxes & Trays—Makers of
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HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E. (Telegrams: "Hartmossel, London." Telephone No. 823, East. A.B.C. Code, 5th Edition); Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 393.

HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

HILL, FREDK. A., & CO., 108, Bishopsgate-st. Within, London, E.C. (Teleph. No. 9905, Wall.) Sole agents for "Rubellit Fine" Cells for Traction Batteries. Strongest Box made. Does not become soft. Thin walls, & unbreakable in ordinary use.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Ostermann, F. W., 57/58, Leadenhall-st., London, E.C. (Telephone No. 2492, Central.)

Pritchetts & Gold, Ltd., 20, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 417.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Schölzig, Oscar, 9, New Broad-street, London, E.C. Agent for glass & vulcanite boxes.

Stiff, James, & Sons, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (Ebonite & Vulcanite), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Wilson, John, & Son, Vulcan Works, Johnstone, Scotland.

Accumulator Charging.
F.—Chargement d'Accumulateurs.
G.—Accumulator Laden.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Gt. Smith-st., S.W. *See advt., page* 392.

CATHCART, C. H., & CO., 3, Dorset-bldgs., Salisbury-sq., Fleet-st., E.C. (Telegs.: "Coefficient, London." Teleph. No. 5081, Holborn.)

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

PETO & RADFORD, LTD., 100, Hatton Garden, E.C.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W.

Accumulator Experts.

Vicarey, R. W., Ltd., consulting experts & analysts of storage batteries & their electrolytes, Clun, Salop.

Accumulator Switchboards—Manufacturers of.
F.—Socles pour Accumulateurs—Fab. de.
G.—Schalttafeln für Accumulatoren—Fabr. von.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Birmingham Electrical Fittings Co., Baskerville Electrical Works, Broad-st., Birmingham.

DEWHURST, ED., Mount-st. Electrical Works, Preston.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

Sanders, W., & Co., Falcon Electrical Works, Wednesbury.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

Whipp & Bourne, Molesworth-st., Rochdale. (Teleph. No. 52 Y.)

Accumulators—Hiring of.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Gt. Smith-st., S.W. *See advt., page* 392.

CATHCART, C. H., & CO., electrical engineers, 3, Dorset-bldgs., Salisbury-sq., Fleet-st., E.C. (Telegrams: "Coefficient, London." Telephone No. 5081, Holborn.)

Accumulators—Makers of.
F.—Accumulateurs d'Electricité—Fab. d'.
G.—Elektrische Accumulatoren—Fab. von.

Albion Battery Co., 7, Portman-st., London, W.

Armstrong & Co., Twickenham, London, S.W. (Telegrams: "Armstrongs, Twickenham.")

Atlas Carbon Battery Co., Ltd., 19, Ewer-st., London, S.E.

Baker, Bauer & Co. (agents), 3, Garden-st., Withy Grove, Manchester.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Branson, Kent & Co., Ltd., 40, Great Eastern-st., E.C.

Braulik, G., 217 & 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bridge Accumulator Synd., Ltd., 78, York-rd., King's Cross, London, N.

Accumulators—Makers of—*continued.*

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 392.

British Accumulator Co., Ltd., Parliament Mansions, Victoria-st., S.W.

Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt.* BELOW.

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

D. P. BATTERY CO., LTD., Lumford Mills, Bakewell, Derbyshire. (Telegs.: "Battery, Bakewell." Teleph. No. 2, Bakewell.) London address: 11, Victoria-st., Westminster, S.W. (Telegs.: "Cumulose." Teleph. No. 291, Westminster.) *See advt., page* 416.

Dunhill, Alfred, Ltd., 359–61, Euston-rd., London, N.W.

Electric Battery Co., 180, High Holborn, London, W.C.

Accumulators—Makers of—*continued.*

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TELEPH. NO. 1253, LONDON WALL.) *See advt., page* 415.

Fors Accumulator Co., 110, Strand, W.C.

Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.

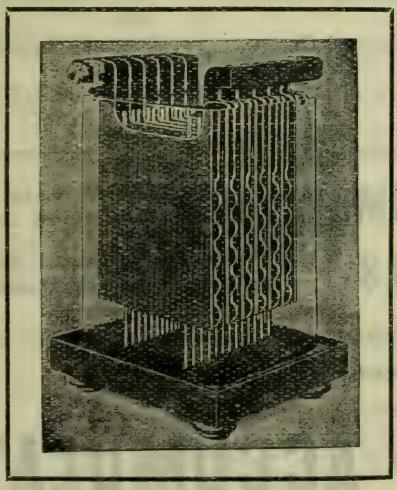
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Gray, Wm. E., 53, Bayham-pl., Camden Town, N.W.

Hagen Accumulator Works, 39, Snow Hill, E.C.

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E. (Telegrams: "Hartmossel, London." Telephone No. 823, East. A.B.C. Code, 5th Edition); Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 393.

THE CHLORIDE ELECTRICAL STORAGE COY. LTD.



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As Hand lamp. *Highest Award, Crystal Palace, 1890-92.* As Buttonhole lamp.

PORTABLE ELECTRIC SAFETY LAMPS of Every Description.

ACCUMULATORS and FITTINGS for Carriage Lighting.

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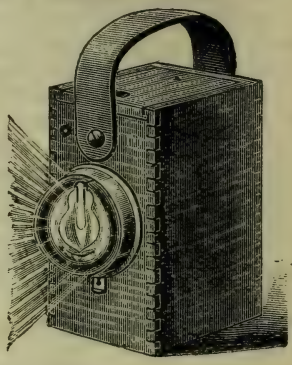

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Telegraphic Address: "LUCIFEROUS, LONDON." Telephone No. 2047, VICTORIA.

Accumulators—Makers of—*continued.*

Helis Cell & Accumulator Co., Ltd., 53 & 54, Chancery-lane, W.C.

Hercules Electrical Manufacturing Co., Hercules Works, Church-lane, Battersea, London, S.W.

Holmes, A. R., & Co., 231, Liverpool-rd., N.

Hughes Butterfield Bros., Stechford, Birmingham.

Ilford Accumulators, Ltd., 13, Borough High-st., S.E.

Lever Bros. & Co., 101, Dawes-rd., Fulham, London, S.W.

Accumulators—Makers of—*continued.*

Longstreth's, Ltd., 190, Queen's-rd., Battersea, S.W.

Monobloc Accumulator Syndicate, Ltd., 66, Victoria-st., S.W.

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, N.W. *See advt., page* 642.

Owen, J., & Sons, Ltd., Stanley Mills, Liverpool.

PETO & RADFORD, LTD., 100, Hatton Garden, London, E.C.

PREMIER ACCUMULATORS for Private Installation, Factories and Central Stations.

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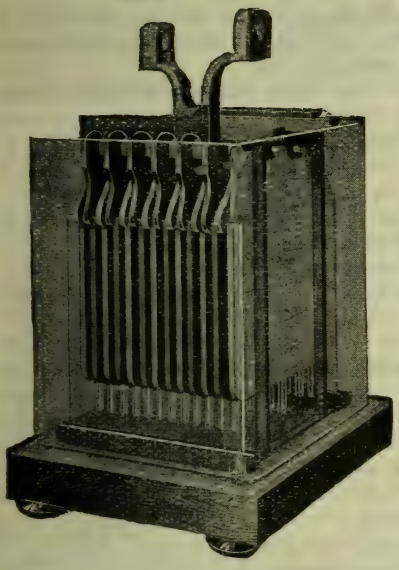
HART



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WRITE FOR LATEST PRICE LIST.

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Works: DUKINFIELD, near MANCHESTER.

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In the United Kingdom.

FOR LIGHTING—

(12,000,000) TWELVE MILLION WATT-HOURS

FOR TRACTION—

(9,000,000) NINE MILLION WATTS

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Accumulators—Makers of—*continued.*

PETO & RADFORD, LTD., successors to Sutherland & Marcuson, 61, Chandos-st., Strand, London, W.C.

Premier Accumulator Co., Cattle Market-rd., Northampton. (Telegs.: "Battery, Northampton." Teleph. No. 82.) *See advt., page* 392.

PRITCHETTS & GOLD, LTD., stationary & traction type accumulators, 20, Victoria-st., Westminster; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 417.

Raden, H. W. van, 7, Ellys-rd., Coventry.

Riches, G. T., & Co., 19, Store-st., Tottenham Court-rd., London, W.C.

ROOPER, W. O., & CO., Victoria Works, Stafford (Telegs.: "Rooper, Stafford." Teleph. No. 73, Stafford); & 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

Rowner-Muriel & Co., Colwell-rd. & 170, Lordship-lane, London, S.E.

Selenium Accumulator Co., 75, Beacon-lane, Liverpool.

TUDOR ACCUMULATOR CO., LTD., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, near Manchester. *See advt., page* 393.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W. (Telegs.: "Vanteria, London.") "C.A.V." accumulators.

Vicarey, R. W., Ltd., consulting experts & analysts of storage batteries & their electrolytes, Clun, Salop.

X. Electric Accumulator Co., Ltd., 19A, Carlyle-sq., Chelsea, S.W.

Acid Manufacturers.

F.—Acides—Fabricants d'.
G.—Säure-Fabrikanten.

Badische Co., Ltd., 22, Bush-lane, London, E.C.

BERK, F. W., & CO., LTD., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, London, E. (Telegs.: "Berk, London." A.B.C. Code. Teleph. No. 4013, Avenue.) Sole makers of BAA., especially manufactured for Accumulators & Batteries. *See advt., page* 389.

Brown, J., & Co., Ltd., Dewsbury.

Canning, W., & Co., Bagot-st., Birmingham.

Chapman, Spencer, & Messel, Ltd., 36, Mark-lane, E.C.; & Silvertown, E.

Earp, W. R., & Co., Halton-road, Runcorn.

Farmer, T., & Co., Ltd., Billiter-bldgs., E.C.

HOULDER, W., SON & CO., Norwood Chemical Works, Southall, Middlesex. Acids chemically pure. (Nat. Telephone No. 1017, Southall.)

Leather, G. H., North Brook Vitriol Works, Bradford.

Morris Bros., 12, Priory-pl., Doncaster.

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Acid Proof Bitumen.

BRADSHAW & CO., bitumen manufacturers, 52, Queen Victoria-st., London, E.C. (Telephone No. 6109, Bank.)

Acid Proof Composition, Paint & Varnish.

F.—Composition peinture et vernis resistant aux attaques d' acide.
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Anderson, Frank L. City office: 1, Furnival-st., London, E.C.

BRITISH ELECTRICAL TRADE SUPPLY & BITUMEN CO., THE. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., sole makers of "Anti-Sulphuric" Enamel, the only protection against the action of acid fumes & spray on metal, &c. Supplied to all the accumulator makers in England, Germany, America, &c. Used throughout the world on all accumulator rooms. *See advt., page* 18.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. (Telegrams: "Windsail, London." Telephone No. 5063, Central.)

Neville, Williams & Co., 11 & 13, Southwark-st., London, S.E.

Pilkington & Co. (asphalte), Monument-chambers, King William-street, London, E.C.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. P. & B. Compounds & Paints.

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Adapter Fittings for use on Incandescent Electric Lighting Circuits—Mkrs. of.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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Address Label Makers.

ENDOLITHIC MANUFACTURING CO., LTD., Pomona-bldgs., 61½, Fore-st., London, E.C. (Telegs.: "Dendron, London." Teleph. Nos.: 3421, London Wall; 11630, Central.)

Gunz, N., 46, Queen Victoria-st., London, E.C.

Adjusters of Compasses in Iron Ships.

Wiggins, F., & Sons, London, E.; & 102 & 103, Minories (City). (Telegs.: "Wiggins, Minories, London." Teleph. No. 2248, Avenue.)

Advertising Signs.

Automatic Electric Co., Ltd., 12, St. John's-lane, Liverpool.

Down, Fred. J., Harpenden, Herts.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

General Electric Sign & Engineering Co., Ltd., 15, Dufferin-st., Bunhill-row, E.C.

Agents—Electrical.

F.—Agents d'électricité.

G.—Elektr. Agenten.

Ammon, A. F., 5, Cross-st., Manchester.

Anderson, J. & A., 231, St. Vincent-st., Glasgow.

Andrew, L., & Co., 2, Carr-st., Blackfriars, Manchester.

Ardrey, J., 43A, High-st., Belfast.

Barnard, J. W., 4, Great Winchester-st., E.C.

Beech, W. D., 8, Chatham-bldgs., Manchester.

Berkeley, A., Guildhall-bldgs., Birmingham.

Berry, E. L., Lyric-chbrs., Whitcombe-st., W.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Brandon, E. A., 55, Barbican, E.C.

Brough, T., & Sons, 66, South John-st., Liverpool, W.

Brown, A., & Co., 110, Cannon-st., E.C.

Butterworth, James F., 28, Queen-st., E.C.

Agents—Electrical—*continued.*

Campion, J., & Co., Coventry House, South-pl., Finsbury, E.C.

Chapman, F., Deekes & Co., Hopetoun House, Lloyd's-ave., Fenchurch-st., E.C.

Clarke, C. A., 26, Seymour-rd., Crumpsall, Manchester.

Crockatt & Pike, Caxton House, Westminster, S.W.

Davidson, W. M., & Co., 101, Bothwell-st., Glasgow.

Davis & Soper, 54, St. Mary Axe, London, E.C.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Dillon, A., 61, William-st., Dublin.

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

Dixon, R., & Son, Pudding Chare, Newcastle-on-Tyne.

Donovan & Co., 12, Barwick-st., Birmingham.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Edwards, S. Burton, 5, Cromford-ct., Market-st., Manchester.

Engelhardt, H., 11, Bradford-ave., London, E.C.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller), electrical copper wire, &c. *See* WIRE MANUFACTURERS—TELEPHONE. Société Anonyme des Anciennes Usines de Fuisseaux, highly vitrified white porcelain telegraph insulators. *See* PORCELAIN FITTINGS.

Etchells, W. G., 20, Woodfield-rd., Redland, Bristol.

Frain, W. (Edison & Swan United Electric Light Co., Ltd.), Castle-st., Dundee.

Fyfe, Wilson & Co., 74, York-st., Glasgow.

Gardiner, Sons & Co., Ltd., Nelson-st., Bristol.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595 Hop.) *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Graham, J. P., 26, Cloth Market, Newcastle-on-Tyne.

Gray, J., & Co., 212, St. Vincent-st., Glasgow.

Hind Bros., 20, York-st., Belfast.

Ickelheimer, M., 36A, Aldersgate-st., London, E.C.

Jamieson, James, 212A, St. Vincent-st., Glasgow.

Kahler, G., & Co., 29, Fenchurch-st., E.C.

Key Engineering Co., Ltd., The, 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester. Works: Trafford Park, Manchester.

Lester, W., & Co., 11, West Regent-st., Glasgow.

Agents—Electrical—*continued.*

LYELL, J. C., & CO., LTD., 55, Victoria-st., Westminster, London, S.W.

MABBS, H. G., Canada-chbrs., Spring-gdns., Manchester.

Sole agent Lancs., Yorks, Cheshire, &c., for Bray, Markham & Reiss, Ltd., motor starters, rheostats, &c.; Wm. Sanders, switches & switchboards; Midland Electric Wire Co., wires & cables; Gent & Co., Ltd., bells, telephones, water levels, &c. (Telegs.: "Megavolt, Manchester." Teleph. No. 327 Y.)

Macauley, W., & Co., 125, Great Victoria-st., Belfast.

Millar & Stewart, 7, Hanover-st., Edinburgh.

Moon & Co., 43, Cannon-st., Manchester.

Müller, Chas. A., 6, Mornington Villas, Bradford, Yorks.

Murray, I. J. (Sunbeam Lamp Co.), Victoria House, Sandymount, Dublin.

Partington Advertising Co., Victoria Embankment, London, W.C.

Pinching & Walton, 52, Cannon-st., London, E.C.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (Agents). *See advt., page* 9.

PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.

Quicke, C. F., & Co., 315, Euston-rd., London, N.W.

Reynolds, C., Ocean-bldgs., Belfast.

Rudd, J. A., & Co., 68, Gordon-st., Glasgow, representing Browett, Lindley & Co., Ltd.; Sulzer Bros., Bray, Markham & Reiss, Ltd., &c.

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Schoen Bros., 29, Cock-lane, Snow Hill, London, E.C.

Taylor, J. H., 9 & 11, Fenchurch-avenue, London, E.C.

Tozer, Kemsley & Fisher, Ltd., 84, Fenchurch-st., London, E.C.

Truman, W., 4, Newick-rd., Clapton, London, N.E.

Von Glehn, A., & Co., Tower House, 40, Trinity-sq., E.C.

Warden, Willoughby, Messrs. Belliss & Morcom Ltd., 68, Gordon-st., Glasgow.

Whitaker, J., Crown-ct., Blackfriars-st., Salford, Manchester.

White, Richard, & Sons, Widnes, Lancs.

Woods, Richard, & Co., Sanctuary House, Westminster, London, S.W.

Wright, G. E., 9 & 11, Wilson-st., Finsbury, London, E.C.

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G.—Alarm-Apparate (elek.)—Diebstahl, Feuer, Schiff, Eisenbahn.

Apps, A., 433, Strand, London, W.C.

Badois, V. C., 26, Victoria-st., Windsor.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.

Braulik, G., 217 & 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Clarke, J. F., & Sons, 49, Moorgate-st., London, E.C.

Cooper, John, 333, Gray's Inn-rd., London, W.C.

Croggon & Co., Ltd., 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

GARSTANG, H., 69, Darwen-st., Blackburn. (Telegs.: "Garstang, Darwen-st., Blackburn." Teleph. No. 19 X.)

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.

IZANT, ALFRED, 6, Lorenzo-st., King's Cross, London, W.C.

Koerber, J. A., 44, Frith-st., Shaftesbury-ave., London, W.

Mayer, A., & Son, 127, Aldersgate-st., E.C.

Munro Fire Detector Co., Ltd., 64, Victoria-st., S.W.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, E.C. (Teleph. No. 1243, London Wall.)

Shaw, Wm. A., & Co., 10–16, Warren-st., Stockport.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, S.W.

SPAGNOLETTI, JAS. E., & CO., Goldhawk Works, Goldhawk-rd., W. *See advt., page* 30.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.

Tite, Robt., 113, Lavender Hill, Battersea, S.W.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Warwick's Time Stamp Co. (meter), 134, Highbury Hill, London, N.

Alkali Manufacturers.

F.—Alcali—Fab. d'.
G.—Alkali-Fabrik.

Brunner, Mond & Co., Winnington-park, Northwich.
Castner-Kellner Alkali Co., Ltd., 13, Abchurch-lane, London, E.C.
Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)
Sullivan & Co., Ltd., British Alkali Works, Widnes, Lancashire.
United Alkali Co., Ltd., 30, James-st., Liverpool.

Alternate Current Generators.

F.—Alternateurs—Fab. d'.
G.—Wechselstrom Dynamos—Fab. von.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.
CHURTON, T. HARDING, & CO., Atlas Works, Water-lane, Leeds.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*
Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.
Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.
International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.
LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
POWER PLANT CO., LTD., Temple Bar House, Fleet-st., London, E.C. (Telegrams: "Biceps, London." Telephone No. 10968, Central.)
Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.
UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Alternate Current Motors.

F.—Moteurs pour courant alternatif.
G.—Wechselstrom Motoren.

BROOK, E., LTD., Colne-rd., Huddersfield.
BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.
CHURTON, T. HARDING, & CO., Atlas Works, Water-lane, Leeds.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.
FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney-lane, E.C. Single, 2- & 3-phase. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 471.
Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.
LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)
LANGDON-DAVIES MOTOR CO., LTD., SINGLE-PHASE, POLYPHASE & CONTINUOUS CURRENT MOTORS (F. B. O. HAWES, MANAGING DIRECTOR), SOUTHWARK WORKS, DEVERELL-ST., LONDON, S.E. (TELEGRAMS: "DAMOPHON, LONDON." TELEPHONE NO. 277, HOP.) *See advt., page* 398.
MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilatore, Milan." Teleph. Nos. 809–3150.) Works in Sesto S. Giovanni. Electric Fans, Single & Polyphase Current Motors. *See advts., pages* 582, 585, 997, 998, & 1227.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
PAL, MICHAEL, & CO., Parliament Mansions, Victoria-st., London, S.W.
POWER PLANT CO., LTD., Temple Bar House, Fleet-st., London, E.C. (Telegrams: "Biceps, London." Telephone No. 10968, Central.)
REEDS ELECTRICAL CO., 128, Southwark-st., London, S.E. (Telegrams: "Rigoletto, London." Telephone No. 1304, Hop.)
Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.
UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Alternate Current Motors—*continued.*

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Aluminium Manufacturers & Merchants.

F.—Aluminium—Fab. et March. d'.
G.—Aluminium—Fab. und Händler.

Aluminium & General Foundry Syndicate, Ltd., Romford, Essex.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

British Aluminium Co., Ltd., 9, Victoria-st., London, S.W. Works at Foyers, Larne Harbour; Milton, Staffs.; & Baker-st., Greenock, Scotland.

Smith & Sons, 18, 22, 23 & 24, St. John's-square, London, E.C.

TUCHMAN, H., 2, DYER'S-BLDGS., HOLBORN, LONDON, E.C. (TELEPH. NO. 9706, CENTRAL.) INGOTS.

American Machinery Agents.

F.—Machines Américains—Agents de.
G.—Amerikanische Maschinen Agenten.

Churchill, Chas., & Co., Ltd., 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 2, Charlotte-st., Mosley-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Ammeters—Makers of.

F.—Ampèremètres—Fab. d'.
G.—Ampèremètres—Fab. von.

BECKETT & PARKER, Tenby-st., Birmingham.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

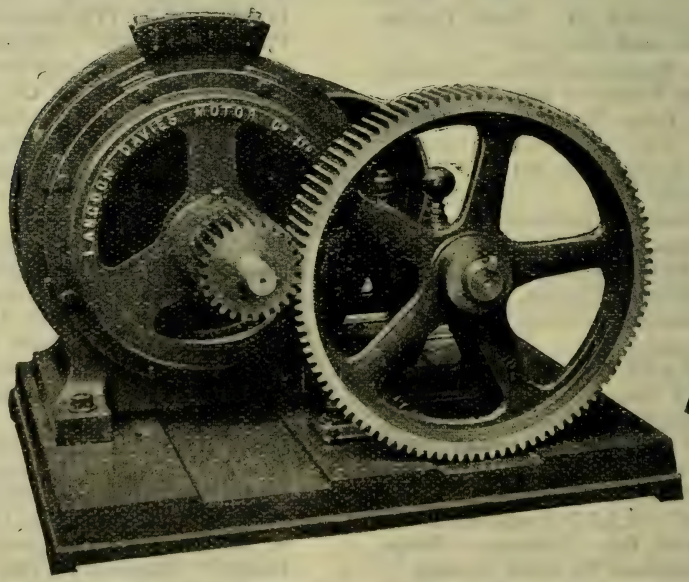
Braulik, G., 217 & 218, Upper Thames-st., London, E.C. *See advt., page* 387.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

LANGDON-DAVIES

ELECTRIC



MOTORS

Latest pattern Langdon-Davies 20-h.p. Motor, fitted with Spur Reduction Gear.

SEND FOR SIZES, SPEEDS AND PRICES.

LANGDON-DAVIES MOTOR CO., LTD.,

SOUTHWARK WORKS, DEVERELL STREET, LONDON, S.E.

Telegrams: "DAMOPHON, LONDON." Telephone: 277, Hop.

Ammeters—Makers of—*continued.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Electrical Instrument Manufacturers, Ltd., Freezywater, Waltham Cross, N.

ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 633.

EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

FOXCROFT & DUNCAN, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 *&* 633.

GEIPEL & LANGE, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O., 4519 Central; Nat., 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Teleph. No. 725, Westminster.)

LITTAUER, JAMES, 72, Finsbury Pavement, E.C.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) Atkinson's Dead Beat Ammeters for Direct & Alternating Current. Ammeters with Excess Load Indicators. Ammeters with Overload for Emergency & Time Lag Release.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

Ammeters—Makers of—*continued.*

PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., W. *See advt., page* 30.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See advts., pages* 611 & 612.

Ammonia Manufacturers.

F.—Ammonia—Fab. d'.
G.—Ammonia—Fab.

Cardiff Alkali Co., Ltd., Cardiff. (Telegrams: "Ammonia, Cardiff." Nat. Telephone No. 767.) SPECIALITY: CRUSHED SALAMMONIAC CRYSTALS, FOR LECLANCHÉ BATTERIES.

Earp, Wm. R., & Co., Halton-road, Runcorn.

Hills, F. C., & Co., Chemical Works, Deptford, S.E.

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Anchors (Guy for Pole, &c., Staying).

Down, Fred. J., Harpenden, Herts.

Animated Photographic Apparatus Makers.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page* 608.

Annunciators (Electric)—Makers of.

F.—Tables indicateurs—Fab. de.
G.—Anzeiger (Elektr.)—Fab. von.

Apps, A., 433, Strand, London, W.C.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 *&* 633.

Annunciators (Electric)—Makers of—
continued.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London; 67, Highbridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 26, Bath-st., Bristol. (Telegrams: "Lodestone, Leicester;" & "Knifeedge, London." Telephone No. 151, Leicester.) *See advts., pages* 441 *&* 706.

Izant, Alfred, 6, Lorenzo-st., King's Cross, London, W.C.

Anti-Friction Metal Makers.

F.—Metal Anti-Friction—Fab.
G.—"Anti-Friction"-Metall-Fabrikanten.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegrams: "Metalcibles, London." Telephone No. 993, Hop.) City office: 53, Gracechurch-st., E.C. (Telegrams: "Soldeerpan, London." Telephone No. 1572, Avenue.) Birmingham office: Guildhall-bldgs., Navigation-st., Birmingham. (Telegrams: "Metalcibles, Birmingham." Telephone No. 4604, Central.)

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Delta Metal Co., Ltd. Head offices & works: East Greenwich, London, S.E. Branch works: Birmingham.

Dewrance & Co., 165, Gt. Dover-st., London, S.E.

Hughes, John & Joseph, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)

Magnolia Anti-Friction Metal Co. of Great Britain, Ltd., 49, Queen Victoria-st., E.C.

Nautilus Metal Co., Dock House, Billiter-st., E.C.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Storey, I., & Sons, Cornbrook, Manchester.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Anti-Induction Cables—Makers of.

F.—Cables anti-inducteurs—Fab. de.
G.—Anti-Inductions Kabel—Fab. von.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Anti-Induction Cables—Makers of—
—continued.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Antimony Refiners & Dealers.

F.—Antimoine—Raffineurs et March. d'.
G.—Antimonium Laüterer und Händler.

Hallett & Fry, 202, Rotherhithe-st., London, S.E.

JOHNSON, MATTHEY & CO., LTD., 74 to 81, Hatton Garden, E.C.

Pratt, James Jerram, & Son, 79, Queen-st., London, E.C.

"Anti-Sulphuric" Enamel.

Griffiths Bros. & Co., Macks-rd., Bermondsey, London, S.E. Inventors, sole makers & only rightful users of the trade name, "Anti-Sulphuric" Enamel. *See advt., page* 18.

Apparatus Makers—Electrical.

F.—Appareils électr.—Fabr. d'.
G.—Elektr. Apparate—Fab. von.

Alexander, D., A.M.I.E.E., 43, Mains-st., Waterloo-st., Glasgow.

Apps, A., 433, Strand, London, W.C.

ARMSTRONG, STEVENS & SON, Whittall-st., Birmingham. *See advt., page* 424.

Bacon & Curtis, Ltd., 2, Regent's-ter., Bournemouth.

Badger, J., & Co., 15, Summer-row, Birmingham.

Bardill, D. W., & Co., Ltd., Derby; & at Burton-on-Trent.

Bayley & Sons, Dene House, Poole Hill, Bournemouth.

Beesley, J., Horse-moor Green, Langley, Bucks.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bill, C. S., & Co., 56, Guest-st., Birmingham.

Brady & Martin, Ltd., Northumberland-rd., Newcastle-upon-Tyne.

Braulik, G., 217 & 218, Upper Thames-st., London, E.C. *See advt., page* 387.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 9, Donegall-sq. West, Belfast; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office 379, Bank.)

Apparatus Makers—Electrical—*continued.*

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Buncle, James, 93, Shandwick-pl., Edinburgh.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Cambridge Scientific Instrument Co., Ltd., Carlyle-rd., Cambridge.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Makers of dynamos, switches & other appliances for electric lighting. *See advt. inside front cover.*

Cussons, G., The Technical Works, Lower Broughton, Manchester.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

Faraday & Son, 2 & 3, Berners-st., Oxford-st., London, W.

Ford, Thomas, & Co., 114, Emily-st., Birmingham.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Green, Ralph, & Co., Bute Street Docks, Cardiff.

Hale Bros., 156, Upper Thames-st., & 21, Bush-lane, London, E.C.

Hodges, Cecil, & Co., Balfour House, Finsbury Pavement, E.C. (Telegs.: "Ammeter, London." Teleph. No. 9960, London Wall.)

HOLLAND HOUSE ELECTRICAL CO., LTD., 9, HOLLAND-PL., & 121A, St. Vincent-st., GLASGOW. (Telegs.: "Electrical, Glasgow." Teleph. Nos.: 167, Nat.; & 2190, Corp.)

Hughes, W. C., & Co., Brewster House, Mortimer-rd., Kingsland, London, N.

Apparatus Makers—Electrical—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Jackson, F., & Co., 14, Cross-st., Manchester.

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Kinninmont, J., & Sons, 26, Chilworth-street, Westbourne-terrace, London, W.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

Mackie, W., & Co., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See* DYNAMO MAKERS.

Marris, G., & Son, Ltd., Browning-st., Birmingham.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegrams: "Traction, Bury." Telephone No. 184, Bury.)

Muse, Thos., 1, South-view, Newington, Hull.

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell).

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.

Newton, Bean & Mitchell, Dudley Hill, Bradford.

Paul, Robt. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page* 608.

PHŒNIX ELECTRIC HEATING CO., LTD., 3, Holborn-pl., London, W.C.

Picard, H., & Frere, 26 & 27, Bartlett's-bldgs., E.C.

Player & Mitchell, Cambridge-st., Birmingham.

Port-Dundas Pottery Co., Ltd. (stoneware), Bishop-st., Port Dundas, Glasgow.

Reid Bros., 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.

Reynolds & Branson, Ltd., 14, Commercial-st., Leeds.

Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.

Apparatus Makers—Electrical—*continued.*

Scientific Appliance Manufacturing Co., 166, Pentonville-rd., London, N.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Southall Bros. & Barclay, Broad-st., Birmingham.

Stiff, J., & Sons, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

Stone, J., & Co., Ltd., Deptford, London, S.E.

Telephos, Ltd., 115–117, Cannon-st., E.C.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

TUCKER, J. H., & CO., Sampson-rd. North, Birmingham. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

West London Scientific Apparatus Co., Premier-pl., High-st., Putney, S.W.

Wilson, J. R., 20, Oxford-rd., Chorlton-on-Medlock, Manchester.

Apparatus for Lighting Gas—Electric.

F.—Appareils électriques pour allumer le gaz.
G.—Elektrische Apparate zum Anzünden des Gases.

Apps, A., 433, Strand, London, W.C.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Lodge Bros. & Co., 14, New-st., Birmingham.

Sugg, W., & Co., Ltd., Vincent Works, 67, Regency-st., Vincent-st., London, S.W.

Arbitrators—Electrical & Mechanical.

F.—Arbitres—d'Électricité et de Mécanique.
G.—Schiedsrichter—Elektr. & Mechanische.

Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, E.C.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Huddleston, Percy Frederick, 72, Finsbury Pavement, E.C.

Ker, W. Arthur, A.M.I.C.E., 124, St. Vincent-st., Glasgow.

O'Gorman & Cozens-Hardy, 82, Victoria-st., Westminster, S.W.

Place, John, M.I.MECH.E., A.M.I.E.E., Wheatley Kirk, Price & Co., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077, Bank.)

Arbitrators—Electrical & Mechanical—*continued.*

Sherley-Price, Ernest A., M.I.S.I., A.I.E.E., Albert-chbrs., Albert-sq., Manchester (Telegs.: "Indicator, Manchester." Teleph. No. 3218); & 46, Watling-st., Queen Victoria-st., London, E.C.

Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., Queen Victoria-st., E.C.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077, Bank.) *See advt., page* 411.

Arc Lamp Manufacturers—Electric.

F.—Lampes électriques à Arc—Fab. de.
G.—Bogenlampen—Fabr.

"Acme" Lamps (Protected), St. Peters, Kent.

Anderson, W., 284, Buchanan-street, Glasgow.

Apps, A., 433, Strand, London, W.C.

ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 *&* 406.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Borland, F. J., & Co., Old Mills, Camp-rd., Leeds.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

British Arc Lamp Co., Leysian-bldgs., 118, City-rd., E.C.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt.* OPPOSITE.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

CODD ARC LAMP CO., LTD., Standard Works, Dame Agnes-st., Nottingham.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Crathorne & Green Manufacturing Co., Wagner-st., Old Kent-rd., London, S.E. Makers of the Meridian Arc Lamp.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Crompton system. Makers of the "Chelmsford" enclosed arc lamp. *See advt. inside front cover.*

Arc Lamp Manufacturers—Electric— *continued.*

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. Sole agents in the United Kingdom for the Jandus Arc Lamp. *See advt., page* 31.

Edwards, S. Burton, 5, Cromford-ct., Market-st., Manchester.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD. (new improved "Stewart" & "Stellite" enclosed), Stellite Works, Chestonrd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

Foster & Co., Worple-rd., Wimbledon.

FOXCROFT & DUNCAN, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 *&* 633.

Arc Lamp Manufacturers—Electric— *continued.*

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

GILBERT ARC LAMP CO., LTD., MANUFACTURERS OF EVERY TYPE ARC LAMP & ACCESSORIES, CHINGFORD, ESSEX. (TELEGRAMS: "GILBERT, CHINGFORD.")

Howlett, H. N., A.I.E.E. (agent), 211, Upper Thames-st., E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside back cover.*

INTERNATIONAL ELECTRIC CO. (H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. Manufacturers of the "International" Arc Lamp for alternating & direct currents. *See advt., page* 29.

BROCKIE-PELL PATENT ARC LAMPS.

ENCLOSED TYPE "B.E." Single or Twin Carbon.

YELLOW AND WHITE FLAME LAMPS.

10-32 Hours.

All Kinds of SPECIAL LAMPS.

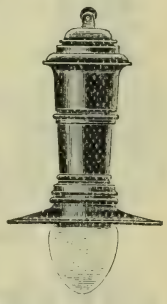
"BROCHIFLAM" FLAME-LAMP.

ENCLOSED LAMPS OF ALL KINDS.

OPEN LAMPS NEW PATTERNS.

10-60 Hours' Burning.

POWER CIRCUIT LAMPS.



ENCLOSED TYPE "B.E." Single or Twin Carbon.

Adopted by Leading TRAMWAYS, SHOPS, RAILWAYS, MINES, FACTORIES, &c., &c.

List of Latest Designs on Application.

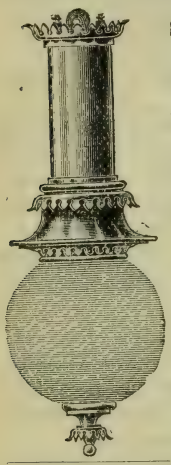
BROCKIE-PELL ARC LAMP, Ltd.

60, WORSHIP STREET, LONDON, E.C.

Arc Lamp Manufacturers—Electric— *continued.*

JANDUS ARC LAMP & ELECTRIC CO., LTD. Registered offices: 46, Brown-st., Manchester (A. A. Gillies, F.C.A.). Works: Hartham Works, Holloway, London, N. (Adrian D. Jones, manager). (Telegrams: "Jandunus, London." Telephone No. 471, King's Cross.) Sole agents: Drake & Gorham, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Accumulator, London." Telephone Nos.: 71 & 393, Westminster; & P.O. 1218, Victoria.)

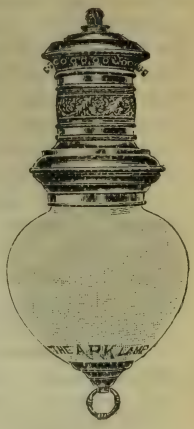
JOHNSON & PHILLIPS, LTD., CHARLTON,



S.O., KENT; & 14, UNION-CT., OLD BROAD-ST., LONDON, E.C. Makers of the "Johnson & Phillips, Ltd." (open type) Arc Lamp, for alternating & continuous currents, any voltage, parallel & series working. *See advt. inside back cover.*

Arc Lamp Manufacturers—Electric— *continued.*

JOHNSON & PHILLIPS, LTD., CHARLTON, S.O., KENT; & 14, UNION-COURT, OLD BROAD-ST., LONDON, E.C. Makers of "The Ark" enclosed long burning arc lamp, alternating & continuous carbon life 100 to 200 hours, parallel & series working. For all circuits from 100 to 1000 volts. Highest efficiency, best diffusion, steady burning, no flickering. Carbons cost about ½*d.* per week. Moderate price. *See advt. inside back cover.*

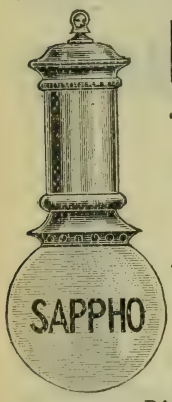


Key Engineering Co., Ltd., The, 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester. Works: Trafford Park, Manchester.

Keys, J. W., & Co., 162, Lambeth-rd., S.E.

MACKIE, W., & CO., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See* DYNAMO MANUFACTURERS.

MAXIM ELECTRICAL CO., LTD., Maxim Works, Gillingham-st., Victoria-st., S.W.



FOXCROFT & DUNCAN

Telegrams: "FOXSHIP, LONDON." Telephone No.

Makers of

Railway Station: LONDON FIELDS, G.E.R. (Passengers only.)

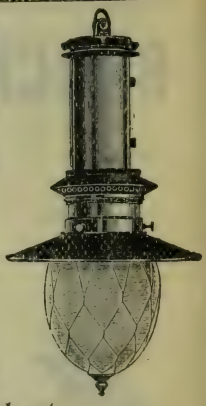
OPEN & ENCLOSED TYPE

ARC LAMPS.

The "SAPPHO" Enclosed, The "PHŒNIX" Open, And "S.S." Open Type.

As supplied to Shoreditch Borough Council, North Staffordshire Railway, Peter Robinson's, &c.

All Lamps are suitable for Parallel or Series Working, Direct or Alternating Current, & are English-made throughout.



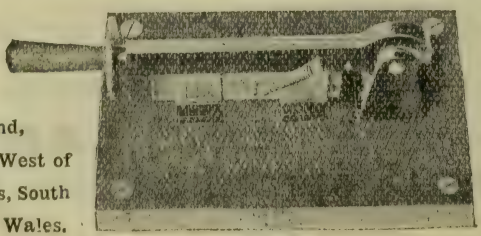
ALSO MAKERS OF

MAIN SWITCHBOARDS, Main Switches & Fuses, Resistances,

Prices on Application. ***Discount to Trade.*** &c.

PHŒNIX WORKS, MENTMORE TERRACE, LONDON FIELDS, N.E.

SAMPLES kept by our AGENTS in Scotland & Ireland, North-East & North-West of England, the Midlands, South of England and South Wales.



STOCKS kept by our AGENTS in

Australia: J. Hunter & Co., Sydney.

India: The English Electrical Co., Bombay.

South Africa: A. Vandam & Co., Johannesburg.

TELEGRAMS:
"VOLTARCON, LONDON.

TELEPHONE No.
220, NORTH.

ARC LAMPS, LIMITED.

The Davy Arc Lamps.

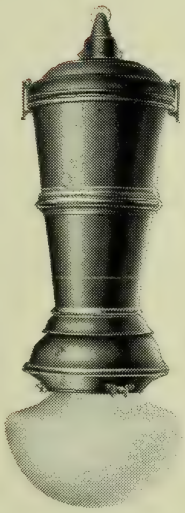
FLAME ARC LAMPS.

Single Carbon Arc Lamps.

Series Arc Lamps.

Any Current.

Direct Currents.



DAVY "SUNRÆ"
(FLAME ARC).

Twin Carbon Arc Lamps.

Parallel Arc Lamps.

Any Frequency.

Alternating Currents.

Does not get out of Order. Saves its Cost in Repairs.

OPEN ARC LAMPS.

THE ENGINEER'S LAMP.

ENCLOSED ARC LAMPS.

All Lamps made at our Factory,

St. Paul's Crescent, St. Paul's Rd., Camden Town,
LONDON, N.W.

OVER.

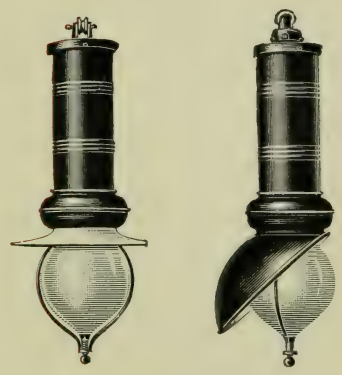
TELEGRAMS:
"VOLTARCON, LONDON."

TELEPHONE No.
220, NORTH.

ARC LAMPS, LIMITED.

Made under DAVY'S Controlling Patents.

The Pioneer of the Alternating Enclosed Arc Lamp.



MITE ARC LAMP.
1¼ AMP. TO 2 AMP.

Tramway Power Circuits.

Ship Builder's Lamp.

Workshops. Foundries.

Railway Stations.

Street Lighting.

DIRECT CURRENTS

ALTERNATING CURRENTS.

Unquestionably the Best and Most Brilliant ARC LAMP in the Market.

Used by Corporations, Engineers, Shipbuilders, Railway Companies, Warehousemen, &c., &c.

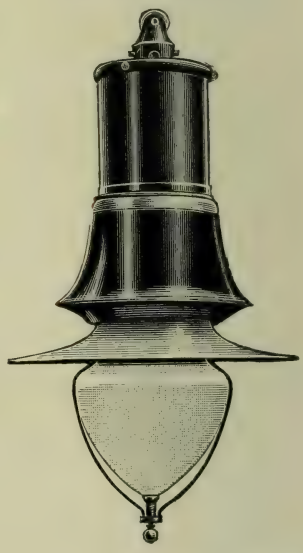


FIG. III.—**PATENT ENCLOSED.**

Write for Convincing Testimonials, List of Users and full particulars to

ST. PAUL'S CRESCENT, ST. PAUL'S RD., CAMDEN TOWN, LONDON, N.W.

Arc Lamp Manufacturers—Electric—*continued.*

OLIVER ARC LAMP, LTD., Cambridge-pl., Burrage-rd., Woolwich, S.E.

PARTINGTON, W. E., & CO., Farmside-pl., Levenshulme, Manchester. (Telegs.: "Partington, Levenshulme." Teleph. No. 0112, H.M.) Manchester depôt for Santoni's Flame Lamps, &c.

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

Regina, Ltd., arc lamps.

Richardson, A. W., Skew Bridge Works, Patricroft, nr. Manchester.

ROYCE, LTD., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

SIEMENS BROS. DYNAMO WOKRS, LTD., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W. (Siemens' system.)

Smithson, Sharpe & Co., Sykes-st., Hulme, Manchester.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

TUCHMAN, H., 2, DYER'S-BLDGS., HOLBORN, LONDON, E.C. (TELEPH. NO. 9706, CENTRAL.)

Turner, A. W., Cobden-bldgs., Birmingham.

UNION ELECTRIC CO., LTD., Park-st., Southwark, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Urban, Chas., Trading Co., Ltd., 48, Rupert-st., London, W.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION. Worsley's patent double & single enclosure lamps & Aston open type lamps.

Wilhelm & Co., 7, New Zealand-ave., Barbican, London, E.C.

Zea Arc Lamp Co., Ltd., 2, Staple Inn, London, W.C.

Arc Lamp Manufacturers.

ENCLOSED (LONG-BURNING).

Arc Lamps, Ltd., Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-rd., St. Paul's-cres., Camden Town, N.W. *See inset advt.,* OPPOSITE.

Arc Lamp Manufacturers—*continued.*

ENCLOSED (LONG-BURNING).

Jandus Arc Lamp & Electric Co., Ltd., 66, Victoria-st., London, S.W.

Arc Lamp Cords.

Busby, E., & Son, Excelsior Wire Works, Dartmouth-st., Birmingham.

Arc Lamp Fittings.

F.—Accessoires pour lampes à Arc.
G.—Bogenlampen Zubehöre.

Arc Lamps, Ltd. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See inset advt.,* OPPOSITE.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

Donovan & Co., 12, Barwick-st., Birmingham.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works; London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Maxim Electrical Co., Ltd., Maxim Works, Gillingham-st., Victoria-st., S.W.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegrams: "Gloriole, London." P.O. Telephone No. 12367, Central.)

Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Rippingille Manufacturing Co., Plume-st., Aston, Birmingham.

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Arc Lamp Globes.

F.—Globes pour lampes à arc.
G.—Bogenlicht Glocken.

ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 *&* 406.

Bateman, M., & Co., 27, Shoe-lane, London, E.C.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegs.: "Glasses, Newton Heath." Teleph. No. 22, Failsworth.)

De Grelle, Houdret & Co., 130, London Wall, E.C.

Franke & Co., 8, Long-lane, Aldersgate-st., E.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegrams: "Gloriole, London." P.O. Telephone No. 12367, Central.)

Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

Arc Lamp Posts.

F.—Poteaux pour lampes à arc.
G.—Bogenlampen Pfosten.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

FALKIRK IRON CO., 67, Upper Thames-st., London, E.C. Works: Falkirk, N.B.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

MACKENZIE & MONCUR, LTD., iron-founders, Edinburgh. (Telegs.: "Iron, Edinburgh." Teleph. No. 2674, Central.) Lamp Pillars, Road & Pavement Boxes.

Arc Lamp Suspension Gear.

London Electric Firm, George-st., Croydon.

Arc Light & Tram Poles.

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury; & 14, Great St. Thomas Apostle, London, E.C. (Telegrams: "Tubes, Wednesbury;" "Tubes, London.")

Armature Discs, Notching & Dividing Machines.

Neville Bros., 7 & 9, James-st., Liverpool. (Telegrams: "Neville, Liverpool." Teleph. No. 7159.)

Armature Wire—Compressed & Laminated.

F.—Fil pour Armatures.
G.—Draht für Anker.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Armorduct.

ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; & 114, Warrington.)

Armoured Cables & Wires—Makers of.

F.—Cables et fil armés—Fab. de.
G.—Gepanzerte Draht & Kabel—Fab. von.

ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; & 114, Warrington.)

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Armoured Cables & Wires—Makers of— *continued.*

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. VULCANIZED BITUMEN FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegs.: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless steel conduits. *See advt., page* 447.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

UNION CABLE CO., LTD., THE, Eagle Wharf-rd., London, N. *See advt., page* 4.

Art Metal Workers & Artistic Fittings.

F.—Artistes en ouvrages metalliques et accessoires artistiques.

G.—Kunst Metall Arbeiter u. Künstlerische Armaturen—Fabr.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's-passage, Cambridge.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Burt, N., & Co., Ltd., 195, Wardour-st., London, W.

Buss & Co., 18, Berners-st., W.

Caslake & Co., Scrubb-lane, Willesden Junction, N.W.

Cope & Timmins, Ltd., 21, Newman-st., London, W.

Cox, Sons, Buckley & Co., 10, Henrietta-st., Covent Garden, London, W.C.

Crittall, R., & Co., 27, Noel-st., Wardour-st., W.

Croggon & Co., Ltd., 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

Art Metal Workers & Artistic Fittings— *continued.*

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) *See advt., page* 386.

Hardman, Powell & Co., King Edward's-rd., Birmingham.

Henney, Geo. F., 142B, Fulham-rd., London, S.W.

HOLLAND HOUSE ELECTRICAL CO., LTD., 9, HOLLAND-PL., & 121A, St. Vincent-st., GLASGOW. (Telegs.: "Electrical, Glasgow." Teleph. Nos.: 167, Nat.; & 2190, Corp.)

Hookham, H. J., & Sons, Charles Henry-street, Birmingham.

HUNTER ELECTRIC CANDLE LAMP CO., LTD., THE, 77, Newman-st., London, W.

Jesson Birkett & Co., Ltd., 27, Ely-pl., London, E.C.

Jewsbury, J., & Co., 71, Broad-st., Birmingham.

Leefe, F. E., 364, Goswell-rd., London, E.C. (Telegrams: "Leefregel, London." Telephone No. 1926, Central.)

Letheren, W., & Sons, Vulcan Iron Works, Cheltenham.

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Tel. No. 441, North.) Show-room: St. Andrew's Mansions, 15, Newman-st., London, W. (Tel. No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham, & London. Teleph. Nos.: Nat., 2181 (4 lines); Corp., 101 & 2.)

McGlouglin, J. & C., Ltd., 47–54, Great Brunswick-st., Dublin.

Mitton & Son, 6½, George-street, Birmingham.

Richardson, Wm., & Co., 18, Brownlow-st., High Holborn, W.C.; & Summers Town, Tooting, S.W.

Slater, James, & Co., 251, High Holborn, London, W.C.

Smellie, James, Ltd., Ivanhoe Works, Dudley.

Soutter, Wm., & Sons, Ltd., Farm-st., Hockley, Birmingham; & 47, Holborn Viaduct, London, E.C.

Stone, Joseph, 42, St. George's-road, Southwark, London, S.E.

Thursfield, C. J., & Co., 42, Clement-st. Parade, Birmingham; & 21A, Berners-st., Oxford-st., London, W. (Telegs.: "Electrolier, Birmingham:" "Thursfield, London." Teleph. Nos.: 05067, Birmingham; & 5409, Gerrard.)

Tonks, Ltd. (late Tonks, Wm., & Sons), 57, Holborn Viaduct, London, E.C.; & 201, Moseley-st., Birmingham.

Toulmin, E. H., Wotton-under-Edge, Gloucestershire.

Art Metal Workers & Artistic Fittings—*continued.*

VAUGHAN, BROWN & COOK, 298 & 300, Goswell-rd., London, E.C.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

WALTHAM & CO., artists in metals, 46, York-st., Buckingham Gate, S.W. (two minutes from Army & Navy Stores). (Telegrams: "Switchboard, London." Telephone No. 1103, Victoria.) *See advt., page* 695.

Wright, G., & Co., 155, Queen Victoria-st., & 1 & 238, Upper Thames-st., London, E.C.

Wurtemberg Electro-Plate Co., 91, Fore-st., London, E.C.

Artesian Well Borers.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Asbestos Manufacturers & Merchants.

(*See also* SILICATE COTTON & SLAG WOOL.)

F.—Amiante—Fab. et March. d'.

G.—Asbest-Fabrikanten und Händler.

Anglo-Italian Asbestos Co., Marsden-chbrs., Marsden-st., Manchester.

Asbestos & Asbestic Co., Ltd., 81, Fenchurch-st., London, E.C.

Asbestos & Rubber Co., Ltd., Hull.

ATTWATER & SONS, HOPWOOD-ST. MILLS, PRESTON. (TELEGRAMS: "ATTWATER, PRESTON." NAT. TELEPHONE NO. 45.)

Bell's Asbestos Co., Ltd., 118, Southwark-st., S.E.

Bell's Asbestos Co., Ltd., 8 & 9, South Parade, Manchester (F. R. Putz, sole vendor).

Carson & Evans, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegrams: "Irishism, London." Telephone No. 2507, Avenue.)

Cresswell Asbestos Co., Ltd., Wellington Mills, Bradford, Yorks.

Dick's Asbestos Co., 51 & 52, Fenchurch-st., E.C.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegrams: "Persistent, Liverpool." Telephone No. 872.) *See advt., page* 630.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C.

Haacke, A., & Co., Kieselguhr Wharf, Homerton, London, N.E.

Harrison, R. W., & Co. (asbestos fireproof paint), Mill-lane; & works: St. Peter-st., Blackburn. (Telegrams: "Rubber, Blackburn." Telephone No. 34.)

Asbestos Manufacturers & Merchants—*continued.*

Hill, Fredk. A., & Co., 108, Bishopsgate-st. Within, E.C. (Teleph. No. 9905, Wall.)

Putz, F. R., 8 & 9, South Parade, Manchester; & at 19 & 20, Strand-st., Liverpool.

Smart, A., & Co., Rockcliffe Mills, Collyhurst, Manchester.

Turners & Manville, Ltd., 81, Fenchurch-st., E.C.

United Asbestos Co., Ltd., Dock House, Billiter-st., E.C.; & 34, Deansgate, Manchester.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Willcox, W. H., & Co., Ltd., office, 23, Southwark-st.; warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Witty & Wyatt, Ltd., 88, Leadenhall-st., London, E.C.

Asphalt Troughs.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester; & Parliament Mansions, Victoria-st., S.W.

Assay Office & Laboratory Apparatus Makers.

F.—Bureau d'essai & fabricants d'appareils de laboratoire.

G.—Versuch's Bureau & Verfertiger von Laboratorien-Apparate.

Apps, A., 433, Strand, London, W.C.

JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, E.C.

PHŒNIX ELECTRIC HEATING CO., LTD., 3, Holborn-pl., London, W.C.

Assayers.

F.—Essayeurs.

G.—Edelmetall-Schmelzer.

Aspinall, Wm. L., Chemical Laboratory, Cowper-st., E.C.; & 3, Savage-gdns., E.C.

Bawden, M. W., Liskeard, Cornwall.

Gemmell, G. H., Chemical Laboratory, 4, Lindsay-pl., Edinburgh.

JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, E.C.

Kitto, Benedict, F.G.S., F.I.C., 30 & 31, Saint Swithin's-lane, London, E.C.

Sheffield Smelting Co., Ltd., 1, Berry-st., Clerkenwell-rd., London, E.C.; & at Sheffield & Birmingham.

Sulman & Picard, 44, London Wall, E.C.

Auctioneers, Valuers & Arbitrators—Electrical & Mechanical.

(*See also* ARBITRATORS AND VALUERS.)

F.—Priseurs—d'Électricité et de la Mécanique.

G.—Versteigerer—Elektr. & Mechanische.

Harrison, W. R., 477, Anlaby-rd., Hull.

HUDDLESTON, PERCY, & CO., 72, Finsbury Pavement, London, E.C.

Ison, White & Bedford, 40 & 41, Upper Thames-st., London, E.C.

Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., Queen Victoria-st., London, E.C.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077, Bank.) *See advt.* BELOW.

WOOD & NEWLAND, 42, Spring-gardens, Manchester. (Telegrams: "Certificate, Manchester." Telephone No. 08586.)

Automatic Cut-Outs.

F.—Coupe-courant automatique.

G.—Automatische Ausschalter.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" & "Admocar, Bedford." Teleph. No. 7123, Central.)

Automatic Cut-Outs—*continued.*

ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegrams: "Voltarcon, London." Telephone No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 *&* 406.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, E.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

DEWHURST, ED., Mount-st. Electrical Works, Preston.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Telegrams:
"INDICES," LONDON.
Telephone No. 5077, Bank.

ESTABLISHED 1850.

Telegrams:
"INDICATOR," MANCHESTER.
Telephone No. 3218, Central.

WHEATLEY KIRK, PRICE & CO.,

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WHEATLEY KIRK, PRICE & CO. have conducted the Majority of the Electrical Auction Sales in the Kingdom.

LIST AND TERMS ON APPLICATION.

411

Automatic Cut-Outs—*continued.*

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Ferguson, Jas., M.I.E.E., 61, Pollok-st., Pollokshaws, Glasgow.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., W. *See advt., page* 30.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, "RELIANCE" switch fuses, regulating switches & special switchboards, Molesworth-st., Rochdale. (Teleph. No. 52 Y.)

Automatic Electric Signalling Apparatus Makers.

F.—Appareils électr. de signaux automat.—Fab. de.

G.—Elektr. Signal Apparate (automatisch)—Fab. von.

A. S. C. Railway Appliances Syndicate, 28, Victoria-st., S.W.

Garstang, H., 69, Darwen-st., Blackburn.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Railway Electrical Fog Signal Syndicate, Ltd., St. Peter's Church-walk, Nottingham.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

Automatic Regulators—Makers of.

F.—Régulateurs autom.—Fab. de.

G.—Automatische Regulatoren—Fab. von.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs: "Admocar, London;" & "Admocar, Bedford." Teleph. No. 7123, Central.)

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, S.W.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Automatic & Self-Starting Rheostats.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" & "Admocar, Bedford." Teleph. No. 7123, Central.)

Balance (Induction) Makers.

F.—Balances (Induction)—Fab.

G.—Waagen—Fab. (Induktion).

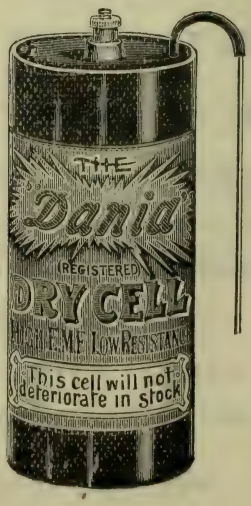
Apps, A., 433, Strand, London, W.C.

Batteries—Dry.

F.—Piles Sèches.

G.—Batterien—Trockene.

Amalgamated Dry Batteries, Ltd., 16 & 17, Devonshire-sq., E.C



ATLAS CARBON & BATTERY CO LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.") Sole Makers of the "DANIA" Dry Cells.

Batteries—Dry—*continued.*

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braulik, G., 218, Upper Thames-street, London, E.C. *See advt., page* 387.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. (Telegrams: "Ericsson, London." Telephone No. 1340, Holborn. Western Union & A.B.C., 5th Edition, Codes used.) *See advt., page* 704.

Chloride of Silver Dry Cell Battery Co., John L. Sardy & Co., agents, Saracen-chbrs., Snow Hill, London, E.C.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Hopper & Co., Ltd., Elmsdale Works, Walthamstow.

International Electric Co. (H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. *See advt., page* 29.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegs.: "Rickard, Derby." Teleph. No. 18.) *See advt. facing title page.*

Rose Bros., 30, Cheapside, London, E.C. Sole agents for Schmidt & Co., Berlin. (Teleph. No. 7043, Central.)

ROYAL STANDARD ELECTRIC LAMP MANUFACTURING CO., 4, Hart-st., New Oxford-st., London, W.C. *See advt., page* 604.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

UNIVERSAL BATTERY CO., Mid Kent Works, Southey-st., Penge, S.E. Sole manufacturers of "E. S.," "A1," & "U. B. C." dry batteries.

Veritys, Ltd., King-st., Covent Garden, London, W.C., & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

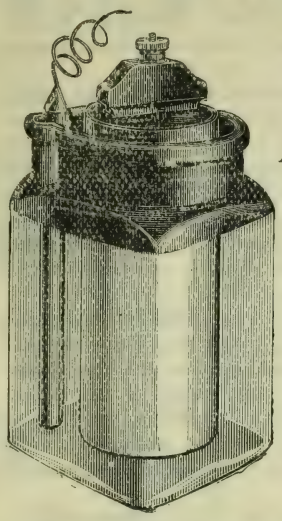
Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)

Batteries—Galvanic.

F.—Piles galvaniques—Fab. de.

G.—Batterien—Galvanische.

Apps, A., 433, Strand, London, W.C.



Leclanché Cells.
Large Stocks.

ATLAS CARBON & BATTERY CO., LTD., 19, EWER-ST., LONDON, S.E. (Telegrams: "Altisonant, London.")

Makers of the "Dania" Dry Cell.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Gt. Smith-st., S.W. *See advt., page* 392.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Croggon & Co., Ltd., 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Hey, M., 6, Henrietta-st, Covent Garden, London, W.C.

Mottershead & Co., 7, Exchange-st., Manchester.

Batteries—Ignition.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 392.

Batteries—Portable.

F.—Piles—Portatives.
G.—Batterien—Tragbare.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 392.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TELEPH. NO. 1253, LONDON WALL.) *See advt.* OPPOSITE.

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E.; Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 393.

PETO & RADFORD, LTD., 100, Hatton Garden, E.C.

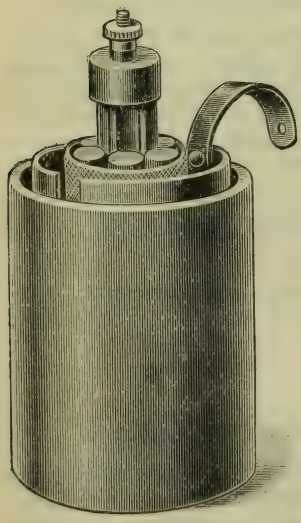
PETO & RADFORD, LTD., successors to Sutherland & Marcuson, 61, Chandos-st. Strand, London, W.C.

Pritchetts & Gold, Ltd., 20, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 417.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W.

Batteries—Primary.

F.—Piles Électriques (primaires).
G.—Batterien (Primäre).



ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")

Leclanché Cells & "Dania" Dry Cells.

All kinds of Batteries.

Prices on application.

Bennett & Co., 32, Park Cross-st., Leeds.

Batteries—Primary—*continued.*

Boron Battery Electrical Supply Co., 131, St. Domingo-rd., Liverpool.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 392.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Le Carbone (formerly Lacombe & Co.), 17, Water-lane, E.C. Works: Levallois-Perret, Paris. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *&* 470.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate, Westminster; & Queen Anne's-chbrs., Westminster, London, S.W.

UNIVERSAL BATTERY CO., Mid Kent Works, Southey-st., Penge, S.E. "E. S.," "A1" & "U. B. C." dry cells & all forms of primary batteries.

Batteries—Storage.

F.—Accumulateurs.
G.—Batterien Accumulator.

Accumulator Industries, Ltd. Laboratories, works & warehouses: Woking.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

Beeston Accumulator Syndicate, Ltd., Post Office-sq., Beeston, Notts.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 392.

Butler, J., & Co., Stanningley, Leeds.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.

THE

ELECTRICAL POWER STORAGE

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OF

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ALWAYS

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4, GREAT WINCHESTER STREET, LONDON, E.C.

Works: MILLWALL, LONDON, E.

Telegrams: "STORAGE, LONDON." Telephone No. 1253, London Wall.

Batteries—Storage—*continued.*

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

D. P. BATTERY CO., LTD. Works & offices: Lumford Mills, Bakewell, Derbyshire. (Telegs.: "Battery, Bakewell." Teleph. No. 2, Bakewell.) London address: 11, Victoria-st., Westminster, S.W. (Telegs.: "Cumulose." Teleph. No. 291, Westminster.) *See advt.* BELOW.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TELEPH. NO. 1253, LONDON WALL.) *See advt., page* 415.

Batteries—Storage—*continued,*

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E.; Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 393.

PETO & RADFORD, LTD., 100, Hatton Garden, London, E.C.

PETO & RADFORD, LTD., successors to Sutherland & Marcuson, 61, Chandos-st., Strand, W.C.

Premier Accumulator Co., Cattle Market-rd., Northampton. *See advt., page* 392.

PRITCHETTS & GOLD, LTD., stationary & traction batteries, 20, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt.* OPPOSITE.

ROOPER, W. O., & CO., Victoria Works, Stafford (Telegrams: "Rooper, Stafford." Telephone No. 73, Stafford); & 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

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Experience of 19 years. *Send for prices to—*

THE D. P. BATTERY CO., LTD.,

Head Offices and Works:
LUMFORD MILLS, BAKEWELL, DERBYSHIRE.
Telegrams: "Battery, Bakewell." Code: 5th Edition, A.B.C. Telephone No. 2, Bakewell.

London Address: 11, VICTORIA STREET, WESTMINSTER, S.W.
Telegrams: "Cumulose, London." Telephone No. 291, Westminster.
Established 1888.

Batteries—Storage—*continued.*

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

Tudor Storage Battery Export Syndicate, Milton House, Surrey-st., Strand, W.C.

Battery Jar Manufacturers.

F.—Vases pour piles elec.—Fab.

G.—Batterie Topf Fab.

Bourne, Joseph, & Son, 23, Euston-rd., London, N.W. Works: Denby Pottery, nr. Derby.

Cannington, Shaw & Co., Ltd., Sherdley Glass Works, St. Helen's, Lancs.; 84, Silk-st., Manchester; 14, West Campbell-st., Glasgow; & L. & N. W. R. Depôt, Worship-st., London, E.C.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Smethwick, Staffs.; Burslem, Staffs.; St. Helen's, Lancs.; Paisley, N.B.; & Paris. Depôts: Birmingham, Liverpool, Manchester, Glasgow & Paris. Head office: Lambeth, London, S.E. *See advt., page* 429.

Battery Jar Manufacturers—*continued.*

Espir, Fernand, 2 & 3, East India-ave., London, E.C. *See advts., pages* 654 & 736.

Fulham Pottery & Cheavin Filter Co., Ltd., The, Fulham, London, S.W.

Harburg & Vienna Indiarubber Co., 9–14, Towerchbrs., Finsbury Pavement, London, E.C.

Hardcastle, W. H., 172, Alexandra-road, Sheffield.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Kirkhams, London-road, Stoke-on-Trent.

PRICE, POWELL & CO., BRISTOL, Stoneware manufacturers. (Telegs.: "Pottery, Bristol." Nat. Teleph. No. 279.)

South Wales Glass Manufacturing Co., Ltd., Crindau, Newport, Mon.

Stiff, James, & Sons, London Pottery, Lambeth, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (ebonite or vulcanite), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts., pages* 478 & 722.

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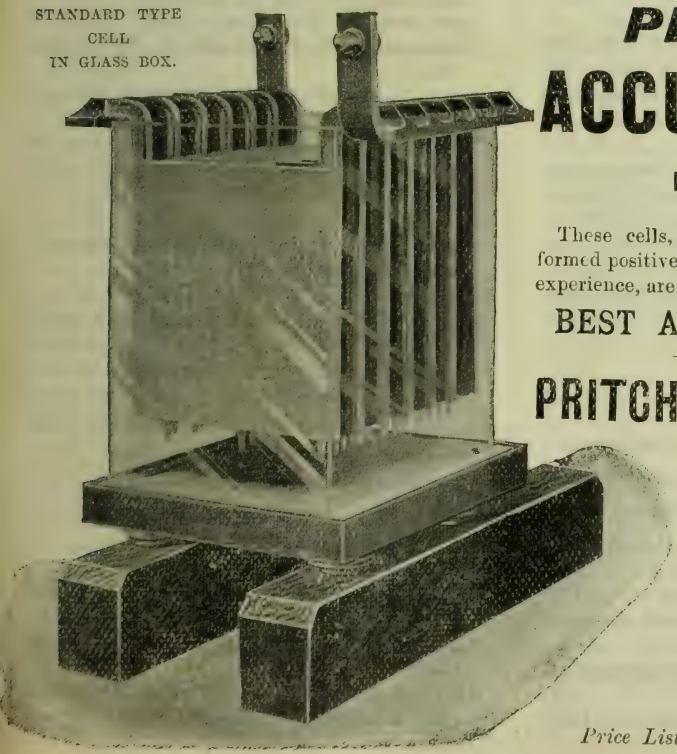

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Battery Plates—Makers of.

F.—Plaques à piles—Fabr. de.
G.—Batterien Platten—Fabr.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegs.: "Altisonant, London.")

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352 to 364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

D. P. BATTERY CO., LTD. Works & offices: Lumford Mills, Bakewell, Derbyshire. (Telegs.: "Battery, Bakewell." Teleph. No. 2, Bakewell.) London address: 11, Victoria-st., Westminster. (Telegs.: "Cumulose, London." Teleph. No. 291, Westminster.) *See advt., page* 416.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Works: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Le Carbone, formerly Lacombe & Co. (CARBONS FOR). Works: Levallois-Perret, Paris. 17, Water-lane, London, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *& 470.*

PRITCHETTS & GOLD, LTD., stationary & traction type accumulator plates, 20, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 417.

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

Bell Fitters & Contractors—Electric.

F.—Sonneries électriques—Poseurs de.
G.—Elektrische Glocken—Einrichter.

Adams & Son, 26, Bury-st., St. James's, London, S.W.

Apps, A., 433, Strand, London, W.C.

Archway Hardware Stores, 98, Archway-road, Highgate, London, N.

Atkey, Pascall, & Son, 29 & 30, High-street, West Cowes, Isle of Wight.

Baily, Wm., & Sons, 71, Gracechurch-st., London, E.C.

Bell Fitters & Contractors—Electric—*continued.*

Banfield, Sons & Cole, 31A, Western-rd., Hove, Sussex.

Bevan, H., 99, Frederick-st., Cardiff.

Blackley, D. & J., Gilmore-park, Edinburgh.

Boulting, John, & Sons, 5 & 6, Upper Marylebone-st., London, W.

Brierley, R., 27, Fylde-st., Preston.

Bryden, Wm., & Son, 206, Bath-st., Glasgow.

Bugler, J. U., Ltd., 35 & 37, High-st., Ashford, Kent.

Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.

Callas, Sons & May, Ltd., 68–76, Oxford-st., Reading.

Cannon, W. G., & Sons, Ltd., 106 & 107, London-rd., London, S.E.

Carr, Charles, Woodland Works, Grove-lane, Smethwick, Birmingham.

Caverhill, W. C., & Co., Ltd., Berwick-on-Tweed.

Ching, Comyn & Co., Ltd., 54, 56 & 58, Castle-st., Long Acre, London, W.C.

Clarke, J. F., & Sons, 49, Moorgate-st., London, E.C.

Clemens, E. T., 187, Union-st., Plymouth.

COLEBY & CO., 6, Princes-st., Cavendish-sq., London, W. (Teleph. No. 3224, Paddington.)

Cooper, G., & Son, Park-st., Windsor.

Coy, T. J., 164, Ferndale-rd., Brixton, London, S.W.

Crisp & Smith, Orwell-pl., Ipswich.

Cross Bros., 21, Working-st., Cardiff.

Crowhurst & Lee, 2, Alexandra-rd., Wimbledon, Surrey.

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

Davis, G. F., 185, Vauxhall-bridge-road, London, S.W.

Dexter, W., & Son, Wellingborough.

Dovey, C. H., Camborne.

Duke, James, 4, Bethlehem-st., Great Grimsby.

Eade & Sons, Balcombe-rd., Horley

Eastmond & Sons, Torrington.

Edey, F. G., & Co., 29, Ludgate Hill, London, E.C.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

Elliott, J. R., Gloucester-terrace, Haverfordwest.

Ellwood, J., Queen's Docks, Whitehaven.

Flint, W., High-st., Uckfield, Sussex.

Floyd, R. N., 4, East-terrace, Penzance.

Fowle Bros., Gravesend.

Francis & Son, High Cross-st., St. Austell, Cornwall.

Gardiner & Co., 53, St. Vincent-st., Glasgow.

Garland, J. S., 51–55, Bridge-st., Warrington, Lancs.

GENT & HURLEY, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)

Ghrimes, Wm., High-st., Ringwood, Hants.

Bell Fitters & Contractors—Electric— *continued.*

Gifkins, A.V., & Co., 68, Victoria-st., Westminster, S.W.
Glanvill, C., 13, Ruston-st., Birmingham.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Goude & Son, Syer's-lane, Whittlesea, Cambridgeshire.
Gough & Felgate, Uxbridge-st., Burton-on-Trent.
Gray, James, & Son, 89, George-st., Edinburgh.
Gray & Palmer, 144, King-st., Great Yarmouth.
Griffiths, Harry D., Griffithstown, Monmouth.
Grubb, W., 83, Blackstock-road, Finsbury-park, London, N.
Guilford & Co., Ltd., 78 & 79, Victoria-rd., Surbiton.
Gurl, G. J., 88, Mitcham-rd., Croydon.
Hall & Co., Dale-rd., Matlock.
Ham, C., 212, Church-rd., Hove.
Hammond & Hussey, Ltd., 23 & 25, High-st., Croydon.
Hancock, W., 22, Stratford-road, London, W.
Harrap, T., & Son, Cardigan-rd., Leeds.
Harrow & Co., 13 & 14, Portland-st., London, W.
Hart & Sons, 13 & 14, Gun-st., Reading.
Hawkins, Alex., 125 to 128, London-rd., London, S.E. (Telegrams: "Alexander Hawkins, London." Telephone No. 1202, Hop.)
Headley & Edwards, Ltd., Corn Exchange-st., Cambridge.
Heap, C., & Co., 14 & 15, Leicester-st., London, W.C.
Hellyar & Sons, 196, King-st., Hammersmith, London, W.
Higgs & Outhwaite, Surrey Works, Cobham, Surrey.
Hislop, R. G., 7 & 9, Pitt-st., Edinburgh.
Holden, E. J., 61, Sandgate-road, Folkestone.
IZANT, ALFRED, 6, Lorenzo-st., King's Cross, London, W.C.
Kerridge, W. B., Wimborne.
Kershaw, John, & Co., Ltd., Market-st., Heywood, nr. Manchester.
Lake, A., Old Fore-st., Sidmouth.
Lanaway, Thos., & Son, Station-rd., Redhill, Surrey.
Lee, Charles, & Son, Stall-st., Bath.
Lee, L., & Son, 13 & 15, Great George-st., Liverpool.
Lemon, J., & Son, Enniskillen, Ireland.
Libby, J., Camborne.
Loveridge, Ltd., Docks, Cardiff.
Lowther, P. Y., 60, Queen's-rd., Bayswater, London, W.
McHardy, D., & Son, 54, Netherkirk-gate, Aberdeen.
McKinnon & Co., 10, Duncan-st., Bridgeton, Glasgow.
Marriage, T. S., & Co., Bell-street, Reigate.
Martin, Chas. H., 11, Corporation-road, Middlesborough.

Bell Fitters & Contractors—Electric— *continued.*

Martin Bros., 9 & 11, Corporation-road, Middlesborough.
Martin & Newby, 2, Fore-st., Ipswich.
Matterson, Huxley & Nutson, Ltd., Cross Cheaping, Coventry.
Mawle, J., & Sons, 22 & 65, High-st., Banbury.
Naylor, John, & Son, Cheapside, Halifax.
Noble & Rogers, Wellingborough.
Orton, John, & Co., 43, Butter-market, Ipswich.
Packham & Son, 144, Western-rd., Brighton.
Parker Brothers, Newton Abbot.
Patent Electric Shot Firing Co., Sheffield-rd., Chesterfield.
Paterson, W., & Son, 65, Pitt-street, Glasgow
Plummer, F. S., Ipswich-st., Stowmarket.
PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Telephone No. 1243, London Wall.)
Pullar, J., & Co., West Wynd, Dundee.
Purser, G. & W., Trafalgar Works, Palmer-street, Birmingham.
Pyle, H., & Co., 196, Poplar High-st., London, E.
Rennison, J. C., Bondgate, Darlington.
Richardson, R. J., Baskerville-pl., Broad-st., Birmingham.
Roberts, R. H., 15, High-st., Bala.
Roles, Wm., & Sons, Bell-st. & Newton-lane, Romsey & Rumbridge-st., Totton, Hants.
Scanlan, Horace E., Towngate-st., Poole.
Sharman, R. T., 45, Beetwell-st., Chesterfield.
Shaw, G., & Co., Manchester-st., Oldham.
Simpson, J. W., King-st., Margate.
Sloper, C., & Son, 11, 12, 14 & 15, Brittox, Devizes.
Smith, G. W., 15, Middle-street, Brighton.
Smith, W. H., 28, Queen-st., Gravesend.
Smyth Bros., 56, Fore-st., Ipswich.
Spencer, J. T., 25, London-rd., Reading.
Stearn, Alfred, & Son, 21, Upper Brook-st., Ipswich.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stewart, T., & Sons, Ltd., The Cross, Kilmarnock, Scotland.
Swindell, H. C., 144, Tower-rd., Aston, Birmingham.
Taplin, H. C., 105, Clifford-st., Southampton.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.
Taylor, E., Heaton-lane, Stockport, near Manchester.
Taylor & Brawn, 69A, High-st., Bedford.
Taylor, J., & Co., Loughborough.
Temple & Crook, 6, Motcomb-street, Belgrave-square, London, S.W.
Terry, Isaac, 32, High-st., Ayr.
Tucker, W., & Co., 3, High-st., Putney, London, S.W.
Tyack, W. J., & Co., Ltd., Camborne, Cornwall.

Bell Fitters & Contractors—Electric—*continued.*

Vaughan, J. M., 9, Halsbury-rd., Redland, Bristol.
Wadsworth, Russell, 121, Vauxhall Bridge-rd., London, S.W.
Webb, G. S., 148, High-st., & Benhill-st., Sutton, Surrey.
Webb, T., 45, Great Knollys-st., Reading.
Weeks, G., & Sons, High-st., Bromley.
Welby, C. W., Herne Bay, Kent.
Westwood, A., & Son, 30, Bank-st., Dundee; & 21, Princes-st., Perth.
Williams & Co., High-st., Colchester.
Williams, J., & Sons (Cardiff), Ltd., 9–17, Queen-st., & Globe Foundry, Cardiff.
Wills, C., & Sons, Alumhurst-rd., West Bournemouth.
Wilson & Smith, 7 & 8, King William-st., Strand, W.C.; & 7, Manette-st., Soho, W.
WOODWARD, W. R., Beaumont Works, 155A, Boleyn-rd., Forest Gate, London, E.
Wright, T. & F., 12, Cannon-st., Dover.
Wyatt, G., & Son, 67, St. Giles, Oxford.
Zimdars, C. E., 327, Gray's Inn-rd., London, W.C.

Bell Fittings Makers—Electric.

F.—Montage pour Sonneries electr.
G.—Elektr. Klingel Teile—Fabr. von.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGRAMS: "STANDARD.") *See* SCREWS, &c.
Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) *See advt., page* 617.
Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.
Ross & Co., 62, Robertson-st., Glasgow.

Bell Fittings Makers (Electric)—China.

F.—Montage pour Sonneries électr.—Porcelaine.
G.—Elektr. Klingel Teile (Porcelain)—Fabr. von.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.
MACINTYRE, J., & CO., LTD., Washington China Works, Burslem. (Telegrams: "Macintyre, Burslem." Telephone No. 338, Hanley.) *See* PORCELAIN & CHINA FITTINGS.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
TAYLOR, TUNNICLIFF & CO., LTD., manufacturers of SPECIALITIES IN CHINA

SCREWED SWITCH BASES, CEILING ROSES, CUT-OUTS, &c., &c., for ELECTRIC LIGHTING APPARATUS. Also China Roses & Pushes for Electric Bells, &c., Eastwood, Hanley. London Agent, C. M. Bradley, 23, Holborn-viaduct, E.C. (Telegrams: "Eastwood, Hanley.") *See advt., page* 17.

Bell Fittings Makers (Electric)—China—*continued.*

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Bell Founders—Electric.

F.—Sonnettes électriques—Fondeurs de.
G.—Glockengiesser.

Allcock Brothers, 24, 26 & 28, King Edward's-road, Birmingham.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.
Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Bell Manufacturers—Electric.

F.—Sonneries électriques—fab. de.
G.—Elektrische Glocken-Fabrikanten.

Adams, A. R., 67, Newington Causeway, S.E.
ANDERSON, RICHARD, & CO. (successors to Sanderson & Co.), Huddersfield; & Leadenhall House, 101, Leadenhall-street, London, E.C.
Apps, A., 433, Strand, London, W.C.
Archer, W. F., & Sons, 73, Lord-st., Liverpool.
Ashby, Geo. F., 184, King's-rd., Chelsea, S.W.
Bassnett, T., 10, Bath-st., Liverpool.
Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.
BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.
Bhisey Patents Syndicate, 323, Essex-rd., N.
Bilsborough, J., Alderley Edge, Manchester.
Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. No. 1882, Gerrard.) *See advt., page* 617.
Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.
Campbell, Peter, 68, George-st., Perth, Scotland.
Cole, John R., 61, Freeman-st., Great Grimsby, Lincolnshire.
Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.
CROGGON & CO., LTD. (makers), 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.
Day, C. F., 110, High-st., Stoke Newington, London, N.
Dinning & Cooke, 91–95, Percy-st., Newcastle-on-Tyne.
Dodd, F. K., York-st., Broadstairs.

Bell Manufacturers—Electric—*continued.*

Drury Bros., Stock Orchard-st., Holloway, London, N.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Farmiloe, G., & Sons, Ltd., 34, St. John-st., London, E.C.

Foslett, J., 8, Charles-st., Newport, Mon.

France, E., Cannon Passage, Cannon-st., Birmingham.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London; 67, Highbridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 26, Bath-st., Bristol. (Telegs.: "Lodestone, Leicester;" & "Knifeedge, London." Teleph. No. 151, Leicester.) *See advts., pages* 441 *&* 706.

Gill, Alfred, 1, Arthur-st.-west, London, E.C.

Gray, J. W., & Co., 69, Commercial-st., London, E.

Harpur, F. A., & Son, Ballinasloe, Ireland.

Hawkins, Alex., 125–128, London-rd., London, S.E. (Telegrams: "Alexander Hawkins, London." Telephone No. 1202, Hop.)

Hill, E., Reliance Works, Steelhouse-lane, Birmingham.

Hinson & Co., Ltd., 69, 71 & 73, Argyll-st.; & Hinson-st., Birkenhead.

Hounsell, J., & Son, 3, Southover-st., Brighton.

Hutcheson, J., 199, Bath-st., Glasgow.

INTERNATIONAL ELECTRIC CO. (sole depôt of Mix & Genest; H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. *See advt., page* 29.

Izant, Alfred, 6, Lorenzo-st., King's Cross, London, W.C.

Joslins, Ltd., 108, 109 & 145, High-st., & Maidenburgh-st., Colchester; & Corn Market, Ipswich.

Lanaway, R. S., Church-rd., Burgess-hill, R.S.O., Sussex.

Lancashire Watch Co., Ltd., Prescot, Lancs.

Lewis, Joseph, 5 & 6, Great Winchester-st., London, E.C. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.) *See* LIGHTNING CONDUCTORS, *also* WIRE ROPE MANUFACTURERS.

Luck, J. M., Godalming.

McNeil, D., 39, Denmark-hill, London, S.E.

Manchester, C., Eastthorpe-lane, Mirfield, S.O., Yorks.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C.

Bell Manufacturers—Electric—*continued.*

Moores, Martin & Co., 37, Blackfriars-st., Manchester.

Peppercorn Bros., 16–19, Broadway, Deptford, London, S.E.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Porter, George, 31, Lime-st., London, E.C.

Reed, Ch., 65, Cardiff-street, Aberdare.

Rogers, F. W., New-st., Cromer, Norfolk.

Rose, William, & Co., Salford, Manchester.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

STRAUS, G., & CO., LTD., 211, Upper Thames-st., London, E.C. (Telegrams: "Merriness, London." Telephone No. 5645, Bank.)

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Syer, Ernest, 45, Hatton Garden, London, E.C.

Talbot, O., High-st., Mortlake, London, S.W.

Walker, Henry, & Son, Ltd., Gallowgate, Newcastle-on-Tyne.

Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walters, P., & Co., 249 & 251, Kensal-rd., London. (P.O. Telephone No. 653, Western.)

Weller, Thomas, 11, Westhill-road, Brighton.

WESTERN ELECTRIC CO., Bridge-chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Whitney, E., 117, City-road, London, E.C.

Willis, J. E., Flint House, Dunstable.

Winstone & Co., 17, Cross-st., Finsbury, E.C.

WOODWARD, W. R., Beaumont Works, 155A, Boleyn-rd., Forest Gate, London, E.

Wyver, T., & Co., 13, High-st., Whitstable.

Bicycle Lamps—Electric.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

Bitumen & Asphaltic Concrete.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester; & Parliament Mansions, Victoria-st., S.W.

Bitumen & Box Compound.

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegrams: "Trinidite, London." Telephone No. 794, Deptford.)

Bitumen Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Bitumen for Electrical Purposes & Insulating Compounds.

BRADSHAW & CO., bitumen manufacturers, 52, Queen Victoria-st., London, E.C. (Telephone No. 6109, Bank.)

BRITISH ELECTRICAL TRADE SUPPLY & BITUMEN CO., THE. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

Catchpole, E., & Sons, Plough Bridge, Rotherhithe, London, S.E.

Keys, W. H., Hall End Works, West Bromwich.

Blasting Apparatus Makers—Electric.

F.—Appareils pour l'étirage à la poudre.
G.—Elektr. Sprengapparate—Fab. von.

Apps, A., 433, Strand, London, W.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby, for high & low tension fuses. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Electric Blasting Apparatus Co. (makers), Cinderford, R.S.O., Gloucestershire.

Nobel's Explosives Co., Ltd., 195, West George-st., Glasgow; & 220, Winchester House, Old Broad-st., London, E.C.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Watson, J. R., 35, Queen Victoria-st., London, E.C.

Boiler Composition Makers.

F.—Composition pour chaudières.
G.—Kesselstein—Chemikalien für Verhinderung.

Anti-Incrustation Boiler Composition Co., The (J. A. Evans, manager), 150, Leadenhall-st., London, E.C.

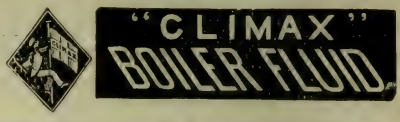
Goodman, C., & Co., Balfour House, Finsbury Pavement, London, E.C.

Hubbuck, T., & Son, Ltd., 24, Lime-st., E.C.; & Hubbuck's-wharf, 44–48, Broad-st., Ratcliffe, E.

Leroy, F., & Co., 11, Gray-st., Commercial-rd., E.

Boiler Composition Makers—*continued.*

SUTCLIFFE BROS., sole makers of the



effectually prevents & removes incrustation in steam boilers—most effective, absolutely harmless. As supplied to H.M. Government, &c. Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. Hyde, 70.) Established 1869.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Boiler Coverings Makers.

Broadbent, J. C., & Co., Ltd., 73, Basinghall-st., London, E.C.; & Redcar & Hazlehead.

Crown Coverings for boilers, piping, &c., in asbestos, magnesia & slag wool encased in

steel sheeting & removable. Over 96 per cent. saving in radiation. Unequalled for superheated steam. Cannot be impaired, however intense the heat. Soles makers: Sutcliffe Bros., Grosvenor Works, Godley, nr. Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

Jones & Horsfield, Denton, nr. Manchester.

Lonsdale Bros., Ltd., Pump-st., Blackburn.

SUTCLIFFE BROS., sole makers of the

unquestionably the most durable & the most profitable covering in use. Cost repaid several times every year. More steam, less wear & tear. Nearly 5000 References. Grosvenor Works, Godley, Manchester. (Telegs. "Sutcliffe Bros., Hyde." Teleph. No. Hyde, 70.) Established 1869.

Boiler Makers.

F.—Chaudières—Fab. de.
G.—Dampfkessel—Fab. von.

Abbott & Co. (Newark), Ltd., Newark-on-Trent.

BABCOCK & WILCOX LTD., Oriel House, 30, Farringdon-st., London, E.C.; 29, St. Vincent-pl., Glasgow; 14, Deansgate, Manchester; & Renfrew. *See advt., page* 6.

Burnet, Lindsay, & Co., Moore Park Boiler Works & Burnet's Siding (goods), Govan, Glasgow. (Telegrams: "Burnet, Glasgow." Telephone Nos. 52, Govan, Corp. & Nat.)

Boiler Makers—*continued.*

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Dalglish, A. & W., Glasgow.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester. (Telegrams: "Paxman, Colchester.") *See advt., page* 527.

Dodman, A., & Co., Ltd., Highgate Foundry, King's Lynn.

Dodsworth, G., Depot-rd. Boiler Works, Middlesborough, York.

FRASER & FRASER, LTD., Bromley-by-Bow, London, E. (Telegrams: "Pressure, London." Telephone No. 66, Eastern.)

Fraser, J., & Son, Ltd., Millwall Boiler Works, Wharf-rd., London, E.

Gimson & Co. (Leicester), Ltd., Vulcan-st., Leicester.

Knap, C., & Co., Ltd., 11, Queen Victoria-st., London, E.C.

Meldrum Bros., Ltd., Timperley, Manchester; & 66, Victoria-st., Westminster, London, S.W.

Musgrave, J., & Sons, Ltd., Globe Iron Works, Bolton, Lancashire.

Olrick, L., & Co., Palmerston House, Bishopsgate-st., London, E.C. SOLE LICENSEES OF THE "FIELD" PATENT BOILERS. (Telegrams: "Olrick, London.")

Penman & Co., Strathclyde-st., Glasgow.

Ransome & Marshall, 67, Tithebarn-st., Liverpool.

Renshaw, W. R., & Co., Ltd., Phœnix Works, Stoke-on-Trent.

Root Steam Boiler Co., 11, Queen Victoria-st., London, E.C.

Rowland, B. R., & Co., Ltd., Reddish, nr. Manchester.

Rushton Bros., Gas-st. Foundry, Bolton.

Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., London, S.E. Patent quick-steaming high-pressure boilers. (Telegrams: "Shand, London.")

Sinclair, G., & Sons, Leith.

Smedley Bros., Ltd., Belper.

STIRLING BOILER CO., LTD., THE, makers of the "STIRLING" WATER TUBE BOILER, Motherwell, Scotland; 25, Victoria-st., Westminster, London, S.W.; 17, St. Ann's-sq., Manchester; 10, East Parade, Leeds; 7 & 8, Post Office-chbrs., Newcastle; & 18, Queen-st., Cardiff. (Telegs.: "Stirlinico," Motherwell, London, Manchester, Leeds, Newcastle, Cardiff.)

Thompson, John, Ettingshall, Wolverhampton; & 49, Queen Victoria-st., London, E.C.

Tinker, Shenton & Co., Ltd., Hyde.

Tinkers, Ltd., Daisy Field Boiler Works, Hyde, Manchester; & 52, Queen Victoria-st., London, E.C. Price & Belsham, agents.

Workington Bridge & Boiler Co., Ltd., Workington.

Boiler & Steam Engine Fittings Manufacturers.

F.—Chaudières et Machines à vapeur—Fab. d'accessoires de.

G.—Teile für Dampfmasch. & Kessel.

Hopkinson, J., & Co., Ltd., Britannia Works, Huddersfield.

Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester.

Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.

Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Bricklane (late 35 & 37, Brick-lane), Whitechapel, London, E.

Payne & Griffiths, Ladywood-rd., Birmingham.

RANKINE PATENT FEED-WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

Steven & Struthers, Anderston Brass Foundry, Glasgow. (Telegs.: "Bronze, Glasgow." Nat. Teleph Nos.: 133, Argyle; Corp., 1775.)

Turnbull, Alex, & Co., Ltd., Bishopbriggs, Glasgow.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Winn, Chas., & Co., St. Thomas Works, Birmingham.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Ecrous, vis—Fabr. de.

G.—Bolzen, Schrauben, Muttern—Fabr. von.

ARMSTRONG, STEVENS & SON, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGRAMS: "STANDARD.")

Barwells, Ltd., Brookfield-rd., & 28, Pickford-st., Birmingham; & 118, Cannon-st., London, E.C.

DAVIS & TIMMINS, LTD., York-rd., King's Cross, N.; & Wood Green, N. (Telegrams: "Conductivity, London.") *See advt., page* 679.

Gadd, Thomas, Ross Rivet Works, Rowley Regis, nr. Birmingham.

Guest, Keen & Nettlefolds, Ltd., London Works, nr. Birmingham.

Kirby Bank Screw Co., Ltd., Meadow-lane, Leeds.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

Bolts, Screws, Nuts, &c.—Makers of— *continued.*

Simpson, James, & Sons, Darlaston, Staffs.
Turner Bros., 134, Upper Thames-st., London, E.C. Bright Hexagon nuts, set screws a speciality.

Boosters.

F.—Survolteurs.
G.—Zusatzdynamo.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicesterhire. *See* ALPHABETICAL.
Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page 404 & inside back cover.*
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

Boxes for Accumulators.

(*See* ACCUMULATOR BOXES.)

Brackets & Pendants.

(*See* ELECTROLIERS.)

Braiding Machines for Covering Wire.

F.—Machines à soutacher.
G.—Wirkerstühle zum Bespinnen von Drähten.

Glover, W. T., & Co., "Trafford Park, Manchester. (Telegs.: "...les, Manchester." Teleph. 1187.) London ...ce: Parliament Mansions, Victoria-st., S.W. ALPHABETICAL.
High Speed Braiding Machine ..., Ltd., The. London office: Christie & Co., ..., Upper Thames-st., E.C.
Johnson & Phillips, Ltd., Victoria Works, ...harlton, S.O., Kent; & 14, Union-ct., Old Bro...st., E.C. *See advts., page 404 & inside back cove.*
LARMUTH, T., & CO., Salford, Manchester.
SELIG, SONNENTHAL & CO., 85, Que... Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page 628.*

Brass & Iron Drawn Rods for Screws, Terminals & Electrical Parts.

F.—Laiton et Fer étirer pour vis bornes et autres ustensiles électriques.
G.—Messing & Eisengezogene Stangen für Schrauben, Klemmen & elektrischen Teile.

Bates, Joseph & Edward, & Sons, Ltd., Temple-st., Wolverhampton.
Booth, James, & Co., Ltd., Sheepcote-st. Tube & Rolling Mills, Birmingham.

Brass & Iron Drawn Rods for Screws, Terminals & Electrical Parts—*continued.*

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Delta Metal Co., Ltd. (sole makers of "DIX-TRUDO" HIGH-SPEED BRASS TURNING & SCREWING RODS). Head offices & works: East Greenwich, London, S.E. Branch works: Birmingham.

LANDER & LARSSON, 164, Edmund-st., Birmingham. (Telegrams: "Lander, Birmingham." Telephone No. 676.) A large & well-assorted stock kept. *See advt.* BELOW.

Rollet, H., & Co., 12 & 13, Coldbath-sq., Rosebery-ave., London, E.C.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 736.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Brass Founders, Finishers & Manufacturers to the Electrical Trades.

F.—Fond. et Fab. de laiton pour l'électricité.
G.—Messing Giesser & Fab.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Bolding, J., & Sons, Ltd., Grosvenor Works, Davies-st., Berkeley-sq., London, W.

Bowen & Co., 6, Mount-pleasant, Gray's Inn-rd., London, W.C.

Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.

Chew, James, & Co., Brookhouse Brass & Copper Works & Albion Works, Blackburn. (Telegs.: "Chew, Blackburn." Telephone No. 163.)

Clark, Bunnett & Co., Ltd., New Cross-rd., London, S.E.

Foster, E., & Son, Ltd., Central Brass Works, Halifax.

Brass Founders, Finishers & Manufacturers to the Electrical Trades—*contd.*

Harris, A. E., & Co., die sinkers, press tool makers, stampings from iron, steel, brass, zinc, G.S., & aluminium, to sketch or sample, for patentees & electricians, 95, Camden-st., Birmingham.

Jones & Foster, 39, Bloomsbury-st., Birmingham.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)

Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester.

Lister, T., & Co., Brassfounders, Ltd., Brighouse, Yorks.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); Corp. 101 & 2.)

Martineau, Beames & Madeley, Ltd., Holloway Head, Birmingham.

Mills, John, & Sons, Walker Gate Brass Works, Newcastle.

Probert, W., & Son, Boulton Works, South-rd., Hockley, Birmingham.

Reid & Co., 108, High-st., Ayr, N.B.

Rolland, M'Kirdy & Co., 22, St. James-sq., & 7 & 9, Elder-st., Edinburgh.

Smith, J., & Co. (Derby), Ltd., Cotton-lane, Derby.

West, J., 157 & 159, Back Church-lane, London, E.

Wilkinson, P., & Sons, Tottenham-mews Foundry, nr. Tottenham-court-rd., London, W.

Yuille, Wm. C., & Co., 60, Brown-st., Glasgow.

Brass Merchants.

F.—Marchands—Laiton.
G.—Händler von Messing.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGRAMS: "STANDARD.")

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Telegrams: "LANDER, BIRMINGHAM." Codes: A.B.C. 4th & 5th Editions, Lieber's & Private. Telephone No. 676.

Brass Merchants—*continued.*

Espir, Fernand, 2 & 3, East India-avenue, London, E.C. Speciality of French screw brass rodding. *See advts., pages* 654 *&* 736.

LANDER & LARSSON, 164, Edmund-st., Birmingham. (Telegrams: "Lander, Birmingham." Telephone No. 676.) *See advt., page* 425.

Bronzers—Electro.

F.—Electro Bronzeurs.
G.—Electro Bronzierer.

Leefe, F. E., 364, Goswell-rd., London, E.C. (Telegs.: "Leefregel, London." Teleph. No. 1926, Central.)

Sturtevant & Co., Ltd., St. John's Works, 90 & 92, Clerkenwell-rd., London, E.C. (Removing March 31, 1907, to 105–111, Euston-st., N.W.) *See advt., page* 29.

Brush Makers.

(*See* DYNAMO BRUSH MANUFACTURERS.)

Cabinet Work—Electrical.

(*See also* CASE MAKERS.)

F.—Ebénisterie électr.
G.—Elektr. Holzarbeiter.

Bond Bros., 16 & 21, Sunbury Workshops, Calvert-ave., Shoreditch, E.C.

Brown & Co., 73–85, McAlpine-st., Glasgow.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Guy & Co., 38 & 40, Bridlesmith Gate, Nottingham.

Hodges, Cecil, & Co., Balfour House, Finsbury Pavement, London, E.C.

Middlemiss, W., Nesfield-st., Bradford.

Moore Bros., 8, Powell-st., Goswell-rd., E.C.

Nottingham Camera Co., Bridlesmith Gate, Nottingham.

Richardson & Co., Nelson-st., Stretford-rd., Manchester. (Telegrams: "Fuses, Manchester." Telephone No. 25 X., Manchester.)

Cable Bridges, Asphalt.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester; & Parliament Mansions, Victoria-st., S.W.

Cable Cos.

(*See* TELEGRAPH & CABLE COS.)

Cable Drum Carriage Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Cable Jointing Material—Makers of.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Cable Joints.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Cable Machinery (Electric)—Makers of.

F.—Cables électr.—Fab. de Machines pour.
G.—Elektr. Kabel Maschinen—Fab. von.

Brand, E., 35, Shakespeare-st., Manchester.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Cable Manufacturers.

F.—Cables—Fab. de.
G.—Kabel-Fabrikanten.

Anchor Cable Co., Ltd., Leigh, Lancs.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt.* OPPOSITE.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

De Grelle, Houdret & Co., 130, London Wall, E.C.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Depts.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

FELTEN & GUILLEAUME LAHMEYERWERKE ACT. GES., Mülheim am Rhein.

Frankenburg, I., & Sons, Ltd., Greengate Rubber & Cable Works, Salford, Manchester.

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COTTON-COVERED WIRE,

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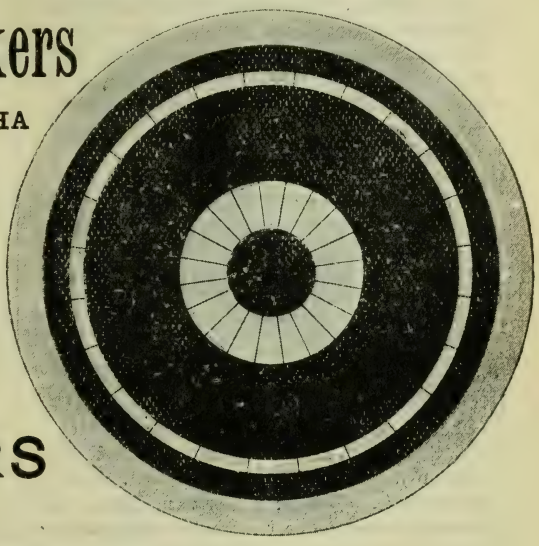

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Cable Manufacturers—*continued.*

Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Hannams, Ltd., Peninsular House, Monument-st., London, E.C.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD., Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Cable Manufacturers—*continued.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. VULCANIZED BITUMEN FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. Sole agent for Kabelfabrik Actien-Gesellschaft, Vienna-Austria & Pressburg-Hungary. Large London stock.

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. page facing inside back cover.*

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C.

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

Moores, Martin & Co., 37, Blackfriars-st., Manchester.

National Conduit & Cable Co., Ltd., 1, 2 & 3, Oxford-ct., Cannon-st., London, E.C.

Nussbaum, G. A., C.E., 29, Ludgate Hill, London, E.C.

O'Gorman & Cozens-Hardy (experts to), 82, Victoria-st., Westminster, S.W.

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DOULTON TROUGHS FOR "SOLID SYSTEM" CABLES.
DOULTON CONDUITS FOR "DRAWN-IN" CABLES.

DOULTON & CO., Limited, Lambeth, London, S.E.

Cable Manufacturers—*continued.*

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Actien Gesellschaft, Rheydt, nr. Dusseldorf. *See advt., page* 9.

ST. HELENS CABLE & RUBBER CO., LTD. (electric light), Warrington (Telegrams: "Dialite, Warrington." Telephone Nos. 202 & 228); & 32, Victoria-st., London, S.W. *See advt., page* 430.

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Broadway, Westminster, London, S.W. Telegraph Submarine Cables.

Smith, H. W., & Co., Lydbrook, Gloucestershire.

UNION CABLE CO., LTD., THE, Eagle Wharf-rd., London, N. *See advt., page* 4.

Cable Manufacturers—*continued.*

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 727.

WESTERN ELECTRIC CO., Bridge-chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts.* BELOW & TELEPHONE APPARATUS MAKERS.

Cable Manufacturers—Electric Light.

F.—Fil ou cable electrique—Fab. de.
G.—Kabel für Elektrisches Licht.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; & 114, Warrington.)

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Cable Manufacturers—Electric Light— *continued.*

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegrams: "Rapidolite, London." Telephone Nos. 3463 & 4, Gerrard.)

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt.* OPPOSITE.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Donovan & Co., 12, Barwick-st., Birmingham.

Cable Manufacturers—Electric Light— *continued.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein.

Garnett's, W. T., Cable Co., Barkerend Mills, Bradford.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.

Geoffroy & Delore (London manager, A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

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VICTORIA EMBANKMENT, E.C.
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Telephone No. 1911, Holborn.

WORKS:
BELVEDERE, KENT.
Telegrams:
"CALLENDER'S WORKS, BELVEDERE STATION."
Telephone No. 11, Woolwich.

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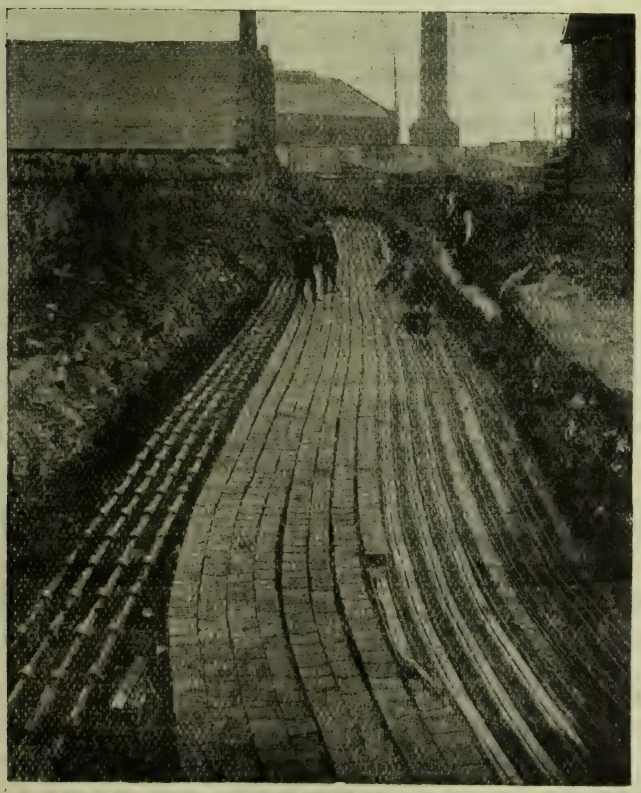

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For telegraphic addresses & telephone numbers, see Alphabetical Section.

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MIDDLESBOROUGH.—31, Albert Road . . . „ 327.
BELFAST.—125, Great Victoria Street . . . „ 884.

Cable Manufacturers—Electric Light— *continued.*

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD., Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt.* BELOW.

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. Sole agent for Kabelfabrik Actien-Gesellschaft, Vienna-Austria & Pressburg-Hungary. Large London stock.

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt.* ABOVE.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Cable Manufacturers—Electric Light— *continued.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See* WIRE COVERERS—SILK.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Teleph. No. 18.) *See advt. facing title page.*

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

STRAUS, G., & CO., LTD., 211, Upper Thames-st., London, E.C. Agents for Dr. Cassirer & Co.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

JOHNSTONE, BENJAMIN & CO., LTD.,

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Cable Manufacturers—Electric Light—*continued.*

UNION CABLE CO., LTD., Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 727.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969 & 1970, Trunk line.) *See advt., page* 742.

Cable Manufacturers' Sundries—Mkrs.

F.—Spécialités pour Fab. de Cables.
G.—Specialitäten für Kabel-Fabrikanten.

Anderton & Halstead, Ltd., Albert Mill, & Ewood Bridge Mill, Haslingden.

Bole Hall Mill Co., Tamworth.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London offices: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Leech & Sinkinson, Ltd., Leeds.

Rawlinson, S., & Sons, Audley Range & Baker-st., Blackburn.

Cable Net-work Boxes.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Cable Suspenders (Electric)—Makers of.

Brunton, W. N., & Son, Musselburgh, Scotland.

Cable Wire Manufacturers.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Cables—Fire-resisting.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Calorimeters.

Wright, Alex., & Co., Ltd., 1, Westminster Palace-gdns., Westminster, S.W. Makers of the Roland Wild Calorimeter, the Lewis-Thompson & Bomb Calorimeters, for solid fuels, & the Simmance-Abady & Boys' Calorimeters for gas & oils.

Capstans—Electric.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) "H.P." direct acting & geared capstans, continuous current, single- & three-phase. Over 500 in daily use.

ROYCE, LTD. (also winches, boat-hoists, &c.), Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

Carbide of Calcium Manufacturers.

Dargue Acetylene Gas Co., Ltd., Newcastle-on-Tyne.

National Carbide Co., Ltd., 11, Queen Victoria-st., E.C.

Carbon Brushes—Makers of.

F.—Balais de charbons.
G.—Kohlen-Bürsten.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Geipel & Lange, Vulcan Works, 72A, St. Thomas'-st., S.E. Sole agents for Fabius Henrion of Nancy, France. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.

Heap & Iohnson, 27, Hatton Garden, E.C. (Telegs.: "Unisonally, London.")

Le Carbone (late Lacombe & Cie.). Special carbons for dynamo & motor brushes. Write for descriptive list. Works: (Levallois-Perret, Paris); 17, Water-lane, London, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *&* 470.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C.

MORGAN CRUCIBLE CO., LTD., sole manufacturers of "MORGANITE" Brushes, Dash-pot Plungers & Bearings, & "BATTERSEA" Carbon Brushes, Battersea Works, Church-rd., Battersea, London, S.W. (Telegs.: "Crucible, London." Teleph. Nos.: Nat. 2, Battersea; & P.O. 1034, Western.)

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

Carbon Makers & Suppliers.

F.—Charbons électr.—Fab. et March. de.

G.—Kohlen—Fab. und Lief. von.

Aitken, M. A., & Son, Mitcham, Surrey.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegs.: "Altisonant, London.")

Bailey, S. G., & Co., Ltd., Stafford Mills, Stroud, Gloucester. London office: 9, Moorgate-ct., E.C.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Birmingham Carbon Works, Witton, Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Carbon Makers & Suppliers—*continued.*

Compagnie Française de Charbons pour l'Electricité, 13, Idol-lane, E.C.

Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Best quality carbons supplied from stock at lowest prices, for arc lamps & electrolytic purposes. Prices & discounts on application. *See advt. inside front cover.*

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De Grelle, Houdret & Co., London Wall, E.C.

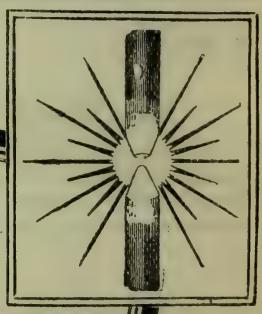
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegrams: "Persistent, Liverpool." Telephone No. 872.) *See advt., page* 630.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 *&* 633.

Gaster, Leon, 32, Victoria-st., Westminster, S.W. (Telegrams: "Gaster, London." Telephone No. 5215, Westminster.) (Acheson graphite electrodes supplier.)

Geipel & Lange, Vulcan Works, 72A, St. Thomas'-st., S.E. Sole agents for Fabius Henrion of Nancy, France. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.



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General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts.*, OPPOSITE *& pages* 448, 641 *&* 708.

Gifkins, A. V., & Co., 68, Victoria-st., London, S.W.

Hulbert, F. (cutter), Milford Works, Queen's-rd., Battersea, S.W.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Jandus Arc Lamp & Electric Co., Ltd., 66, Victoria-st., London, S.W.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Le Carbone (Works: "Levallois-Perret, Paris"), 17, Water-lane, London, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *&* 470.

Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Schiff & Co., 67, Aldersgate-st., E.C.

Schölzig, Oscar (agent), 9, New Broad-st., London, E.C.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Sirius-Werke Electrical Carbon Mfg. Co., 6, Henrietta-st., Covent Garden, W.C.

Sloan Electrical Co., Ltd., 15 & 11, Fore-st.-ave., London, E.C.

TUCHMAN, H., 2, DYER'S-BLDGS., HOLBORN, LONDON, E.C. (TELEPH. NO. 9706. CENTRAL.)

UNION ELECTRIC CO., LTD., Park-st., Southwark, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Carbon Rods & Battery Plates Manufacturers.

F.—Verges à charb. et plaques à pile—Fab de.
G.—Kohlenstange und Batterie Platten—Fabr. von.

Apps, A., 433, Strand, London, W.C.

Carbon Rods & Battery Plates Manufacturers—*continued.*

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ATLAS CARBON & BATTERY CO., LTD., 19, EWER-ST., LONDON, S.E. (Telegrams: "Altisonant, London.")

Leclanché Cells.
"Dania" Dry Cells.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

English Electric Carbon Co., Ltd., Carbon Works, Smelt, Brymbo, nr. Wrexham.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. *See advts., pages* 654 *&* 737.

Geipel & Lange, Vulcan Works, 72A, St. Thomas'-st., S.E. Sole agents for Fabius Henrion of Nancy, France. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts.* OPPOSITE *& pages* 448, 641 *&* 708.

Hancock & Clarke (cutters), 12 & 12A, Richmond-pl., New-rd., Wandsworth-rd., London, S.W.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

INTERNATIONAL ELECTRIC CO. (H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. Manufacturers of the "Electra" electric light carbons for enclosed & alternate current arc lamps. "Orieco" for direct current. *See advt., page* 29.

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Carbon Rods & Battery Plates Manufacturers—*continued.*

LE CARBONE (formerly Lacombe & Co.), manufacturers of carbons for dynamo & motor brushes, batteries, telephones, &c. (Works: Levallois-Perret, Paris); 17, Water-lane, E.C. (Telegs.: "Lacombe, London.") *See advts., pages* 469 *&* 470.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

Case Makers—For Telegraph, Telephone & Electrical Instruments.

F.—Etuis pour instruments télég., téléph. et élec.—Fabr. de.

G.—Kasten Fabr. für Teleg., Teleph. & Elek. Instrumenten.

Beech, George, 69, Dalston-lane, London, E.

HARRIS, J. F. & G. Offices & mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria-wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

Lambert, R., Mansfield Road Cabinet Works, Oak-lane, Bradford.

Palmer, T., 15, Acanthus-rd., London, S.W.

Richardson & Co., Nelson-st., Stretford-rd., Manchester. (Telegrams: "Fuses, Manchester." Telephone No. 25x, Manchester.)

Tight, Charles, 12, Percival-st., London, E.C.

Case Makers—For Telegraph, Telephone & Electrical Instruments—*continued.*

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Casings.

(*See also* WOOD CASINGS & CLEATS FOR WIRES.)

ADDINGTON TIMBER, SLATE & CEMENT CO., LTD., Cold Blow-rd., Brocklehurst-st., Hatcham, London, S.E.

Vigers Bros., 67, King William-st., London, E.C. (Telegrams: "Vigentes, London." Telephone Nos.: 601 & 602, Avenue; & 311, P.O. Central.) *See advt.* BELOW.

VIGERS SONS & CO., Eagle Wharf & Mills, High-st., Peckham. (Telegs.: "Thickly, London." Teleph. No. 332, Hop.) Branches at Walham Green, Sloane-sq. & Poland-st., W.

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G.—Giessereien für Dynamos.

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Bellow & Son, Leominster.

Blair, Campbell & McLean, Ltd., Woodville-st., Govan, Glasgow.

Carron Co., Carron, Stirlingshire, N.B.

Crofts, Alfred, Church-st., Dover.

Crowley, John, & Co., Ltd., Meadow Hall Iron Works, Sheffield.

Dalman, J. C., & Sons, River-st., Birmingham.

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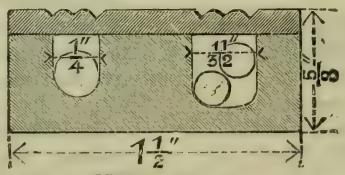

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Grooves	3/16"	7/32"	1/4"	1/4" & 11/32"	5/16"	7/16"	1/2"	5/8"	3/4"	1"
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Castings for Dynamos, &c.—*continued.*

Diamond Castings Co., Falkirk.

Dronfield Malleable Casting Co., Dronfield, nr. Sheffield. (Telegs.: "Casting Co., Dronfield.")

Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.

FALKIRK IRON CO., 67, Upper Thames-st., London, E.C. Works: Falkirk, N.B.

Gameson, T., & Sons, Ltd., Britannia Foundry, Rushall-st., Walsall.

Hadfield's Steel Foundry Co., Ltd., makers of steel castings of high permeability for dynamos, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Holcroft, Thomas, & Sons, Ltd., Ettingshall Foundry, Wolverhampton.

Martin & Co., Albion Works, East-rd., West Ham, London, E.

Norman & Young, Ltd., 83, Bishopsgate-st. Without, E.C.

Northgate Ironworks Co., Bury St. Edmunds, Suffolk.

Osborn, S., & Co., Ltd., Clyde Steel Works, Sheffield.

Rennies' Steel Casting Co., Tollcross, Glasgow.

Rogerson, John, & Co., Ltd., Stanners Closes Steel Works, Wolsingham R.S.O., co. Durham.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Spencer, John, & Sons, Newburn Steel Works, Newcastle-on-Tyne.

Wallwork, Henry, & Co., Ltd., Roger-st., & Charter-st., Manchester.

Wilkinson, P., & Sons, Tottenham Mews Foundry, nr. Tottenham Court-rd., London, W.

Castings for Electrical Purposes.

NOAKES, THOS., & SONS, LTD., 4 & 5, Osborn-pl., Brick-lane (late 35 & 37, Brick-lane), Whitechapel, London, E.

Symmons, Syd. H., representing Wm. Cottis & Sons, Ltd., 10, Great St. Helen's, London, E.C.

Ceiling Rose Manufacturers.

F.—Rosaces pour plafonds—Fabr. de.
G.—Decken-Rosetten Fabr.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BERRY, SKINNER & CO. (& counter-weights), 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bullers, Ltd. (porcelain). London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

Ceiling Rose Manufacturers—*continued.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

MACINTYRE, J., & CO., LTD., Washington China Works, Burslem. (Telegrams: "Macintyre, Burslem." Telephone No. 338, Hanley.)

See PORCELAIN & CHINA FITTINGS MAKERS.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Rhenish Rubber & Celluloid Co., Ltd., 38, Basinghall-st., London, E.C.

Central Stations.

See ELECTRICITY WORKS.

Central Station Supplies.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Central Station Volt & Ammeters.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.

Charcoal Suppliers.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegrams: "Persistent, Liverpool." Telephone No. 872.) *See advt., page* 630.

Chemical Glass & Apparatus Manufacturers.

F.—Verrerie et appareils de Chimie.
G.—Chemisches Glas & Apparate—Fab.

Brewster, Smith & Co., 6, Cross-st., Finsbury, London, E.C.
Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)
Hart, F. W., Holly House, 96, Stoke Newington-road, London, N.
Schölzig, Oscar (agent), 9, New Broad-st., London, E.C.
Stiff, J., & Sons, London Pottery, Lambeth, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

Chemical Manufacturers.

F.—Fab. de Produits chimiques.
G.—Chemikalien—Fabriken.

Allen, F., & Sons, Phœnix Chemical Works, 164, Upper North-street, Poplar, London, E.
Baird & Tatlock, 45, Renfrew-st., Glasgow.
Berk, F. W., & Co., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, London, E. (Telegrams: "Berk, London." A.B.C. Code. Telephone No. 4013, Avenue.) Chloride of Ammonia, large & small crystals, Persulphate of Mercury, Bichromate of Potash, &c. *See advt., page* 389.
Boor, G., & Co., 21, Mincing-lane, London, E.C.
Bryce & Rumpff (agents), 58, Fountain-st., Manchester.
Cardiff Alkali Co., Ltd., Cardiff. (Telegrams: "Ammonia, Cardiff." Nat. Telephone No. 767.) SPECIALITY: CRUSHED SALAMMONIAC CRYSTALS FOR LECLANCHÉ BATTERIES.
Chapman, Spencer, & Messel, Ltd., 36, Mark-lane, E.C.; & Silvertown, E.
Coignet & Co., 150, Fenchurch-st., London, E.C.
Duckham, Alex., & Co., Ltd., Phœnix Wharf, Millwall, E.
Earp, W. R., & Co., Halton-rd., Runcorn.
EVERITT & CO. (Manganese, Carbon, &c.), 40, Chapel-st., Liverpool. (Telegrams: "Persistent, Liverpool." Telephone No. 872.) *See advt., page* 630.
Garroway, R. & T., 58, Buchanan-st., Glasgow.
Glasgow Alum & Ammonia Co., Ltd., 401, West-street, S.S., Glasgow.
Gould, T., Chestergate, Stockport.
Hardman, Josiah, Milton, Staffordshire.
Harris, P., & Co., Ltd., 144, St. Edmund-st., Birmingham; & 179, St. Brunswick-st., Dublin.
Hope, A., Junr., & Co., Anchor Chemical Works, Provanmill, Glasgow.
Howards & Sons, Ltd., 74, Stratford High-st., London, E.; & Uphall Works, Ilford, Essex.
Hurlet & Campsie Alum Co., 115, Wellington-street, Glasgow.

Chemical Manufacturers—*continued.*

Hyde, J., High-street, Wednesfield.
Irvine Chemical Co., Ltd., 204, St. Vincent-street, Glasgow.
Johnson & Hooper, Stratford, London, E.
JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, E.C.
Johnson & Sons, Manufacturing Chemists, Ltd., 23, Cross-st., Finsbury, London, E.C.
Jutson & Sons, Liverpool-st., Birmingham.
Kendall, J. A., Lonesome Chemical Works, Streatham Common, London, S.W.
Marion & Co., Ltd., 22 & 23, Soho-sq., London, W.
Mawson & Swan, 11, 13 & 15, Mosley-st., Newcastle-on-Tyne.
May & Baker, Ltd., Garden Wharf, Battersea, S.W.
Miller, J., Son & Co., 79, West Nile-street, Glasgow.
Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)
Polglase & Co., Tyne Vale Chemical Works, Skinnerburn-rd., Forth Banks, Newcastle-on-Tyne.
Poynter, John, Son, & Macdonald, 72, Gt. Clyde-st., Glasgow.
Richardson, John, & Co. (Leicester), Ltd., Friar-lane, Leicester.
Robinson, J., & Co., Ltd., Huddersfield.
Royse, S. W., & Co., 20, Albert-sq., Manchester.
Sadler & Co., Ltd., Cleveland Chemical Works, Middlesbrough.
Sharon Chemical Co., Ltd., Little Chester, Derby.
Shorthouse, J., & Sons, 48, Great Charles-st., Birmingham.
Tennants & Co., 49, Faulkner-st., Manchester.
Typke & King, Ltd., 16, Mincing-lane, London, E.C.
Wallace, Hugh, & Co., Ltd., 5, Fenchurch-st., London, E.C.; & at Palace Wharf, Nine Elms, London, S.W.
Washington Chemical Co., Ltd., Washington, County Durham.
Williamson, J. H., Golden-hill, Stoke-on-Trent.
Wright, Layman & Umney, 50, Southwark-st., London, S.E.

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F.—Marchands—produits chemiques.
G.—Händler in Chemikalien.

Canning, W., & Co., electroplaters' chemicals, 133–137, Great Hampton-st., 5 & 6, Great Hampton-row, 1 & 2, Kenyon-st., & 88, Snow Hill, Birmingham.
Fuerst Bros., 17, Philpot-lane, London, E.C.
James, John, & Son, 21, Lime-street, London, E.C.
Jones, T. H., Invicta Mills, Bow Common-lane, London, E.
Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

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Poths, H., & Co. (importers), 4, 5 & 6, Bury-ct., St. Mary Axe, London, E.C.
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Sharon Chemical Co., Ltd., Little Chester, Derby.
Spencer & Watson, Ward's-bldgs., High Bridge, Newcastle-on-Tyne.
Zimmermann, A. & M., 3, Lloyd's-ave., London, E.C.

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F.—Chimistes Analytiques.
G.—Chemiker—Analytiker.

Aspinall, Wm. L., Chemical Laboratory, Cowper-st., E.C.; & 3, Savage-gdns., E.C.
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Gerland, Dr. B. W., PH.D., Plantation-st., Accrington.
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Proctor, William Wilson, F.I.C., 33 & 35, Side, Newcastle-on-Tyne.
Redwood & de Hailes, 15, Red Lion-sq., London, W.C.
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F.—Chimistes—consultants.
G.—Chemiker—Beratende.

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Japp, F. R., LL.D., F.R.S., The University, Aberdeen, N.B.
Liveing, G. D., M.A., F.R.S., Professor of Chemistry, University of Cambridge.
Meldola, Raphael, F.R.S., F.R.A.S., F.C.S., F.I.C., 6, Brunswick-square, London, W.C.
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Thomson, W., Royal Institution Laboratory, 79A, Princess-st., Manchester.
Threlfall, R., M.I.E.E., 30, George-rd., Birmingham.
Warren, H. N., & Co., 131, St. Domingo-rd., Liverpool.

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F.—Electro-Chimistes.
G.—Elektro-Chemiker.

Allan, Colby Tielke, Portobello House, Wakefield.
Allen & Hanburys, Ltd., Three Colt-la., Bethnal Green Junction, E., Plough-ct., 37, Lombard-st., E.C.; & 7, Vere-st., Cavendish-sq., W., London.
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Hutton, R. S., D.SC., A.I.E.E., Electro-Chemical Laboratory, The University, Manchester.

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KERSHAW, J. B. C., 2, Queen Anne's Gate, Westminster, London, S.W.; & West Lancashire Laboratory, Waterloo, Liverpool.

Le Carbone (formerly Lacombe & Co.) (Electrodes & Crucibles for). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *&* 470.

Maccallum, J. Malcolm, 43, Union-st., Greenock.

Oxychlorides, Ltd., Winchester House, Old Broad-st., S.E.

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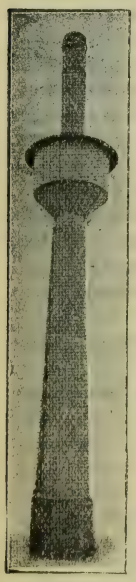

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Circuit Breakers—*continued.*

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Smith & Sons, 18, 22, 23 & 24, St. John's-sq., E.C.

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Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & 2, Collindale Works, Hendon, London, N.W. *See advt., page* 633.

Gent & Co., Ltd., electric impulse clocks, Faraday Works, Leicester; 3A, Upper Thames-st., London; 67, High Bridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 26, Bath-st., Bristol. (Telegs.: "Lodestone, Leicester;" & "Knifeedge, London." Teleph. No. 151, Leicester.) *See advts.,* OPPOSITE *& page* 706.

Lowne Electric Clock & Appliances Co., Ltd., Ravenscroft, 108, Bromley-rd., Catford, S.E.

Magneta Co., The, Winchester House, Old Broad-st., London, E.C.

Self-Winding Electric Clock Co., 113, Cheapside, E.C.

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Bagshaw, J., & Sons, Ltd., Victoria Foundry, Batley, Yorkshire.
Bridge, D., & Co., Castleton Iron Works, Castleton, Manchester.
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MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Watson, Laidlaw & Co., Dundas-street, South Glasgow.

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Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.
Neville Bros., 7 & 9, James-st., Liverpool. (Telegrams: "Neville, Liverpool." Telephone No. 7159.)

Coil Winders.

F.—Bobines—Fab. de.
G.—Spulen Winder.

Roche, J. J., & Co., 83, Queen Victoria-st., London, E.C.
Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Coils—Medical & Intensity.

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Apps, A., 433, Strand, London, W.C.
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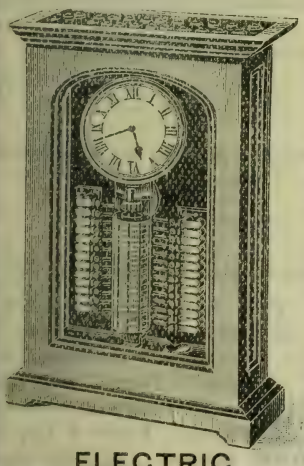

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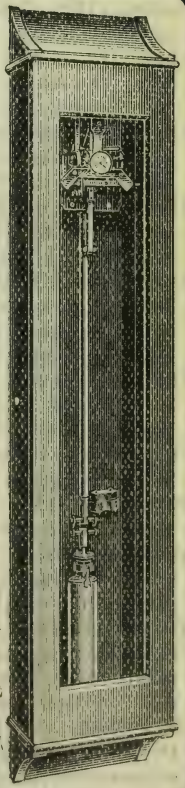

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ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

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Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. *See advt., page* 9.

Colliery Cable Makers.

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By Royal Warrant to H.M. the King.

See advts., page 694 *& on lower outside edges.*

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Commutator Bars & Segments.

F.—Segments de Commutateurs.
G.—Commutator Segmenten.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes (Registered Offices) (Telegrams: "Rolls, Widnes"); Oakamoor, North Staffs. (Telegrams: "Bolton, Oakamoor"); Broad-st. Metal Works, Birmingham (Telegs.: "Boltons, Birmingham"); & 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Wire-drawn, London." Teleph. No. 632, Central.) Also Drop Forged Commutator Bars.

Booth, James, & Co., Ltd., Sheepcote-st. Tube & Rolling Mills, Birmingham.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Dyer & Young, Stanstead, Essex.

Forest City Electric Co., 13, Cornbrook-rd., Chester-rd., Manchester. (Telegs.: "Rolldrop, Manchester.")

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Commutator Grinders.

Phillips Commutator Grinder Co., Ltd., 95, Cannon-st., London, E.C. (Patentees & manufacturers.)

Compass Cap Makers.

F.—Boussoles—couvert. pour.
G.—Kompass Kappen—Fab. von.

WOODS, T. G., & SONS, 54, Spencer-st., Clerkenwell, E.C. (Telegrams: "Monomial, London." Telephone No. 11729, Central.) *See advt., page* 559.

Compass Makers.

F.—Boussoles—Fab. de.
G.—Kompasse—Fab. von.

Castle & Co., English-st., Hull.

Willmott, J. W., Iddesleigh Villa, Runnemede-st., Egham.

Concentric Flexibles & Cables.

F.—Flexibles concentriques et Cables.
G.—Concentrischen & Biegsamer Kabeln.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Condensers—Makers of.

F.—Condensateurs—Fabr. de.
G.—Condensatoren Fabr.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.

BERTRAMS, LTD., St. Katherine's Works, Sciennes, Edinburgh. General mechanical plant for electrical power stations.

Concentric Condensers, Ltd., 22, Henrietta-st., W.C.

EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.

Glasgow Patents Co., Ltd., 94, Hope-st.; Wellington Works, Kinning Park, Glasgow.

Korting Bros., Ltd., 53, Victoria-st., London, S.W.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Mirrlees Watson Co., Ltd. Head office & works: Scotland-st., Glasgow. London office: 139, Gresham House, Old Broad-st., E.C.

PULSOMETER ENGINEERING CO., LTD., Nine Elms Iron Works, Reading, Berks. London office: 61 & 63, Queen Victoria-st., E.C. *See advt., page* 720.

RANKINE PATENT FEED WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

Condensers (Electric)—Makers of.

Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, S.W.

Walters, P., & Co., 249 & 251, Kensal-rd., W. (P.O. Telephone No. 653, Western.)

Conduit Experts.

BARKER, JOHN, & CO., LTD., 52–60, Kensington High-st., W.

CONDUITS & FITTINGS, LTD., manufacturers of "Conrex" system of electrical conduits, Conduitrex Works, Salusbury-rd., West Kilburn, London, N.W. (Telegs.: "Mabercon, London." Teleph. No. 1560, Paddington.) *See advt., page* 449.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st.; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; 165A, West George-st., Glasgow; & 11, Queen Victoria-st., London, E.C. *See inset advt., pages* 445 & 446.

Conduit Systems of House Wiring.

F.—Systèmes conduites de fil élec.—Fab. de.
G.—Draht Leitung für Haüser—Systeme.

ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; & 114, Warrington.)

BARKER, JOHN, & CO., LTD., 52-60, Kensington High-st., W.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Brotherton, John, Wolverhampton.

CONDUIT & INSULATION CO., LTD. Conduit Works: Summers Town, S.W. (Telegrams: "Conduits, London.") *Makers of Insulating Conduit for improved Electric Wiring.*

CONDUITS & FITTINGS, LTD., manufacturers of CONREX electrical steel conduits & patent fittings, "Conrex" tube bender, &c., Conduitrex Works, Salusbury-rd., Kilburn, London, N.W. (Telegs.: "Mabercon, London." Teleph. No. 1560, Paddington.) *See advt., page* 449.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Griffiths, Isaac, & Sons, Imperial Tube Works, Wednesbury.

Land, T., & Son, 73, Robertson-st., Glasgow.

Moores, Martin & Co., 35 & 37, Blackfriars-st., Manchester.

NEW BROTHERTON TUBE CO., LTD., THE, Excelsior Works, Commercial-rd., Wolverhampton. *See* ALPHABETICAL.

Oldbury Steel Conduits, Ltd., Birchfield-lane, Oldbury.

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless steel conduits. *See advt., page* 447.

Conduit Systems of House Wiring—*continued.*

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 120, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See inset advt.* OPPOSITE.

Steel Conduit Co., Ltd., Conduit Works, Witton, Birmingham.

Conduits (Underground) & Culverts.

F.—Conduites Sousterraines—Fab. de.
G.—Untererdische Rohren Fab.

Albion Clay Co., Ltd., Albion Works, Woodville, Burton-on-Trent; & 38, Victoria-st., S.W.

Ames Crosta Sanitary Engineering Co., Ltd., City-chbrs., South-parade, Nottingham.

Armoured Concrete Construction Co., 5, Westminster Palace-gardens, London, S.W.

Barton & Sons, Ltd., Beehive Foundry, Birchills, Wallsall.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRITISH ELECTRICAL TRADE SUPPLY & BITUMEN CO., THE. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 431.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Smethwick, Staffs.; Burslem, Staffs.; St. Helen's, Lancs.; Paisley, N.B.; & Paris. Depôts: Birmingham; Liverpool; Manchester; Glasgow; & Paris. Head office: Lambeth, S.E. The Doulton underground electrical conduits & troughs. *See advt., page* 429.

Ellistown Collieries Co., Ellistown, near Leicester.

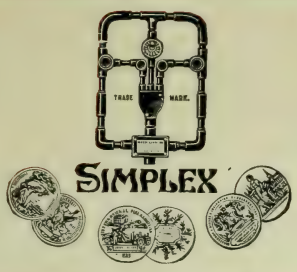
Freeman Hines, Ltd., 20, Victoria-st., S.W.

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 523.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Hamblet's Blue Brick Co., Ltd., Piercy Works, West Bromwich.

THE SIMPLEX STEEL CONDUIT SYSTEM

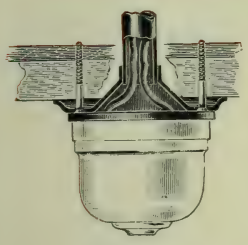


FOR INTERIOR ELECTRIC LIGHT AND POWER WIRING.

Awarded **6 GOLD MEDALS** at International Exhibitions for General **EXCELLENCE** and **UTILITY.**

The **MOST COMPLETE** System Manufactured.
SIMPLE, ECONOMICAL, ACCESSIBLE & DURABLE.

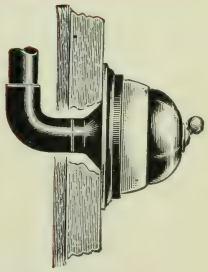
SIMPLEX FLUSH MOUNTING BOXES.



These Boxes form an entirely Novel and Improved Method of Mounting Switches, Ceiling Roses, Lampholders, Wall Sockets, and all Types of Electric Light Fixtures.

ADVANTAGES.

1. Wires totally enclosed from beginning to end.
2. No Plasterer required to finish off walls.
3. Wiremen cannot put Fixing Screws through Circuit Wires during erection.



SIMPLEX WATERTIGHT LAMPHOLDERS.

THIS LAMPHOLDER IS OF GALVANIZED STEEL, AND CAN BE READILY WIRED AND FIXED UP. IT IS PROVIDED WITH A DRAIN CAP AND RUBBER WASHER WHICH PREVENTS ANY MOISTURE FROM ENTERING THE FITTING.

NO DIFFICULTIES EXPERIENCED WITH THIS LAMPHOLDER as with the Ordinary Brass Lampholder.

CONFIDENTLY RECOMMENDED for all EXPOSED WORK, SUBWAYS, STATIONS, YARDS, PLATFORMS, LAVATORIES, MARINE WORK, &c.

SOLE MANUFACTURERS & PATENTEES:

Simplex Conduits Limited.

HEAD OFFICE & WORKS:
GARRISON LANE, BIRMINGHAM.

TELEGRAMS:
"Economy, Birmingham."
"Disclosure, London."
"Audiphone, London."
"Economical, Manchester."
"Simplex, Glasgow."

TELEPHONES:
No. 2955.

MANAGING DIRECTOR:
L. M. WATERHOUSE, M.I.E.E., A.M.I.C.E., M.S.I.E.
11, Queen Victoria Street, London, E.C.
No. 8101, Central.

LONDON OFFICE:
20, Bucklersbury, E.C.
No. 6052, Bank.

MANCHESTER OFFICE:
6, Bull's Head Yard, Corporation Street.
No. 4870.

GLASGOW OFFICE:
165a, West George Street.
P.O. 5177, Central.
Nat. 1047, Argyle.

And at LEEDS, LIVERPOOL, LEICESTER, NEWCASTLE-ON-TYNE, &c.

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Art Metal Fittings.

IN EVERY STYLE AND OF EVERY DESCRIPTION.

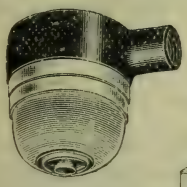
Polished or Antique Brass, Copper and Oxydised Silver.

These Fittings combine moderation in price with excellence of design.

For Particulars apply to GARRISON LANE, BIRMINGHAM, & Ask for List 1907 Q.

PERFECTA

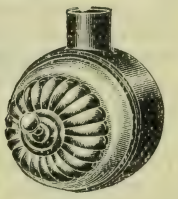
CONDUITS & ACCESSORIES

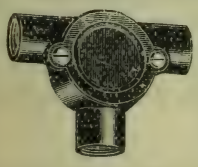


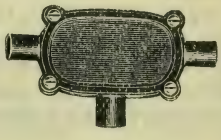
PERFECTA

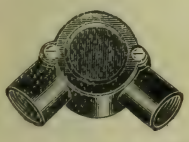
CONTINUITY FITTINGS

WRITE FOR PAMPHLET NO. 0114





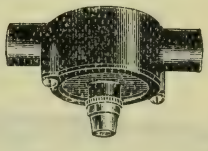


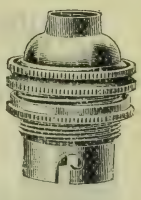


PROMPT DELIVERY OF

ALL CONDUITS &

ACCESSORIES FROM STOCK





LONDON OFFICE

BAXTER & CAUNTER,

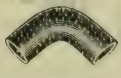
86, Charing Cross Road,

LONDON, W.C.

THE PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD.,

PLUME STREET,

BIRMINGHAM.



TELEGRAMS

"PERFECTA, BIRMINGHAM."

TELEPHONE

72, ASTON.

Conduits (Underground) & Culverts— *continued.*

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester; & Parliament Mansions, Victoria-st., London, S.W.

Jennings, C., & Co., Pennywell-rd., Bristol.

Jennings, George, Ltd., 65 & 67, Lambeth Palace-rd., London, S.E. (Telegrams: "Jennings, London." Telephone No. 680, Hop.)

Key Engineering Co., Ltd., The, 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester. Works: Trafford Park, Manchester.

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless steel conduits. *See advt., page* 447.

PIGGOTT, GEO., & CO., 110, Cannon-st., E.C. (Telegs.: "Enticeable, London." Tel. No. 174, Bank.)

Safety Tread Syndicate, Ltd., 15, Barbican, London, E.C.

Shackleton, J. F., & Son, Goole, Yorks.

Stanley Bros., Ltd., Nuneaton. Branch works: Burslem, Staffs.; Willenhall, nr. Coventry.

Conduits (Underground) & Culverts— *continued.*

Stiff, Jas., & Sons, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

Stuart's Granolithic Stone Co., Ltd., Church-row, Limehouse, London, E.

Walsall Hardware Manufacturing Co., Walsall, Staffs.

Watson, Gow & Co., Ltd., Etna Foundry, Lily-bank-rd., Glasgow; & Etna Iron Works, Grahamston, Falkirk, N.B.

Woodward, J., Swadlincote, nr. Burton-on-Trent.

Wragg, Thos., & Son, Ltd., Swadlincote, nr. Burton-on-Trent.

Contractors—Electric Light & Power.

(*See also* CONTRACTORS—INSTALLATION.)

F.—Eclairage électrique—Entrepreneurs d'.

G.—Elektrisches Licht—Unternehmer.

ABERDEEN ELECTRICAL ENGINEERING CO., LTD., 17, Belmont-st., Aberdeen.

Acme Motor & Traction Co., 72, Finsbury Pavement, E.C. Works: The Ham, Brentford.

Addinell & Co., 30, Cock-lane, Snow Hill, E.C.

Allam, E. P., & Co., 11, Red Lion-st., Clerkenwell, E.C.

ON ADMIRALTY LIST. ON WAR OFFICE LIST.

"CONREX"

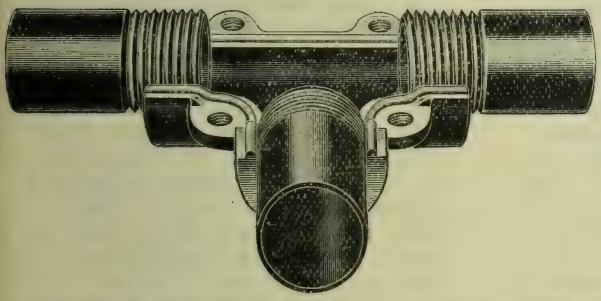
"CON {DUIT} REX"

ELECTRICAL STEEL CONDUITS

AND

WATERTIGHT CONDUIT FITTINGS.

STANDARD GAS SIZE or STANDARD CONDUIT SIZE.



LOWER HALF OF PATENT INSPECTION TEE.

The Tubing is held in position in the lower half of fitting as the fitting is divided above the centre.

GAS SIZE CONDUITS

give

(a) **Standard Thread,**

(b) **Greater Internal Clearance,**

(c) **Better Protection.**

CLOSE JOINT. WELDED. SOLID DRAWN.

The "CONREX" Tube Bender is the Bender for Conduits.

BENDS CLOSE JOINT TUBING.

CONDUITS & FITTINGS, Ltd.,

CONDUITREX WORKS, SALUSBURY RD.,

LONDON, N.W.

AND IN

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Telegraphic Address: "MABERCON, LONDON." Telephone No. 1560, PADDINGTON.

For telegraphic addresses & telephone numbers, see Alphabetical Section.

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Lowest Current Rates. Liberal and Prompt Settlements. Assured free of all Liability.
ELECTRIC LIGHTING RULES SUPPLIED.
LOSSES PAID, OVER £30,000,000.

Contractors—Electric Light & Power— *continued.*

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Armstrong, C., Eastgate-row, North, Chester.
Assersohn, D., 20, Commercial-st., E.
Austin & Son, 4 & 6, Sandall-rd., London, N.W.
Bacchus, H., Bedford.
Bailie, J. D., Messrs. C. A. Parsons & Co., Peacocks-bldgs., Park-row, Leeds. (Telegrams: "Turbo, Leeds." Telephone No. 1194.)
Baker, P. W., 42, Windsor-st., Uxbridge.
Bannister, E. C., High-st., Weybridge.
BARKER, JOHN, & CO., LTD., 52–60, Kensington High-st., W.
Barnett, Rowland & Co., Ltd. Office & works: Hanover-sq., Newcastle-on-Tyne. Branch office & show-room: 17, Dean-st.
BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st, London, S.W. (Telegrams: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.
BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.
Bigge, D. Selby, & Co., 27, Mosley-st., Newcastle-on-Tyne; & 4, Park-pl., Cardiff.
BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Tel. Nos. 766 & 767, Westminster.)
Boond, S., Leigh, Lancs.
BOWDEN, G. HARLAND, & CO., Royal London-bldgs., 196, Deansgate, Manchester; Baltic-chbrs., 50, Wellington-st., Glasgow; 2, Laurence Pountney Hill, Cannon-st., London, E.C.; & at Dundee & Cardiff.
Bowden, Higlett & Co., Onslow-st., Guildford.
Boydell, W., & Sons, Brown-st. Iron Works, Leigh, Lancashire.
Bradford Electrical Engineering Co., 3, Royal Arcade, Bradford.
Brewer Bros. & Co., Quay-st., Cardiff.
Brightwell, R., 34, King-st., Cheapside, E.C.
British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

Contractors—Electric Light & Power— *continued.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London, office, 379, Bank.)
BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.
BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.
BRUSH ELECTRICAL ENGINEERING CO., LTD., THE, contractors for the complete equipment of central electricity supply stations on all approved systems, & for isolated electric light & power installations on any scale. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.
Bryson, R., jun., 130, High-st., Kirkcaldy, N.B.
Burdett, H. J., Fleet-st., Coventry.
Butcher, C. E., 7, Cochrane-st., Wellington-pl., St. John's Wood, N.W.
Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.
Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 431.
Camburn, A. J., 1, Dover-rd., Folkestone.
Carrington & Button, 31, High-st., Crewe.
Chalmers, Wm., 142, Bath-st., Glasgow.

Contractors—Electric Light & Power— *continued.*

Charlesworth, S., & Co., 6, Clegg-st., Oldham, Lancs. (Telegs.: "Charlesworth, Engineers, Oldham." Teleph. No. 63.)

Cheetham, A., 287, Upper-st., Islington, London, N.

CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegrams: "Engineering, Chelmsford." Telephone No. 8.)

Churton, T. Harding, & Co., Atlas Works, Water-lane, Leeds.

Clark, W. H., St. Laurence's-lane, Norwich.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

COLEBY & CO., 6, Princes-st., Cavendish-sq., London, W. (Telephone No. 3224, Paddington.)

Connal, D. L., & Co., Hunter-pl., Greenock.

Corlett Electrical Engineering Co., Ltd., Wigan; & Union-bldgs., St. John-st., Newcastle-on-Tyne.

Corrick, W. W., 141, Liverpool-rd., London, N.

Corse, W. J., & Co., 53, Union-st., Plymouth. (Telephone No. 0871.)

Cottrell & Beszant, 5, Cases-st., Liverpool, W.

Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Cunnington, J. S., 93, St. Martin's-lane, London, W.C. (Telegs.: "Whardown, London." Teleph. No. 4934, Gerrard.)

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Dickins, A. C., 14, Kingswell-st., Northampton.

Dixon, T., & Sons, 44, Buckingham Palace-rd., Lr. Belgrave-st., London, S.W.

Dodson, John, 29, Fetter-lane, Fleet-st., London, E.C.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Doxford, C. H., High-st. West, Sunderland.

Contractors—Electric Light & Power— *continued.*

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Eaton, W. Walton, Nelson's-pl., Cork.

Edge & Neal, 107, Holloway-rd., London, N.

Edmundsons Electricity Corporation, Ltd., Broad Sanctuary-chbrs., Westminster, S.W.

Edwards, J., 40, Union-st., Brechin.

Edwards, G. A., & Co., 118 & 119, Fore-st., London, E.C.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GT. WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TELEPHONE NO. 1253, LONDON WALL.) *See advt., page* 415.

ELECTROMOTORS LTD., Openshaw, Manchester. London office: 35, Queen Victoria-st., E.C.

Farncombe, I., 84, London-rd., Brighton.

FELLINGHAM, ALBERT E., 10, North-st. Quadrant, Brighton.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (The Lahmeyer Electrical Co., Ltd., agents, 109–111, New Oxford-st., London, W.C.)

Ferguson & Carver, 28, Swan-st., Brechin.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Furneaux, A. L., 10 & 11, York-st., Swansea.

Gifkins, A.V., & Co., 68, Victoria-st., Westminster, S.W.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Goddard, Massey & Warner, Ltd., Nottingham.

Graham & Biddle, Graham House, 463, Oxford-st., W.; & 38, North-row, Grosvenor-sq., London, W.

Greenwood, R. A., Mansfield.

Gunn, G. A., 159, Falcon-rd., Clapham Junction, S.W.

Haigh, W. B., & Co., Ltd., Globe Iron Works, Oldham.

Hall, Beddall & Co., Pitfield-wharf, Commercial-rd., Lambeth, S.E.; & 31, Bread-st., London, E.C.

Hall, H. E., & Co., 90, High-st., Tonbridge.

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Halliwell, A., Bolton-st., Bury.

Contractors—Electric Light & Power— *continued.*

Harris, A., & Sons, Ltd., 152, Bristol-st., Birmingham.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Hatcher, E., & Co., 65, Charles-st., Cardiff.

Hellier, Wm., 32, Duke-st., London, W.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., E.C. *See advt., page* 22.

Higgins, G. W., & Co., 34, Connaught-st., London, W.

Hill & Co., 42, Broadway, Crouch End, London, N.

Hill, Geo., & Co., Trafford Electric Works, Cornbrook, Manchester. (Nat. Teleph. No. 2920.)

Hill, Jas., & Sons, Bolton-st., Bury, Lancs.

Hills, J., & Son, 28, Crescent-rd., Tunbridge Wells.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-square, London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

IMPROVED ELECTRIC SUPPLIES CO., LTD., 7, Great Newport-st., St. Martin's-lane, W.C.

INDIA RUBBER, GUTTA PERCHA AND TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-court, Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Jones Bros., 348–366, Holloway-rd., N.

Kettle, H. G., & Co., 24, Lower Brook-st., Ipswich.

Kinghorn Gas Light Co., Ltd., Kinghorn, Fifeshire.

Kinnear, J., & Son, 27, Market-st., Brechin.

LAHMEYER ELECTRICAL CO., LTD., 109-111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

Laing, Wharton & Cunnington, 93, St. Martin's-lane, London, W.C. (Telegs.: "Whardown, London." Teleph. No. 4934, Gerrard.)

Lammond, J., & Son, 32, Market-st., Brechin.

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 715.

Law, G., Kidderminster.

Contractors—Electric Light & Power— *continued.*

Lea, Son & Co., Pengwerne Works, Shrewsbury (Telegrams: "Lea, Son, Shrewsbury." Telephone No. 60); & St. Mary's Walk, Stafford. (Telegrams: "Lea Son, Stafford." Telephone No. 93.)

Lea & Warren, Glenroy Works, Kettering. (Telegrams: "Lea Warren, Kettering." Telephone No. 1 Y., Kettering.) Branches at Leicester, East-st. (Telephone No. 27 Y.); Wellingborough, Park-rd.; Northampton, 53, Gold-st. (Telephone No. 9 X.); Margate, 27, Hawley-st. (Telephone No. 9 Y. 2); & Kettering, Rockingham-rd. London office: 7, VICTORIA-ST., WESTMINSTER.

Lee, E. H., A.I.E.E., 149, Clive-rd., Dulwich, London, S.E.

Lewellen, F. W., & Co., Clacton-on-Sea.

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire; London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.

Lord, W. Turner, & Co., 120, Mount-st., London, W.

LOWDON BROS. & CO., Temple Electric Works, Dundee; 50, Frederick-st., Edinburgh; 332, Argyle-st., Glasgow; Cults Electricity Station, Aberdeenshire; 2, Abbot-st., Dunfermline; & 132, Market-st., St. Andrews.

McClure & Whitfield, Mersey Dynamo Works, Adswood, Stockport. (Telegrams: "Motors, Stockport." Telephone No. 180.)

MACKIE, W., & CO., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See advt., page* 473.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Mansfield Engineering Co., Mansfield.

Marsden & Mawdesley, Queen-st., Morecambe.

Martin & McFie, 8, Wellington-st., Glasgow.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Matthew, G. W., & Co., Womanby-st., Cardiff.

Maund, A., 13, Corporation-st., Southport, Lancs.

Mayne, Sons & Co., Glebe-st., Penarth, Cardiff.

Meggitt, B. Westgate, Mansfield.

Midland Lighting Corporation, Ltd., Fitzwilliam-st., Sheffield.

Morris, J., & Son, 87, Park-st., London, W.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End." Telephone No. 50, Bromley.) Show-rooms: 12, Carteret-st., Queen Anne's-gate, Westminster, S.W. (Telegrams: "Muirheads, London." Telephone No. 779, Westminster.) *See advt., page* 609.

Contractors—Electric Light & Power— *continued.*

Neill, D. T., & Co., 166, Great Junction-st., Leith, N.B.
NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)
Northern Electrical Co., 117, Cleethorpe-rd., Grimsby; & 5, Printing Office-st., Doncaster.
Northern Electrical & Ventilating Co., Granite-bldgs., Stanley-st. Works: Manisty's-lane, Liverpool.
Odhams, J. & G., 206 & 207, Upper Thames-st., London, E.C.
Oetzmann & Co., 62–79, Hampstead-rd., London.
Parish, H. J., 119, Dereham-rd., Norwich.
PARSONS, E. M., 67, King Edward-st., Hull.
Parsons, F., & Son, Albion-rd., Stoke Newington, London, N.
Partington, W. E., & Co., Farmside-pl., Levenshulme, Manchester. (Telegs.: "Partington, Levenshulme." Teleph. No. 0112, H.M.)
PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")
Peto & Radford, Ltd., 100, Hatton Garden, E.C.
Philpot, R. W., & Co., Ramsgate.
PHIPPS, RASHLEIGH, & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 12155, Central.)
Pitman & Son, 30, Newgate-st., London, E.C.
Porte, F. C., & Co., 27, Marlborough-st., Cork.
POWER PLANT CO., LTD., Temple Bar House, Fleet-st., London, E.C. (Telegrams: "Biceps, London." Telephone No. 10968, Central.)
PRESTON ELECTRIC CO., LTD., Seymour-st., Belgrave-rd., Birmingham. (Telegrams: "Practical, Birmingham." Telephone No. 493.)
Pringle, J., & Co., 61–63, Westow-st., Norwood, London, S.E.
PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Tel. No. 1243, London Wall.)
PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.
Quartermaine, H., Chertsey-rd., Woking.
RASHLEIGH PHIPPS & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 12155, Central.)
Roberts, T. R., Ltd., 216–217, Upper-st., Islington, London, N.
Rose & Co., James-st. Docks, Cardiff.
Rowell Stuart Kelman & Co., Ltd., 27 & 28, Broad-st.-ave., London, E.C.
Sainsbury, A. W., 89, Arundel-st., Sheffield.
SCHOLES, GEORGE H., & CO., Blantyre-st., Manchester. (Telegrams: "Kilowatt, Manchester." Telephone No. 4061, Nat.)
Seager, Laurance, London-rd., Sittingbourne, Kent.
Seale, Austen & Barnes, Ltd., 86, High-st., Tonbridge.
Sharples, Hill & Co., 7, Brazennose-st., Manchester.
Sheppard Bros., Snake's-lane, Woodford Green.

Contractors—Electric Light & Power— *continued.*

Shirley, F. C., & Co., 10, Nightingale Parade, Blandfields-st., Balham, S.W.
Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.
Smeeton & Page, 63, Queen Victoria-st., London, E.C.
Smith, F. W., 64, Heath-st., Hampstead, London, N.W.
Smith & Croft, Providence-st., Westgate, Bradford.
Somerset Eccles & Co., 22, Stanhope-st., N.W.
Southey, E., Ramsgate.
SPAGNOLETTI, JAS. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.
Speedy, Eynon & Co., 3, Adelaide-st., Strand, W.C.
Stegmann, G., 10, North Side, Wandsworth Common, S.W.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stephens & Co., 9, High-st., Bideford.
Strange & Sons, Ltd., 19, London-rd., Tonbridge.
Suter, Frank, & Co., Ltd., 66, Berners-st., London, W.
Switchgear Co., Ltd., Cornwall-bldgs., Newhall-st., Birmingham.
Symons, P., & Sons, Oxford-st., Swansea.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.
Taylor, P., 87 & 89, Bank-st., Coatbridge.
TAYLOR, T. H., 181, Queen Victoria-st., London, E.C.; & Dodsworth, Yorks.
Taylor, W., & Sons, 58A, Brompton-rd., S.W.
THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD. (Electrical Department), Canning Town, E. (Telegrams: "Thames, London." Tel. No. 526, Eastern.)
Thorpe, S., Mansfield.
Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.
Wainwright Bros., Pritchard-st., Manchester.
Wakefield Electrical Engineering Co., Southgate, Wakefield.
Walker, J., & Son, Tangier-st., Whitehaven.
Wallington, Jones & Co., 13, Crutched Friars, E.C.
WALSALL ELECTRICAL CO., LTD., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.
Ward Bros., 28A, Basinghall-st., London, E.C.
Waring & Gillow, Ltd., 181, Oxford-st., W.
Watson & Sons, 17, Birmingham-st., Oldbury.
Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 & 705.
Weston, G., & Sons, 153, Fenchurch-st., E.C.
Whipp & Bourne, Molesworth-st., Rochdale. (Teleph. No. 52 Y.)
Whitaker, J., & Son, 187, Earl's Court-rd., London, S.W.
Woods, R. S., & Co., Mansfield.

Contractors—Electric Light & Power—*continued.*

WOODWARD, W. R., Beaumont Works, 155A, Boleyn-rd., Forest Gate, London, E.
WOOLNOUGH, F., St. Stephen's, Norwich. *See advt., page* 644.
Wylie & Lochhead, 45, Buchanan-st., Glasgow.

Contractors for Equipping Cable-Repairing Ships.

F.—Bateaux pour la réparation de cables—Constructeurs de.

G.—Unternehmer zur vollständigen Ausrüstung von Kabel Reparatur Schiffen.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Contractors—Installation.

(*See also* CONTRACTORS—ELECTRIC LIGHT & POWER.)

F.—Installations—Entrepreneurs d'.

G.—Unternehmer—Einsetzung.

Abbot & Co., Brock-st., Lancaster.
ABERDEEN ELECTRICAL ENGINEERING CO., LTD., 17, Belmont-st., Aberdeen.
Acme Motor & Traction Co., 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.
Adams, R., & Son, 63 & 65, Shandwick-pl., Edinburgh.
Aish, W. H., Victoria House, Bournemouth.
Allen & Mannooch, Ltd., 128, Mount-st., 11, Farm-st., W.
Ames & Son, Long Causeway, Peterborough.
Anderson, A., 24, Regent Moray-st., Glasgow.
Anderson, Wm., 212, Bath-st., Glasgow.
Apps, A., 433, Strand, London, W.C.
Archer, W. H., Hanover-rd., Scarborough.
Armstrong & Hogg, 16, Stafford-st., & 43, Grindlay-st., Edinburgh.
Arnison, G. N., & Sons, 42, Borough-rd., Sunderland.
Ashstone & Shepstone, 183 & 185, Above Bar, Southampton.
Aston Bros., Aston's Quay, Dublin.
Atkinson & Co., Railway-st., Chatham.
Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.
Baker Bros., Yarm-lane, Stockton-on-Tees.
Bakewell, W., Volt Works, Worksop-rd., Sheffield.
Bamsay, E., 126, Fore-st., Exeter.
Barker, E. D., Lynn-st., West Hartlepool.

Contractors—Installation—*continued.*

Barnett & Soans, George-st., Kettering.
Barrett, W. J., 25, Park-sq., Luton.
Barron, J., & Co., 16A, Fraser-st., Liverpool, W.
Barton, W., & Son, 11, Forrest-rd., Edinburgh.
Bazley & Co., 120, High-st., Lewisham, S.E.
Beattie, R. B., 7, Standish-st., Burnley.
Beckett, J. P., Carysfort, Chantry-lane, Grimsby.
Beech, E., Lincoln-rd., Peterborough.
Beer, J., 73, Summerland-st., Exeter.
BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegs.: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 529.
Bemrose, W. S., 37, High-st., Rochester.
BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.
Bert, G., & Co., Lodge-rd., West Bromwich.
Bessant, A. J., 32, Grove-rd., Eastbourne.
Beveridge, Ltd., 11, Jamaica-st., Glasgow.
Beynon & Son, Fleet-st., Torquay, Devon.
Birchley & Co., Oxford-st., Gloucester.
Blackburn, C., & Son, 67, Redcliff Hill, Bristol.
Blackmore, R., 5, Montpelier-st., London, S.W.
BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)
Blackwood, W. E., 1, Walton-st., Chelsea, S.W.
Blaikie, J., & Sons, 218, Union-st., Aberdeen.
Blaker & Sons, Leatherhead.
Bloomfield, F. J., 71A, King-st., Maidenhead.
Bovey, E. P., & Son, Victoria Parade, Torquay.
Bowerman Bros., 35, Osborne-rd., Southsea.
Bracher, F. & W., Redcliff-st., Bristol.
Brading & Co., Ltd., 66, Grove-rd., Eastbourne.
Bright, R., jun., 5, Dinsdale-rd., Roker, Sunderland.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 9, Donegall-sq. West, Belfast; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegrams: "Asteroidal." Telephone Nos.: Head office, 54, Rugby; London office, 379, Bank.)
BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.
Brooking & Co., 69, Longbrook-st., Exeter.
Brown, John S., 21, 22 & 62, Oxford-st., Swansea.
BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.
Bryden, J., & Son, 60, Renfield-st., Glasgow.

Contractors—Installation—*continued.*

Bubb, J. T., St. James's Churchyard, Bristol.
Buckley & Beech, Cale-st., Chelsea, S.W.
Burbury & Co., 2, Earl-st., Coventry.
Burley & Strange, High-st., Folkestone.
Burly, F., Birley-st., Blackpool.
Burn, J., Longhill, West Hartlepool.
Bush, T. C., Wells-rd., Bath.
Caffyn, W. M., & Sons, 43, Seaside-rd., Eastbourne.
Calcott, J. H., "Carlton," Acton Vale, W.
Caldwell & Co., Inverkeithing, N.B.
Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 431.
Calverly, Batty & Co., 27, Market-st., Burnley.
Camble, F., 5, Castle-st., Exeter.
Cameron & Hogg, 31, Nicolson-st., Edinburgh.
Cannell, E. S., City Asylum, Norwich.
Carr & Parr, 67, Edgware-rd., London, W.
Cater, Stoffell & Fortt, Ltd., High-st., Bath.
Challice, G., 69, Sidwell-st., Exeter.
Challoner, T., & Sons, Parker-st., Blackpool.
Chapman, A., & Co., Temple-ter., Chatham.
Christie, J. C., 3 & 5, Mansell-st., London, E.
Clark, A. W., & Co., 8½, Douglas-st., Glasgow.
Clark, M., & Willmott, 104, Hanover-st., Edinburgh.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
Cleary, T., 56A, Haverstock Hill, N.W.
Clements, F. G., 106A, Fenchurch-st., E.C.
Cockayne, T. B. & W., Angel-st., Sheffield.
Cole, Wm., 20, Greenhill Parade, Harrow.
Collum, J. E., & Co., Tanner's-lane, Ipswich.
Colquhoun, S. M., & Co., 9, West-st., Bridgeton, Glasgow.
Coopers, Matkin & Lauson, Ltd., 9, Grafton-st., Bond-st., London, W.
Cope, F., & Co., 5, Whitcombe-st., S.W.
Corben, R., & Co., West Borough, Maidstone.
Corlett Electrical Engineering Co., Ltd., Wigan; & Union-bldgs., St. John-st., Newcastle-on-Tyne.
Couldwell & Frew, 38, Montrose-st., Glasgow.
Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.
Critchley Bros., Hall-st., St. Helens.
Crook, H. W., & Son, 195, Westbourne Grove, W.
Crookell, W., & Co., Water-st. Works, Middleton, nr. Manchester.
Crozier, M., Mendora-rd., Fulham, S.W.
Cubey, T. H., Queen-st., South Shields.
Curtis, Wm., & Sons, 98 & 99, Mid Abbey-st., Dublin.
Cuthbertson, Stewart & Co., 167, Holm-st., Glasgow.
Cutler, Wardle & Co., 25 & 37, St. Peters-st., Manchester.
Dagleas & Sons, Fowler-st., South Shields.
Dallas, J., 94, Hampton-rd., Birmingham.
Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

Contractors—Installation—*continued.*

Davenport Vernon & Co., Ltd., High-st., High Wycombe, Bucks.
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.
Davies, Tait & Co., 168, St. Vincent-st., Glasgow.
Davis, Henry, All Saints' Works, Derby.
Davis, H. C., & Son, 39, St. James-st., Brighton.
Dawson, J., & Son, Silvermills, Edinburgh.
Dawson, Roger, Ltd., 8, Berners-st., London, W.
Day, T. H., Brindalbane-pl., Oban.
Denner, E., & Co., West-st., Sheffield.
Dennis, F. H., A.M.I.E.E., High-st., Chelmsford.
Dent, E., & Co., 41, Stonegate, York.
Derbyshire, P., Duke-st., St. Helens.
Dibben & Barclay, 170, Sloane-st., S.W.
District Electric Co., 39 & 40, Berry-st., Wolverhampton.
Dixon, Walter, & Co., 59, Bath-st., Glasgow. (Telegs.: "Fresco, Glasgow." Teleph. Nos.: Nat., 3656, Royal; Corp., 3659, Central.)
Donnison, Sillem & Co., 116, Great Portland-st., W.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.
Downer, H., 110, High-st., Watford.
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.
Duckenfield, E. E. Vernon, & Co., 31, Gold-st., Northampton.
Duff, H. J., Dumbartou-rd., Stirling.
Dunn, H., & Son, 32, Newington Causeway, S.E.
Eagleston & Son, St. Clement's, Oxford.
Easten, S., & Co., 23, Bush-lane, Newcastle.
Economic Electric Installations Co. (Humm & Co.), 20, Blackfriars-st., Salford.
Edmunds, H., Parliament Mansions, Victoria-st., London, S.W.
Edmundson, H. W., 22, St. Albans-ter., Gateshead.
ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.
ELECTRICAL CONTRACTING CO., 491–493, Fulham Palace-rd., Fulham, London, S.W. (Telephone No. 68, Putney); & at Wimbledon.
Electrical & General Engineering Co., 17, Gracechurch-st., London, E.C.
Elgar, H. T., 19, Middle-st., Hastings.
Else, J. E. C., Duke-st., St. Helens.
Emerson, S. F., Acacia-grove, West Kirby.

Contractors—Installation—*continued.*

Evans, C. M., 18A, Fountain-st, Manchester.
Fearnhead, Alex., 354, Caledonian-rd., London, N.
Fellowes, H., & Co., Seamoor-bldgs., Westbourne, Bournemouth.
Ferguson, Thos., 17, W. Maitland-st., Edinburgh.
Ferris, S., 12, Wellington-st., Swindon.
Finlay, J., & Co., Ltd., 18, Renfield-st., Glasgow.
Firth, D., & Son, 14, Cannon-st., Manchester.
Fleming & Co., 9, Lothian-st., Edinburgh.
Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)
Force, S. R., & Son, 15, Sidwell-st., Exeter.
Francis, T. E., 64, Colston-st., Bristol.
Francis, Wm., Guildhall-st., Folkestone.
Frazer, Borthwick & Co., 91 & 93, Waterloo-st., Glasgow.
Frazier, H. P., & Co., Congreve-st., Birmingham.
Freeman, W. S., Invicta Works, Otford, Kent.
Freeman & Co., 21, Swallow-st., Piccadilly, W.
Friend, J., 6, Iron Bridge, Exeter.
Fryer, W. J., & Co., Bravington Road Works, Paddington, London, W.
Garstang, H., 69, Darwen-st., Blackburn.
Garton & King, 190, High-st., Exeter.
Gath Electrical Engineering Co., Horton-st., Halifax.
Gatward, John, & Son, Hitchin & Stevenage.
GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.
GENT & HURLEY, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)
Gifkins, A. V., & Co., 68, Victoria-st., S.W.
Gill & Reigate, Ltd., 73–85, Oxford-st., W.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Godsland & Son, 51, South-st., Exeter.
Gordon, J., Cathedral-st., Glasgow.
Graham & Graham, 2, Weymouth-st., London, W.
Graham & Morton, King-st., Stirling.
Grainge & Grainge, High-st., Uxbridge.
Gregory, W., & Son, 28, Steep Hill, Lincoln.
Grindlay, Ross & Co., 278, St. Vincent-st., Glasgow.
Gulich & McIntyre, 17 & 18, Little Edward-st., Albany-st., N.W.
Hacking, W. B., 95, Gloucester-rd., London, S.W.
Hall, E. A. S., Old Market-pl., Great Grimsby.
Hamilton & Co., 230, Berkley-st., Glasgow.
Hanningtons, Ltd., 171–172, North-st., Brighton.
Harding, T. L., & Sons, Market-st., Torquay.
Harris & Son, Market Parade, Gloucester.
Harris, T., & Sons, 18, Wine-st., Bristol.
Harrison, W. L., 30 & 31, George-st., Hull.
Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.
Harvie, Wm., & Co., Ltd., 24, McAlpine-st., Glasgow.

Contractors—Installation—*continued.*

Hastings & St. Leonards Electric Installation Co., 37c, Robertson-st., Hastings.
Hattersley & Davidson, Norfolk-st., Sheffield.
Hawkins, Alex., 125–128, London-rd., London, S.E. (Telegrams: "Alexander Hawkins, London." Telephone No. 1202, Hop.)
Hayes, Edward, 9, Bridge-st., Westminster, S.W.
Haynes, F., 20, North-st., Ashby-de-la-Zouch.
Hayward & Son, 4, Walcot-st., Bath.
Hazzledine, H. T., A.I.E.E., South Sherwood-st., Nottingham.
Head, F. D. & H., 166, High-st., Notting Hill Gate, London, W.
Henderson, T. P., 121, Grove-st., Edinburgh.
Henderson & Bonham, Cuthbert-st., South Shields.
Henderson, W. N., & Co., 201, Gt. Brunswick-st., Dublin.
Hewetson, Milner & Thexton, Ltd., 209-215, Tottenham Court-rd., London, W.
Hewlett & Co., Wine-st., Bristol.
Hews & Crouch, High-st., Uxbridge.
Hill, Geo., & Co., Trafford Electric Works, Cornbrook, Manchester. (Teleph. No. 2920.)
Hill, R. M., & Sons, Castle-st., Carlisle.
Hillyard, F. A., 79, Princes-st., Ipswich.
Hinchcliffe, Green & Co., Aire-st., Leeds.
Hind & Son, Stockton-on-Tees.
Hiscock, T., 181, High-st., Hounslow.
Hodge, G., Hill-st., Blackpool.
Holgate & Redwin, 1, Malden-ter., High-st., Hampton Wick.
HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")
Holmes, W. C., & Co., Turnbridge, Huddersfield.
Hooker, F. Stacey, 5, St. Ann's-rd., Barnes.
Hooton, W. M., Southgate, Sleaford.
Hounsell & Sons, High-st., Sheerness.
House, A. H., Hepworth-chbrs., High Ousegate, York.
Howard, G. A., 24, Silver-st., Lincoln.
Howard & Shankland, Ltd., 432, Kingsland-rd., N.
Howell, L., 10, Victoria-rd., Swindon.
Hucklebridge & Son, 1, Exe-bridge, Exeter.
Hughes, R. T., & Co., 37, Sheen-lane, Mortlake.
Hunter & Jack, 101, St. Vincent-st., Glasgow.
Hutchinson, W. E., 5, Batoum Gardens, W.
Hutchison, J., 199, Bath-st., Glasgow.
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Inglis, J. M., 19, Queensferry-st., Edinburgh.
IZANT, ALFRED, 6, Lorenzo-st., King's Cross, London, W.C.

Contractors—Installation—*continued.*

Jeboult Bros., 194, Broadhurst-gdns., West Hampstead, N.W.
Jevons, S., Ltd., Constitution Hill, Birmingham
Johnson, B. W., Railway-rd., King's Lynn, Norfolk.
Johnson, W., 35, Nelson-rd., Worcester.
Johnson & Co., Leopold-st., Sheffield.
JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*
Jones, B., Castle Hill, Lynton.
Jones, Bernard G., & Co., 33, Commercial-st., Newport, Mon.
Kaiser, J., 57, Dale End, Birmingham.
Kear, S., Red Cross-st., Bristol.
Keen, H. E., & Co., 22, College Parade, Salisbury-rd., Kilburn, N.W.; & 1, Pinners-ct., Old Broad-st., E.C.
Kendall, R., & Sons, 21, Milsom-st., Bath.
Kerr & Co., George's Quay, Dublin.
Kerridge, H. E., Market-pl., Yarmouth.
Kilpatrick, Jas., & Son, Terrace-bldgs., High-st., Paisley.
King, P. T., Bute-st., Luton.
King & Co., Leith Electric Works, Leith.
King & Co., Ltd., South Church Side, Hull.
Kitcher, A. E., St. Swithun's-rd., Bournemouth.
Knight & Co., 36, Terminus-rd., Eastbourne.
Laing, D. F., 146, Norfolk-st., Glasgow.
Lambert & Sons, Broad-st., Bath.
Lawry, H., Ltd., Old Town-st., Plymouth.
Lawson, J., 24, High-row, Darlington.
Leake, H., & Co., The Elms, Lytham-rd., St. Anne's-on-Sea.
Lee, A. M., 61, Leadenhall-st., London, E.C.
Lee, Edwin, Torquay.
Letheren, T. W., 29, Friars Walk, Exeter.
LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire (Telegs.: "Electricity, Dursley." Tel. No. 6, Nat.); London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.
Livens, C. M., 172, High-st., Burton-on-Trent.
Liverpool Electric Supplies, Ltd., 3, Redcross-st., Liverpool.
Lockie, J. R., 118, Mains-st., Glasgow.
Lowden, Jas., & Co., Ann-st., Belfast.
Lowdon, J. W., 65, Reform-st., Dundee.
McAlpin & Co., Cank-st., Leicester; & Ilkeston.
Macartney, McElroy & Co., Ltd., Caxton House, Westminster, London, S.W.
McBain Bros., Alnwick.
McCall, T., & Co., 116A, Mains-st., Glasgow.
McGrady, J., & Co., 33, Old Lodge-rd., Belfast.
Mackersie, J., & Co., 26, Commercial-st., Dundee.
Mackwell, A., Park-st., Masham, Yorks.
MacLellan, A., & Co., 63, Waterloo-st., Glasgow.
McNelly & Co., Church-st., St. Helen's, Lancs.
Madge, F., 42, Inverness-pl., Cardiff.
Male, Wm., & Son, Ltd., 1A, Village-rd., Birkenhead.

Contractors—Installation—*continued.*

Mann, Egerton & Co., Ltd., Bank Plain, Norwich; 5, Waveney-rd., Lowestoft, Suffolk; Ipswich; & Yarmouth.
Mann & Sons, Ltd., High-st., Worcester.
Maple & Co., Ltd., 141–149, Tottenham-ct.-rd., W.
Marshall, R. E. & C., Ltd., 5, Clarence-st., Cheltenham.
Marshall, W. & T., 16, Dumbarton-rd., Stirling.
Martin, M., 1, Cornfield-ter., Eastbourne.
Martin, Fitt, Thomas & Co., 7, High-st., Grantham.
Martin & McFie, 8, Wellington-st., Glasgow.
Mason, J. E., 43, Carrington-st., Nottingham.
Mason, Cash & Co., Woodville, Burton-on-Trent.
Massingham, H. G., Pinhoe-rd., Exeter.
Mather Bros., 36, Farringdon-st., E.C.; & 278, Caledonian-rd., N., London.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Maund & Co., Corporation-st., Southport.
Mawby, Wm., & Son, Cross-st., Birkenhead.
Maxwell Butcher & Co., 146A, Queen Victoria-st., London, E.C.
Meiklejohn, J. B., 115 & 115A, Bath-st., Glasgow.
Middleton, V. G., Broadway-chbrs., Westminster, S.W.
Middleton & Winstanley, 52, Castle-st., Dover.
Miles, D., 17, Swiss-ter., Folkestone.
Miller & Sons, Conduit-st., London, W.
Milne, Jas., & Son, Ltd., Milton House Works, & 133, George-st., Edinburgh; 59, Farringdon-rd., London, E.C.; 111, St. Vincent-st., Glasgow; & 34, Wellington-st., Leeds.
Milton, A., 18, High-st., Crewe.
Mitchell, L.C., & Co., 15, St. Aldgate-st., Gloucester.
Montgomery Motor Co., Lincoln-rd., Peterborough.
Morrish, Cecil A. Esmarch, & Co., 62, Albert-rd., Middlesbrough.
Morton, Wm., 21, Anderson-st., Partick, Scotland.
Moser Electrical Engineering Co., 128, Palace-chbrs., Bridge-st., S.W.
Mossop, Walter, & Co., 52, Queen Victoria-st., E.C.
Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)
Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Teleph. No. 50, Bromley.) *See advt., page* 609.
Murray & Sons, Sheerness.
NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.
Naylor, J., & Sons, Peters-lane, York.
New Century Electric Co., 354, Caledonian-rd., N.
Nicholson, J. H., 59, Beverley-rd., Hull.
Nicholson & Ade, 31–35, South-st., Eastbourne.
Nicholson, Wadley & Co., 14, Neville-st., Newcastle-on-Tyne.

Contractors—Installation—*continued.*

Noblet, T., & Co., Totnes, Devon & Exeter.
Norris, J. R., & Co., Wood-st., St. Anne's-on-Sea.
Nye Bros. & Milledge, 42, Dyke-rd., Brighton.
Oates, T., Charlotte-ter., South Shields.
Oliver, Clark & Co., St. Mark's-rd., North Kensington, London, W.
Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.
Organ, R., Winchcombe-st., Cheltenham.
Parfitt, Webber & Co., Denmark-st., Bristol.
Park, F. W., Hayes, Uxbridge.
Parmley Bros., Keppell-st., South Shields.
Parsons, Sherwin & Co., Ltd., Nuneaton.
Parsons, W., & Co., 66, Regent-st., Leamington.
Partington, W. K., & Co., 28, Minories, E.C.
Patrick, J. & T., 46, Union-rd., Rotherhithe, S.E.
Patterson, R., & Co., 57 & 59, High-st., Belfast.
Patton, G., Bath-lane, Newcastle-on-Tyne.
Pearson, C. H. J., 37, Park-st., Greenhayes, Manchester.
Pearson, H., 4, Cotham Vale-rd., Bristol.
Pearson Bros., 54–56, Long-row, Nottingham.
Percy, S., Osborne-rd., Newcastle-on-Tyne.
Perry, F. H., 103, Temple-rd., Birkenhead.
Peterborough Motor Co., Cowgate, Peterborough.
Peto & Radford, Ltd., 100, Hatton Garden, E.C.
PHIPPS, RASHLEIGH, & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 12155, Central.)
Pilkington, B. A., 12, Atholl-pl., Edinburgh.
Pinkerton, G. M., Lloyd's Avenue House, Lloyd's-ave., E.C.
Pioneer Complete Furnishing Stores, 9–19, Bold-st., Liverpool.
Poole, H. C., 21, Springbridge-rd., Ealing, W.
Postlethwaite & Stacey, Printing Office-st., Doncaster.
Pounder & Sons, Park-rd., West Hartlepool.
Preston, E., 42, Grange-rd. West, Birkenhead.
Prevette, E. A., Station-st., Eastbourne.
Price, P., & Co., 88, Lawrence Hill, Bristol.
Price & Taylor, 45, Argyle-st., Birkenhead.
PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, E.C. (Teleph. No. 1243, London Wall.)
Rainsford & Lynes, 113, Emily-st., Birmingham.
RANKINE PATENT FEED WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)
RASHLEIGH PHIPPS & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 12155, Central.)
Ratcliff, G. F., & Co., 37, North Audley-st., W.
Reavell Bros., Alnwick.
Reed & Son, 26, North-st., Brighton.
Revel, F., & Co., King-st., South Shields.
Robertson, J. C., & Son, 15, Preston-st., Exeter.
Robinson & Brunker, 37, College Green, Dublin.
Russell & Co., Ltd., St. Anne's-on-Sea.
Rye & Co., Faringdon-st., Swindon.

Contractors—Installation—*continued.*

Sage, Fredk., & Co., 58–62, Gray's Inn-rd., W.C.
Sanderson, C. L., 109, Westborough, Scarborough.
Scott, J., 28A, Oriel-rd., Bootle, Liverpool.
Scott, J., 128, Main-st., Stirling.
Scott&Scott, Poole-rd., Westbourne, Bournemouth.
Scovell Bros., 6, Thavies Inn, E.C.; & Manor Park.
Sendall, W. F., & Co., 18, East-st., Horsham.
Seth Bros., 278, Uxbridge-rd., W.
Seward, A., Market-st., Lancaster.
Sharpe & Son, Huntley-grove, Peterborough.
Sharples, Hill & Co., 7, Brazennose-st., Manchester.
SHEARS & SON, East Central Works, Bournemouth.
Sheldrick, E., & Co., 19, Thurlestone-rd., West Norwood, S.E.
Shiels & Elliot, 190, Bath-st., Glasgow.
Shoolbred & Connell, 231, Strand, London, W.C.; & 11, Cheapside, Luton.
Shoolbred, J., & Co., 151–156, Tottenham-court-road, London, W.
Shrivell, W., 49 & 50, George-st., Brighton.
Shuttleworth, H., Cross-ct., Briggate, Leeds.
Silcox, H., Fountain-bldgs., Bath.
Sill, G., Market-pl., Yarmouth.
SIMMONDS BROS., LTD., 4, 6 & 8, Newton-st., High Holborn, W.C. *See advt., page* 462.
Simpson, W., 446, Union-st., Aberdeen.
Simpson Bros., Ltd., Curzon-st., Burnley.
Smethurst & Co., 16, Bernard-st., Southampton.
Smith, A., A.I.E.E., 54, Houndsgate, Nottingham.
Smith, E. J., 35, High-st., Bedford.
Smith, E. J., 58, Nunhead-lane, Peckham, S.E.
Smith, P., 9, Legh-st., Warrington.
Smith, A. W., & Co., London-rd., Barking.
Smith, J., & Son, 33 & 34, North-rd., Brighton.
Smith, M., & Co., Keighley.
Somerville, J., 27, Harmony-row, Govan, N.B.
Southee, T. W., 19, Brockman-rd., Folkestone.
Southey, E., Pembroke House, Guildhall-st., Folkestone.
SPAGNOLETTI, JAS. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.
Sparks, J. C., 51, Waldegrave-rd., Brighton.
Speedy, Eynon & Co., 3, Adelaide-st., Strand, London, W.C.
Spreadbury, W. H., St. Michael's-rd., Bournemouth.
Sproates, H. G., Wood-st., Middlesbrough.
Stanwell, A., 19, Torr-st., Everton, Liverpool.
Steel, J., 22, Murray-pl., Stirling.
Steel, H. E., Ltd., High-st., Cheltenham.
Stegmann, G., 10, North Side, Wandsworth Common, S.W.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Steinthal, G. A., 1B, Cooper-st., Manchester; & 41, Piccadilly, Bradford.
Stoddart, J. G., Green-st., Sunderland.
Strang, R., Montpellier-walk, Cheltenham.
Street & Sons, Christchurch-rd., Boscombe.
Strode & Co., 48, Osnaburgh-street, N.W. Showrooms: 67, St. Paul's-churchyard, E.C.; & 188, Piccadilly, London, W.

Contractors—Installation—*continued.*

Sunderland, Leo, & Co., 39, Victoria-st., S.W.
Surtees, E., 64, King-st., South Shields.
Swire, W., George-st., St. Helens.
Tasker, Ernest A., 1, Richmond-rd., Montpelier, Bristol.
Tasker, Sons & Co., Ltd., Angel-st., Sheffield.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.
Taylor, J. H., & Son, Macauley-st., Huddersfield.
Telephone & Electrical Installation Co., 11, Queen Victoria-st., E.C.
Thompson, E. C., 11, Exchange-st., Norwich.
Thompson, W., Victoria-st., Blackburn.
Thompson & Co., Wellington-st., Kettering.
Thomson & Co., Glebe-st., Falkirk, N.B.
Thornton, F., & Co., 6A, Hove-st., Burnley.
Tizzard, J., M.I.M.E., Faraday House, Abbey-rd., Torquay.
Todd, D., 249, Canterbury-st., Gillingham.
Troy & Co., 194, Finchley-rd., N.W.
Valler, A. W., & Co., 4, Sydney-st., Brighton.
VAUGHAN, BROWN & COOK, 298 & 300, Goswell-rd., London, E.C.
Vere, C. M., & Co., 5, Park Parade, North Finchley, N.
Vigor & Co., 15, King-st., Poplar, E.; & 49, Southampton-row, London, W.C.
Vulcan Electric Co., The (W. J. Woodward, proprietor), 43, The Broadway, Stratford, E.; & 293, High-rd., Ilford.
Walker, F. W., & Co., 124 & 125, Queen-st., Portsea.
Walker & Hutton, 37, Huntriss-row, Scarborough.
Wallington Jones & Co., 13, Crutched Friars, London, E.C.
Wallis & Watson, Trinity-st., Boar-lane, Leeds.
Ward, T. W., Savile-st., Sheffield.
Ward & Son, Broad-st., Worcester.
Waring, J. W., & Co., Regent-st., Rugby.
Waring & Withers, 10A, Soho-sq., W.
Warren, Beattie & Co., Ltd., Lower Commercial-st., Middlesbrough.
Watson, G. W., 14, Hurst-st., Oxford.
Watson, T. B., & Sons, Bishopton-lane, Stockton-on-Tees.
Webster, G. M., 71, Upper Parliament-st., Nottingham.
Wells, G. F., Waterhouse-lane, Scarborough.
Wentworth & Co., 102, Newgate-st., London, E.C.
West End Decorating Co., 38, Sloane-st., S.W.
White, J., & Co., 19, So. St. Andrew-st., Edinburgh.
Wigley, F., 121, Colmore-row, Birmingham.
Wilkinson, J. B., Bedford-st., Sunderland.
Willey & Dalley, 3, Catherine-st., Exeter.
Williams, T. C., & Sons, Ltd., London-st. Ironworks, Reading.
Williamson Bros., 25, Ondine-rd., Peckham, S.E.
Wilson, R., 40, Donegall Quay, Belfast.
Wilson, R., King-st., Lancaster.
Wilson, R. P., 22, King-st., Lancaster.
Wilson Bros., 12, Bedford-st., Belfast.

Contractors—Installation—*continued.*

Windsor Electrical Installation Co., Ltd., 53, Thames-st., Windsor.
Winter, J. H., & Co., Narrow Wine-st., Bristol.
Wishart, E., 29, South Front, Southampton.
Wokes, Chas., & Co., 68, Brook-st., Hull.
Wood, F. J., & Co., Dogshead-st., Ipswich.
Woodger, Glenister & Co., 307, Goldhawk-rd., Shepherd's Bush, W.
WOODWARD, W. R., Beaumont Works, 155A, Boleyn-rd., Forest-gate, London, E.
Wright, J., & Sons, 15, Cannon-st., Dover.
Wright, Methuen, & Co., Ltd., 34, Pall Mall, Manchester.
Young, L. T., & Co., Ladywell, Dover.

Contractors—Telegraph.

F.—Télégraphes—Entrepreneurs de.
G.—Telegraphenbau—Unternehmer.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*
Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 609.
REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.
Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Barrow-in-Furness, Brecon, Welshpool, Swindon, Barry, Barnstaple & Isle of Wight. (Telegs.: "Lightable, London." Teleph. No. 961, Victoria.)
SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.
SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.
SPAGNOLETTI, JAS. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

Contractors—Telegraph—*continued.*

Tyer & Co., Ltd., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.
Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.
Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)
Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Contractors—Telephone.

F.—Téléphones—Entrepreneurs de.
G.—Telephonen—Unternehmer.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.
Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.
COLEBY & CO., 6, Princes-st., Cavendish-sq., London, W. (Teleph. No. 3224, Paddington.)
East Anglian Telephone Contractors, Guildhall-chbrs., Norwich.
Electrical Installations, Ltd., 11, Queen Victoria-st., E.C.
Gent & Hurley, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Grant, J. Macpherson, Kingussie, N.B.
HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.
Hislop, R. G., 7 & 9, Pitt-st., Edinburgh.
Lamb, E. H., 37, King William-st., E.C.
Lea & Warren, Glenroy Works, Kettering. (Telegrams: "Lea Warren, Kettering." Telephone No. 1 Y., Kettering.) Branches at Leicester, East-st. (Telephone No. 27 Y.); Wellingborough, Park-rd.; Northampton, 53, Gold-st. (Telephone No. 9 X.); Margate, 27, Hawley-st. (Telephone No. 9 Y. 2); & Kettering, Rockingham-rd. London office: 7, VICTORIA-ST., WESTMINSTER.
Leach Bros. & Co., Old Millgate, Manchester.
Legg, John, & Sons, 18, Nelson-st., Swansea.
London & Provincial Telephone Co., 11, Queen Victoria-st., E.C.
Nussbaum, G. A., C.E., 29, Ludgate Hill, London, E.C.
Private Telephone Co., 27, Chancery-lane, W.C.
PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Telephone No. 1243, London Wall.)

Contractors—Telephone—*continued.*

PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.
REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.
Rogers, Stewart & Co., 5, Gt. Winchester-st., London, E.C.
SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.
SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.
Speedy, Eynon & Co., 3, Adelaide-st., Strand, London, W.C.
Stegmann, G., 10, North Side, Wandsworth Common, S.W.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.
Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Cooking.

(*See* HEATING & COOKING APPARATUS.)

Copper Bonds.

HILL, GEO., & CO., Trafford Electric Works, Cornbrook, Manchester. (Nat. Tel. No. 2920.)

Copper & Brass Founders.

F.—Fondeurs de cuivre et laiton.
G.—Kupfer & Messing Giesser.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
Chew, James, & Co., Brookhouse Brass & Copper Works & Albion Works, Blackburn. (Telegs.: "Chew, Blackburn." Teleph. No. 163.)
Hughes, John & Joseph, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)
Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)
Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester.
Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)
Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Bricklane (late 35 & 37, Brick-lane), Whitechapel, London, E.
SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Copper & Brass Merchants.

F.—Marchands—Cuivre et Laiton.
G.—Händler von Kupfer und Messing.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller). *See advts., pages* 654 *&* 736.

Harford & Bristol Brass Co., Golden Heart Wharf, Dowgate, London, E.C.

Harries, W. J., 85, Gracechurch-st., London, E.C.

LANDER & LARSSON, 164, Edmund-st., Birmingham. (Telegrams: "Lander, Birmingham." Telephone No. 676.) *See advt., page* 425.

Layborn, Daniel, & Co., Dutton-st., Liverpool.

Morrison, Kekewich & Co., 70, Gracechurch-st., London, E.C.

Richardson Bros., Cathedral-bldgs., Newcastle-on-Tyne.

Roberts, W., & Co., Crown Copper Mills, Garston, Liverpool.

St. Helen's Copper Co., Ltd., Ravenhead, St. Helens.

Seville Sulphur & Copper Co., Ltd., 30, George-sq., Glasgow.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., E.C.

Vivian & Sons, 4, Crooked-lane, Liverpool; & Hafod Copper Works, Swansea.

Williams & Michell, 7 & 8, Cross-st., Swansea.

Copper Depositors.

F.—Galvanoplastic.
G.—Galvanoplastik.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; 88, Bishopsgate-st. Within, London, E.C.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Leefe, F. E., 364, Goswell-rd., London, E.C. (Telegrams: "Leefregel, London." Telephone No. 1926, Central.)

Copper Smelters.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes (Registered Offices) (Telegs.: "Rolls, Widnes"); Oakamoor, North Staffs. (Telegs.: "Bolton, Oakamoor"); Broad-st. Metal Works, Birmingham (Telegs.: "Boltons, Birmingham"); 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Wiredrawn, London." Teleph. No. 632, Central.)

Espir, Fernand, 2 & 3, East India-ave., London, E.C. Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller). *See advts., pages* 654 *&* 736.

Copper Tape Manufacturers.

F.—Cuivre laminé—Fab. de.
G.—Kupfer Band—Fab. von.

Armstrong, Stevens & Son, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

Booth, James, & Co., Ltd., Sheepcote-st. Tube & Rolling Mills, Birmingham.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller). *See advts., pages* 654 *&* 736.

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN FIRE-PROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegrams: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges. Rheydt, nr. Düsseldorf. *See advt., page* 9.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Copper Wire Drawers.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller). *See advts., pages* 654 *&* 736.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Core Plate Varnish.

Down, Fred. J., Harpenden, Herts.

Core Serving Machine Manufacturers.

F.—Machines à faire les âmes de Câbles.
G.—Maschinen zur Herstellung der Seele fur Drahtseile.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-court, Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Cotton Waste Merchants.

F.—Déchets de Coton.

G.—Putzlappen-Händler.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C.

Gilliat, R., & Sons, 15, Medlock-st., Oldham.

Johnson, E., & Co., Mary Ann-st., Birmingham.

ROSE, SIR W. A., & CO., 66, Upper Thames-st., London, E.C.; & Rose's Wharf, Millwall, E.

Couplings for Arc Lamps (Patent).

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Couplings—Makers of.

SIMMONDS BROS., LTD., 4, 6 & 8, Newton-st., High Holborn, London, W.C. (Telegs.: "Niphon, London." Teleph. Nos.: 2600, Gerrard; & 12061, Central.) Coupling for electric cables & movable armoured installations. NIPHAN SYSTEM. *See advt.* BELOW.

Crane Controllers—Electric.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

Cranes (Electric)—Manufacturers of.

F.—Grues élec.—Fab. de.

G.—Krahnen—elek.—Fabr. von.

Appleby's, Ltd., 56, Victoria-st., S.W.

Bedford Engineering Co., Bedford.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Booth, Joseph, & Bros., Rodley, Leeds; & 114A, Queen Victoria-st., London, E.C.

Bowman, J., & Co., Johnstone, N.B.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

THE

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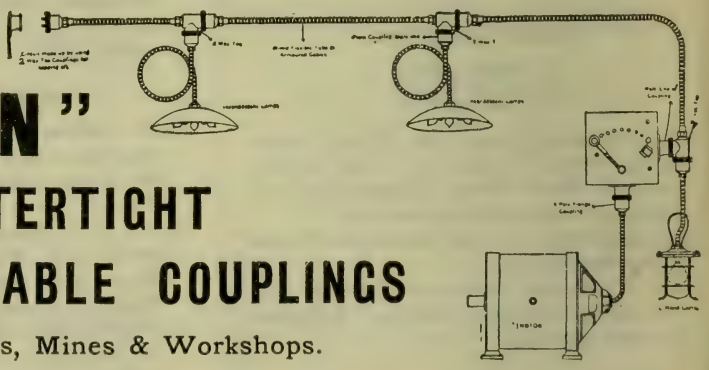
For Shipyards, Mines & Workshops.



MOVABLE ARMOURED INSTALLATIONS

For all Purposes. No Joints or Looping-in.

SIMMONDS BROS., Ltd.,

4, 6 & 8, NEWTON STREET, LONDON, W.C.

Telephone Nos.: 2600, Gerrard; & 12061, Central. Telegrams: "NIPHON, LONDON."

Cranes (Electric)—Manufacturers of— *continued.*

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE (& Hoists). Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Carrick, James, & Sons, Ltd., 108, Dalry-rd., Haymarket, Edinburgh.

Carrick & Ritchie, Waverley Engineering Works, Norton Park, Edinburgh. BY HAND, POWER, OR ELECTRICITY.

Childs, J. G., & Co., Ltd., Hawthorn-rd., Willesden Green, N.W. Show-room: 73A, Queen Victoria-st., E.C.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegs.: "Cyclops, Gateshead.") Electric cranes of all descriptions.

Cowans, Sheldon & Co., Ltd., Carlisle.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Electric Construction Co., Ltd. (Motor), Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

GIBBONS BROS., LTD., Dibdale Works, Dudley, Worcs. (Telegs.: "Gibbons, Lower Gornal." Teleph. No. 10A); London & Manchester. *See also* ALPHABETICAL ENTRY. *See advt., page* 523.

Grafton & Co., Vulcan Works, Bedford.

Grieve, John, & Co., Motherwell.

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Henderson, John M., & Co., Aberdeen.

Higginbottom & Mannock, Ltd., Crown Ironworks, West Gorton, Manchester.

International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

Marshall, Fleming & Jack, Dellburn Works, Motherwell, N.B.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

Penn, W. Cooper, 25, Victoria-st., Westminster, S.W.

Ransomes & Rapier, Ltd., 32, Victoria-st., Westminster, S.W.; & Waterside Iron Works, Ipswich.

ROYCE, LTD. (electrically driven; also hoists, capstans, &c.), Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

Cranes (Electric)—Manufacturers of— *continued.*

Russell, George, & Co., Ltd., builders of electric cranes of all types & sizes, Alpha Works, Motherwell, N.B. (Telegrams: "Russell, Motherwell." Telephone No. 4.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SMITH, THOMAS, & SONS, Steam & Electric Crane Works, Old Foundry, Rodley, Leeds. (Telegrams: "Smith, Rodley;" "Accrocher, London." Telephones 18 & 12, Stanningley.) London offices: 9, Victoria-st., S.W. (P.O. Telephone No. 64, Victoria.)

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, London, E. (Telegrams: "Reckenzaun, London.")

Stothert & Pitt, Ltd., Bath.

Vaughan & Son, Ltd., West Gorton, Manchester.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Creosote Manufacturers.

F.—Creosote—Fab. de.
G.—Kreosot—Fab. von.

Dickinson, A. J., Surrey Canal, Deptford, S.E.

Fort, J., 19, South John-street, Liverpool.

Gabriel, T., & Son, Thames-st., Rotherhithe, S.E.

WADE, RICHD., SONS & CO., LTD., Hull & West Hartlepool. *See advt., page* 15.

Crucible Manufacturers.

F.—Creusets—Fab. de.
G.—Schmelztiegel—Fab.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Smethwick, Staffs.; Burslem, Staffs.; St. Helens, Lancs.; Paisley, N.B.; & Paris. Depôts: Birmingham, Liverpool, Manchester, Glasgow & Paris. Head office: Lambeth, London, S.E. Superior Plumbago Crucibles. *See advt., page* 429.

Graphite Plumbago Crucible Co., Ltd., Heald-st., Tanner's Hill, Deptford, S.E.

Le Carbone (formerly Lacombe & Co.). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *&* 470.

Morgan Crucible Co., Ltd., sole manufacturers of Morgan's & Salamander Crucibles, Morgan's Plumbago, Battersea Refractory Bricks, &c., Battersea Works, London, S.W. (Telegs.: "Crucible, London." Teleph. Nos.: Nat. 2, Battersea; & P.O. 1034, Western.)

Morgan, W., & Son, Upper E. Smithfield, E.

PHŒNIX ELECTRIC HEATING CO., LTD., 3, Holborn-pl., London, W.C.

Waterhouse, Jas. C., Ltd., Soho Works, Wakefield.

Wright, C. C., & Co., 11, Dowgate Hill, E.C.

Cut-Outs (Magnetic)—Makers of.

F.—Coupe-circuits.

G.—Unterbrecher (magnetische)—Fab. von.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. No. 7123, Central.)

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office: 54, Rugby; London office, 379, Bank.)

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Brunton, W., & Co., Cambrian Fuse Works, Wrexham.

DEWHURST, ED., Mount-st. Electrical Works, Preston.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos.: 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See* MEASURING INSTRUMENT MAKERS—ELECTRIC.

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs, Westminster, London, S.W.

Cut-Outs (Magnetic)—Makers of—*contd.*

SPAGNOLETTI, JAS. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION. Sole makers of the Peard fuse for heavy currents from 200 to 600 volts.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, "RELIANCE" switch fuses, regulating switches, & special switchboards, Molesworth-st., Rochdale. (Teleph. No. 52 Y.)

Cut-Outs—Marble & Slate.

Braby, E. & C., Bangor-wharf, Belvedere-rd., London, S.E. (Telegrams: "Marble, London." Telephone No. 825, Hop.)

Cut-Outs—Makers of.

F.—Coupe-Circuits fusibles—Fab. de.

G.—Strom-Unterbrecher—Fab. von.

Apps, A., 433, Strand, London, W.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bickford Smith & Co., Ltd., Camborne.

Birmingham Electrical Fittings Co., Baskerville Electrical Works, Broad-st., Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bullers, Ltd. (porcelain). London office: 3, Laurence Pountney Hill. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

Cotton Powder Co., Ltd., 32, Queen Victoria-st., London, E.C.

Curtis's & Harvey, Ltd., 3, Gracechurch-st., London, E.C.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Cut-Outs—Makers of—*continued.*

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Hodges, Cecil, & Co., Balfour House, Finsbury Pavement, London, E.C.

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., London, N.W. (Telegrams: "Filosofone, London." Telephone No. 441, North.) Showroom: St. Andrew's Mansions, 15, Newman-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Lumly, C. M., & Co., 6, Castle-st., Kingsland, London, N.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

Macintyre, J., & Co., Ltd., Washington China Works, Burslem. (Telegrams: "Macintyre, Burslem." Telephone No. 338, Hanley.) *See* PORCELAIN & CHINA FITTINGS.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See advt., page* 388.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

Roburite Explosives Co., Ltd., 103, Cannon-st., London, E.C. Works: Gathurst, near Wigan.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Swansea Safety Fuse Co., Ltd., Swansea.

Tetley & Co., Falcon Works, Poland-st., Oldham-rd., Manchester.

Thames Ammunition Works, Ltd., Erith.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Demand Indicators—Makers of.

Reason Manufacturing Co., Ltd. Offices & works: Lewes-rd., Brighton. (Telegs.: "Reason, Brighton.")

Dental Appliances (Electric)—Makers of.

F.—Appareils électr. de dentistes.
G.—Elektr. Zahnärztliche Apparate—Fab. von.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 109, Oxford-st., W. For details as to our manufactures, *see page* 74.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

PHŒNIX ELECTRIC HEATING CO., LTD., 3, Holborn-pl., London, W.C.

Depositors—Electro.

F.—Electro depositions.
G.—Galvanisatoren für Kunstsachen.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Leefe, F. E., 364, Goswell-rd., London, E.C. (Telegs.: "Leefregel, London." Teleph. No. 1926, Central.)

Sturtevant & Co., Ltd., St. John's Works, 90 & 92, Clerkenwell-rd., London, E.C. (Removing March 31, 1907, to 105–111, Euston-st., N.W.) *See advt., page* 29.

Designers & Draughtsmen.

F.—Dessinateurs.
G.—Zeichner.

Ashford, H. L., 5, John-st., Adelphi, London, W.C.

Carter, T., A.M.I.E.E., Heaton Hall-rd., Heaton, Newcastle-on-Tyne.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Gregory, V. H., A.I.E.E., 2, Burlington-gardens, Chiswick, London, W.

Pailthorpe, H. Noel, patent-drawings draughtsman, 46, Southampton-bldgs., Chancery-lane, London, W.C. Drawings skilfully prepared from model, sketch or description, for all countries. Blue prints from tracings.

Scott, F. M. C., 89, Victoria-street, Liverpool, W.

THOMPSON, W. P., & CO., 322, High Holborn, London (Telegrams: "Discovery, London." Telephone No. 823, Holborn); & 6, Lord-st., Liverpool. (Telegrams: "Patent, Liverpool." Telephone No. 1605.) *See advt., page* 650.

Destructors—Makers of.

HORSFALL DESTRUCTOR CO., LTD., Lord-st., Holbeck, Leeds. (Telegs.: "Destructor, Leeds." Teleph. No. 2006, Central. A.B.C., 5th Edition, & Lieber's Codes.)

Distribution Accessories.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Distribution Boards.

(*See* FUSE BOARDS.)

Distributors & Suppliers of Electricity.

F.—Electricité—Fournit. d'.
G.—Elektricität—Lieferanten von.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

Johnson & Philips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Divider—Mathematical.

F.—Diviseur de précision.
G.—Mathematische Einteiler.

VINTER, W., 10 & 11, Dyer's-buildings, Holborn, London, E.C. (Teleph. No. 12713, Central.) Every variety of SCIENTIFIC INSTRUMENTS accurately DIVIDED & ENGRAVED. *See advt., page* 582.

Door Openers—Electric.

OFFORD & CO., 97 & 98, Woodcock-st., Birmingham. (Telegs.: "Offord, Woodcock-st., Birmingham." Teleph. No. 2229.)

Tetley & Co., Falcon Works, Poland-st., Oldham-rd., Manchester.

Door-Plate Manufacturer & Engraver.

VINTER, W., 10 & 11, Dyer's-buildings, Holborn, London, E.C. (Teleph. No. 12713, Central.) Dynamo-plates, door-plates, bell-pushes, &c. Large or small work executed promptly, at moderate charges. *See advt., page* 582.

Drain Pipe Manufacturers—Iron.

F.—Tuyaux de drainage en Fer—Fab. de.
G.—Abzugsröhren—Fab. (Eisen).

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

Drain Pipe Manufacturers—Stoneware.

F.—Tuyaux en Poterie—Fab. de.
G.—Tonröhren Fabriken.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; St. Helens, Lancs.; Smethwick, Staffs.; Burslem, Staffs.; Paisley, N.B.; & Paris. Depôts: Birmingham, Liverpool, Manchester, Glasgow & Paris. Head office: Lambeth, London, S.E. *See advt., page* 429.

Stiff, Jas., & Sons, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

Drillers—Electric.

THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD. (Electrical Dept.), Canning Town, E. (Telegrams: "Thames, London." Telephone No. 526, Eastern.)

Driving Band Fastener Makers.

F.—Courroies—Fabr. de.
G.—Treibriemen—Fabr. von Befestigungstiftchen für.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London" Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Driving Band Makers—Balata.

COOKE, E. J., 2,4,5, Parsonage, MANCHESTER.
Every description of Single, Double & Treble, Oak & Chrome Tanned Leather Belting.
Leather Link Belting.
Elevator Bands in Leather, Hair or Cotton.
Endless Leather Bands for Portable Engines.
Best Quality Balata Belting.
Rough & Curried Belting Butts.
Rough & Curried Ranges & Shoulders.
Bark Tanned Dressing Hides.
Best Quality Hose Pipe Butts.
Engine Backs for Pump Buckets.
Waterproof Pump Butts.
Friction Butts & Bends.
Gin Leather for Ginning Cotton.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Walrus Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic Address: "HIDES, MANCHESTER." Tel. No. 1544.)

Driving Band Makers—Cotton.

F.—Courroies de Transmission—Coton.
G.—Maschinenriemen—Baumwolle.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., E.C.
Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 523.
Illingworth, T. H. & W. R., Ridgehill-lane, Stalybridge.
KENYON, WILLIAM, & SONS, Chapel Field Ropery, Dukinfield, Cheshire. (Telegs.: "Kenyon, Dukinfield." Teleph. No. 80, Ashton.)
Reddaway, F., & Co., Ltd., 50 & 51, Lime-st., London, E.C.; & Mills, Pendleton, Manchester.
Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Driving Band Makers—Hair.

F.—Courroies—Poil.
G.—Triebriemen—Haare.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., E.C.
Rossendale Belting Co., Ltd., 10, West Mosley-st., Manchester. Works: Newchurch, Lancs.; & 117, Queen Victoria-st., E.C.
Sutcliffe Bros., Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)
Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Driving Band Makers—Indiarubber & Gutta-Percha.

F.—Courroies de transmission—Caoutchouc.
G.—Maschinenriemen—Gummi.

Cobbett, W. Willson, Ltd., 59, Southwark-st., S.E.
Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.
Dick, R. & J., Glasgow. Factory: Greenhead.
FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C.

Driving Band Makers—Indiarubber & Gutta-Percha—*continued.*

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 523.
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Driving Band Makers—Leather.

F.—Courroies de Transmission—Cuir.
G.—Maschinenriemen—Leder.

Anderson, Frank L., 1, Furnival-st., London, E.C.
Angus, G., & Co., Ltd., Newcastle-on-Tyne.
Ashton, J., & Son, Gorton Tannery, nr. Manchester.
Best Belting Co., Ltd., 13, Cullum-st., E.C.
Christopher, J., & Sons, 39, 41 & 43, Clerkenwell-rd., London, E.C.

COOKE, E. J., 2,4,5, Parsonage, MANCHESTER.
Every description of Single, Double & Treble, Oak & Chrome Tanned Leather Belting.
Leather Link Belting.
Elevator Bands in Leather, Hair or Cotton.
Endless Leather Bands for Portable Engines.
Best Quality Balata Belting.
Rough & Curried Belting Butts.
Rough & Curried Ranges & Shoulders.
Bark Tanned Dressing Hides.
Best Quality Hose Pipe Butts.
Engine Backs for Pump Buckets.
Waterproof Pump Butts.
Friction Butts & Bends.
Gin Leather for Ginning Cotton.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Walrus Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic Address: "HIDES, MANCHESTER." Tel. No. 1544.)

Evans, W., 24, High-st., Newport.

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PROCESS WIRE WEAVING CO.
(THE UNITED WIRE WORKS, Ltd.)
Facile Princeps for all kinds of
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WIRE GAUZE,
DYNAMO BRUSHES.
81, DALE STREET, BRIDGETON, GLASGOW.
Telegrams: "Durable, Glasgow." Contractors to the Admiralty & War Office.

Driving Band Makers—Leather—*continued.*

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax, Yorks. London office: 39, Lime-st., E.C., MANUFACTURERS OF LEATHER LINK BELTING & DOUBLE & SINGLE LEATHER BELTING, HAIR & COTTON BELTING, & "TEON" BELTING (Sole Makers), &c.

Gibb, J., & Co., Ltd., 99, Fenchurch-st., E.C.

Hendry, J., Main-st., Bridgeton, Glasgow.

Liscombe, J., 10, Commercial-st., Newport, Mon.; & Cardiff.

Oldfield, J., & Sons, Ltd., 8 & 20, Dixon-st. & Fox-st., Glasgow.

Ormerod, J., & Sons, Ltd., Castleton, nr. Manchester.

Sampson & Co., Ltd., Stroud, Gloucestershire.

Sutcliffe Bros., Grosvenor Works, Godley, Manchester. Sole depôt for their "Lion" Leather Belts. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

Sutcliffe & Sutcliffe, Magnet Works, Manchester.

Tullis, John, & Son, Ltd., St. Ann's Leather Works, John-st., Bridgeton, Glasgow.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

WEBB & SON, Combs Tannery, Stowmarket. (Telegrams: "Webb, Combs.")

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Tel. Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Driving Chain Makers—Steel.

F.—Chaines d'entrainement.
G.—Treibketten (Stahl)—Fab. von.

Renold, Hans, Ltd, Brook-st., Manchester, S.E.

Drop Forgings.

Turner Bros., 134, Upper Thames-st., London, E.C. For all kinds of work.

Drying & Impregnating (Vacuum) Apparatus for Armatures, Coils, &c.

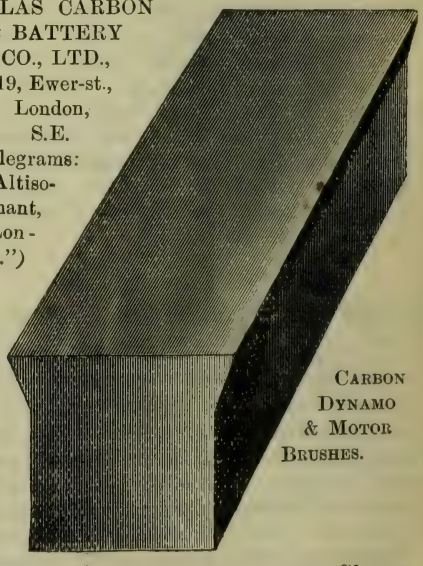
Neville Bros., 7 & 9, James-st., Liverpool. (Telegs.: "Neville, Liverpool." Teleph. No. 7159.)

Dynamo Brushes.

F.—Brosses de dynamos.
G.—Dynamo Bürsten.

Acme Motor & Traction Co. (Carbon), 72, Finsbury-pave., E.C. Works: The Ham, Brentford.

ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")



CARBON DYNAMO & MOTOR BRUSHES.

Christie, W., & Co., 50, Wellington-st., Glasgow.

DYNAMO BRUSHES

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Best Electrical Copper Gauze and our Special ALLOY Gauze.

OUR SPECIAL RIGIDUS COPPER BRUSH

is the BEST in the Market for Cool and Smooth Running.

NORTH BRITISH WIRE MANUFACTURING Co.,

70/71, BISHOPSGATE STREET WITHIN, LONDON, E.C.;

and at 71, WEST NILE STREET, GLASGOW.

Telegraphic Addresses: "STIBIUM, LONDON;" "WEAVING, GLASGOW."

Dynamo Brushes—*continued.*

Crypto Electrical Co., 155 & 157, Bermondsey-st., London, S.E. (Telegs.: "Commutator, London." Teleph. No. 12830, Central.)

Dickson, James, patentee & sole maker of the "TIECITON DYNAMO BRUSH." Also maker of any kind of Carbon or Metal Brushes, the Ideal Electric Lamp Guard, &c., 48, Gray's Inn-rd., London, W.C. (Telegs.: "Dicksonia, London." Nat. Teleph. No. 4650, Holborn.)

Generators Ltd., 79, Corporation-st., Manchester.

Green, W., Son & Waite, 134, Albany-rd., S.E.

James, A. A., Ltd., St. George's Works, Paradise-st., West Bromwich. (Telegrams: "James, Wireworks, Westbromwich." Telephone No. 19 X., West Bromwich.)

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page 404 & inside back cover.*

Johnson, R., Clapham & Morris, Ltd., 24–26, Lever-st., Manchester; & 23, Cheapside, Liverpool.

Le Carbone (formerly Lacombe & Co.). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegrams: "Lacombe, London.") *See advts., page 470 & BELOW.*

Leroux, L. A., 3, Aldermanbury-bldgs., E.C.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MORGAN CRUCIBLE CO., LTD., sole manufacturers of "MORGANITE" Brushes, Dash-pot Plungers & Bearings, & "BATTERSEA" Carbon Brushes, Battersea Works, Church-rd., Battersea, London, S.W. (Telegs.: "Crucible, London." Teleph. Nos.: Nat. 2, Battersea; & P.O. 1034, Western.)

Dynamo Brushes—*continued.*

NORTH BRITISH WIRE MANUFACTURING CO., Glasgow & London. (Telegrams: "Weaving, Glasgow.") *See advt.* ABOVE.

Pal, Michael, & Co., Parliament Mansions, Victoria-st., London, S.W.

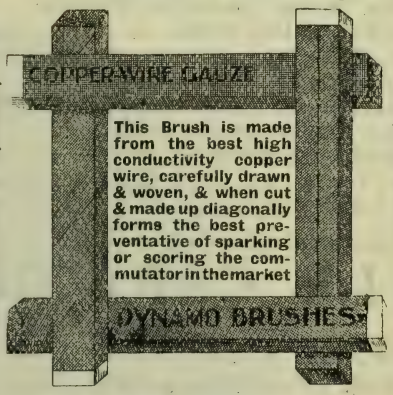
W. PATTERSON,

SOLE MAKER of the

"Matchless" Self-Lubricating

and the ORIGINAL MAKER of the

STRAIGHT WIRE BRUSHES for TURBO-GENERATORS a Speciality.



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Walker Gate, Newcastle-on-Tyne.

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PATENT FOLIATED ROLLED METAL DYNAMO & MOTOR BRUSHES of ANTIFRICTION METAL.

Owing to the composition of the metal & the construction of the brushes, their conductivity is much higher than those of copper of equal section. They last three to four times longer than copper brushes, & keep the commutator in splendid condition. Invaluable on high-speed machines.

GOLD MEDAL, PARIS EXHIBITION, 1900.

Agents: LE CARBONE, 17, Water Lane, Great Tower Street, E.C.

Dynamo Brushes—*continued.*

PATENT PROCESS WIRE WEAVING CO., BRIDGETON, GLASGOW. (TELEGRAMS: "DURABLE, GLASGOW.") *See advt., page* 468.

PATTERSON, WILLIAM (ordinary type & "Matchless" self-lubricating), Walker Gate, Newcastle-on-Tyne. (Telegs.: "Wirework, Newcastle-on-Tyne." Teleph. No. 510, Nat.) *See advt., page* 469.

POTTER, F. W., & CO., Phipp-st., Great Eastern-st., E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.) Soar's Patent Dovetail & other gauze brushes.

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Dynamo & Electric Machine Manufacturers.

F.—Machines dynamo et magneto électriques.

G.—Dynamo-Maschinen.

Acme Motor & Traction Co., 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

Apps, A., 433, Strand, London, W.C.

Avery, A. H., A.I.E.E., Fulmen Works, Park-st., Tunbridge Wells.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

Barton, Thomas, Ainsworth-st., Blackburn.

BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegrams: "Rapidolite, London." Telephone Nos. 3463 & 4, Gerrard.)

Beach, James, & Sons, St. James'-st., Taunton.

Becker, R., & Co., 53, City-rd., E.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Dynamo & Electric Machine Manufacturers—*continued.*

Blackburn, Starling & Co., Ltd., Gresham Works, Nottingham; 72, Piccadilly, Hanley; & 12, Fleet-st., Dublin.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 9, Donegall-sq. West, Belfast; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegrams: "Asteroidal." Telephone Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Brooks, H. B., Granville Works, Tennant-st., Birmingham.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Charlesworth, S., & Co., 6, Clegg-st., Oldham, Lancs. (Telegs.: "Charlesworth, Engineers, Oldham." Teleph. No. 63.)

CHURTON, T. HARDING, & CO., Atlas Works, Water-lane, Leeds.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Commercial Engineering Co., Highfield-rd., Blackburn.

LE CARBONE (LATE LACOMBE & CIE.),

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PARIS EXHIBITION of 1900: HORS CONCOURS (HIGHEST POSSIBLE AWARD).

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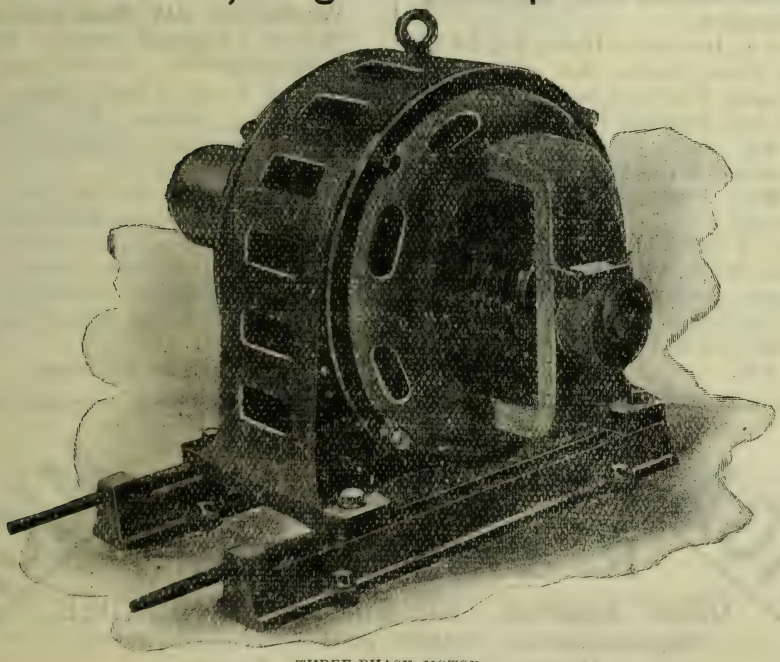

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Crypto Electrical Co., 155 & 157, Bermondsey-st., London, S.E.

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DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

De Grelle, Houdret & Co., 130, London Wall, E.C.

DICK, KERR & CO., LTD. Head office: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Dynamotor, Ltd., Bush-lane House, Cannon-st., London, E.C.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., Westminster, London, S.W.

Dynamo & Electric Machine Manufacturers—*continued.*

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Fittings & Cable Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

ELECTRICAL POWER ENGINEERING CO., Mary-st., St. Paul's, Birmingham. (Telegs.: "Torque, Birmingham." Teleph. No. 3819.)

Electromotor & Dynamo Co., 15, Gray's Inn-rd., W.C.

ELECTROMOTORS, LTD., Openshaw, Manchester. London office: 35, Queen Victoria-st., E.C.

Evans & Widowfield, 5, Bute-crescent, Cardiff.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney-lane, E.C. Single phase & 3-phase. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 471.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Teleph Nos. 594 & 595, Hop.) *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

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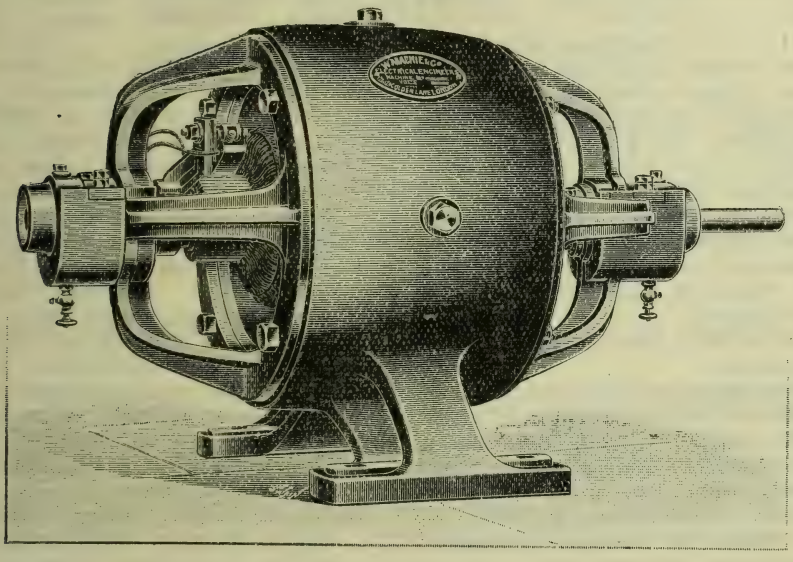

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GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page 20.*

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; 19, Waterloo-st., Glasgow; & Examiner-bldgs., Strutt-st., Manchester. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

Humphreys, J. H., & Sons, Horsedge Electric Works, Oldham.

Hunter & Co., Eastdown Works, Lewisham, S.E.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside back cover.*

Industrial Engineering Co., Hyde, Manchester.

International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page 404 & inside back cover.*

JOHNSON & PHILLIPS, LTD.'S, DYNAMOS. *See advts., page 404 & inside back cover.*

Jones, Henry, 14, High-st., Lambeth, London, S.E.

Dynamo & Electric Machine Manufacturers—*continued.*

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks.

LAHMEYER ELECTRICAL CO., LTD., 109-111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

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LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page 715.*

LAURENCE, SCOTT & CO., LTD., Gothic Works, Norwich. (Telegrams: "Gothic, Norwich." Nat. Telephone No. 246.)

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire; London & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.

Littlewood, Beaumont, & Co., Thirston Ironworks, Honley, Yorks.

McClure & Whitfield, Mersey Dynamo Works, Adswood, Stockport. (Telegrams: "Motors, Stockport." Telephone No. 180.)

MACKIE, W., & CO., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See advt., page 473.*

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

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MORLEY ELECTRICAL ENGINEERING CO., LTD., Troy Works, Stanningley, near Leeds.

Morris-Hawkins Electrical Co., Ltd., 17, Charing Cross-rd., London, W.C. Works: Dagenham, Essex.

National Fan & Motor Co., Ltd., East Bog, Bo'ness, N.B.

NEWTON BROS. Offices: Market-pl., Derby. Works address: Alfreton-rd., Derby. (Telegs.: "Dynamo, Derby." Tel. No. 413.)

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, N.W. *See advt., page* 642.

Overend, Joseph, & Sons, Ltd., Trafalgar-st., Bradford.

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) Speciality: Enclosed motors, for work in the open air, damp & dusty places, &c. London office: 17, Victoria-st., S.W.

Piggott, Geo., & Co., 110, Cannon-st., London, E.C. (Telegrams: "Enticeable, London." Nat. Telephone No. 174, Bank.)

Railway & General Engineering Co., Ltd., Midland Engineering Works, Meadow-lane, Nottingham.

REEDS ELECTRICAL CO., 128, Southwark-st., London, S.E. (Telegrams: "Rigoletto, London." Telephone No. 1304, Hop.)

Roy, A. W., 151, Shields-rd., Heaton, Newcastle-on-Tyne.

ROYCE, LTD., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

Dynamo & Electric Machine Manufacturers—*continued.*

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt.* BELOW.

SIEMENS BROS. DYNAMO WORKS, LTD., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W. (Siemens' continuous & alternating systems.)

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SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Sutcliffe, F., & Co., 30, Drake-st., Rochdale.

THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD. (Electrical Department), Canning Town, E. (Telegs.: "Thames, London." Tel. No. 526, Eastern.)

THOMAS, BERTRAM. Works: Worsley-st., Hulme, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) Maker of modern types dynamos & motors.

UNION ELECTRIC CO LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Vandervell, C. A., & Co. (small & for automobiles), Warple Way, Acton Vale, London, W.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

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Walton, D., Silk Mills, Hebden Bridge, Yorkshire.

Washington & Co., Ltd., Sowerby Bridge, Yorkshire. (Telegrams: "Washington, Sowerby Bridge.")

White, Jacoby & Co., Ltd., 54, Bayham-pl., Camden Town, N.W.

Whiteley, William, & Sons, Ltd., Prospect Iron Works, Lockwood, Yorkshire.

Wilson-Wolf Engineering Co., Ltd., Laycocks Mill, Thornton-rd., Bradford.

WOOLNOUGH, F., St. Stephen's, Norwich. *See advt., page* 644.

WRIGHT & WOOD, Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. No. 499.) *See advt., page* 640.

Yarwood, Geo., & Co., 49, Longmore-st., Birmingham.

Dynamo-Magnets (Steel) Manufacturers.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield. London: 52, Queen Victoria-st., E.C.

Dynamo & Motor Repairs.

Home & Rowland, Troughton-rd., Charlton, London, S.E.

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Turner Bros., 134, Upper Thames-st., London, E.C. Sheets & Bars.

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G.—Draht für Dynamos.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Dynamo Wires—*continued.*

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See* WIRE COVERERS—SILK.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Dynamometers.

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) "H.P." dynamometers as supplied to all the principal motor-car makers on the Continent.

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DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; & Burslem, Staffs. City office: 10A, St. Andrew's-st., London, E.C. Head office: Lambeth, London, E.C. *See advt., page* 429.

Empire Porcelain Co., Stoke-rd., Shelton.

Gaskell & Grocott, Longport, Stoke-on-Trent.

Grimwade Bros., Winton Pottery, Stoke-rd., Hanley, Staffs.

Harbidge, S., 3, Lombard-court, London, E.C.

Howson, G., & Son, Clifford-st., Lichfield-st., Hanley.

Kirkhams, London-road, Stoke-on-Trent.

Lockitt, W. H., Wellington Pottery, Commercial-rd., Hanley.

MACINTYRE, J., & CO., LTD., Washington China Works, Burslem. (Telegs.: "Macintyre, Burslem." Teleph. No. 338, Hanley.) *See* PORCELAIN & CHINA FITTINGS MAKERS.

Meakins, J. & G., Ltd., Lichfield-st., Hanley.

Ridgways, Ltd., Bedford Works, Bedford-st., Shelton, Staffs.

TAYLOR, TUNNICLIFF & CO., LTD., Eastwood, Hanley. London agent: C. M. Bradley, 23, Holborn Viaduct, London, E.C. (Telegs.: "Eastwood, Hanley.") *See advt., page* 17.

Twyfords, Ltd., Cliffe Vale Works, Shelton, Staffs.

Wright, E., & Co., Ltd., Wheat-bridge Potteries, Chesterfield.

Earthing Devices.

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Ebonite Manufacturers.

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F.—Ebonite—Fab. d'.
G.—Ebonite-Fabrikanten.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Carson & Evans, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegrams: "Irishism, London." Telephone No. 2507, Avenue.)

EBONESTOS MFG. CO., THE, 22, Rosoman-st., Clerkenwell, E.C. *See advt., page* 613.

Fireproof Celluloid Synd., Ltd., 82, Victoria-st., London, S.W.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., E.C.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Harburg & Vienna Indiarubber Co., 9–14, Tower-chbrs., Finsbury Pavement, London, E.C.

HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

HILL, FREDK. A., & CO., 108, Bishopsgate-st. Within, London, E.C. (Telegs.: "Blasting, London." Teleph. No. 9905, Wall.)

Hurst, A., & Co., 53, Leadenhall-st., E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head office: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

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LONDON MANAGER: F. WINTER,

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Telegrams: "INSTANTLY, LONDON."
Telephone No. 3186, Central.

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Ebonite Manufacturers—*continued.*

MOSSES & MITCHELL, 68, 69, 70 & 71, Chiswell-st., London, E.C. (Telegrams: "Insulator, London." Telephone No. 437, London Wall.) *See advt., page* 723.

New York Hamburg Indiarubber Co., 33, Moorfield-st., London, E.C.

Ostermann, F. W., 57 & 58, Leadenhall-st., London, E.C. (Telephone No. 2492, Central.) Speciality: Perforated Sheets & Boxes.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts.* IN PREVIOUS COLUMN *& page* 722.

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INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Economisers.

(*See* FUEL ECONOMISERS.)

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Turner Bros., 134, Upper Thames-st., London, E.C. (Telegrams: "Sheetiron, London." P.O. Telephone No. 355, Central.)

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Adams, W., Ashdown-rd., Kingston-on-Thames.

Adams Bros., 11 & 12, Trafalgar-st., Brighton.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. No. 7123, Central.)

Adkins & Co., Northampton.

Adye, E. P., 3, Forthbridge-rd., Clapham Common, S.W.

Alcock, H., Doseley, Dawley, Salop.

Aldred, William, 5, Brightside-bank, Brightside, Sheffield.

Alexander, J. H., Dundonald, by Kilmarnock Scotland.

Alford, E. J., 1, Mortlake-ter., Victoria-rd. North, Southsea.

Allen, Percy, Ferncliffe, Higher Runcorn, Cheshire.

Anderson, Chris, Lane House, Hunslet, Leeds.

Electricians—*continued.*

Anderson, Richard, & Co., Leadenhall House, 101, Leadenhall-st., London, E.C.
Andrews, J., Park-rd., Spalding.
Andrews, L. H., A.I.E.E., 7, Gladsmuir-rd., Upper Holloway, N.
Angold, A. E., Rosthwaite, Hale-rd., Altrincham, Cheshire.
Appleyard, R., 79, St. Mary's Mansions, Paddington, W.
Apps, A., 433, Strand, London, W.C.
ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 *&* 406.
Aronsberg, C., 24, Manchester-st., Liverpool.
Ashton, A. G., Royal Laboratory, Woolwich Arsenal, S.E.
Aspinall, R., c/o J. Sunderland & Co., 183, Gibbet-st., Halifax.
Babbage, T., 38, West Exe, Tiverton.
Bailey, G., 10, Princess-st., Wolverhampton.
Ball, A. E., 38, St. Saviour's-rd., Leicester.
Barham & Co., Tuxford, Newark.
Barnsley, E., & Co., 79, Trafalgar-st., Brighton.
Barwell, H. G., Eastern Telegraph Co., Porthcurnow, Cornwall.
Bates, A. T., Whitehead Torpedo Works, Weymouth.
Bates, W., Northern Counties Electricity Supply Co., Ltd., Hebburn, Durham.
Bayles, E. A., Helsby, near Warrington, Lancashire.
Beckett, G. E., & Co., 79, Oxford-rd., Chorlton-on-Medlock, Manchester.
Beddow, Jas., 112, Brynn-st., St. Helens.
Bellow, H. J., 343, Bensham-lane, Thornton Heath.
Bentley, H. J., & Co., 17, Newton-st., Piccadilly, Manchester; & 27, Bootle-st., Deansgate, Manchester.
Bidwell, Shelford, M.A., SC.D., M.I.E.E., Beechmead, Oatland's Chase, Weybridge.
Bishop, W. J., A.I.E.E., The Limes, Milton-rd., Croydon.
Blackmore, A., 5, Montpelier-st., Brompton, S.W.
Blair, G. C., A.M.I.E.E., The Moorings, Thornly Park, Paisley, N.B.
Bolton & Sons, 153, Hope-st., Glasgow.
Bond, W. F., 245, Euston-rd., N.W.
Booth, Richard, 27, Cunliffe-st., Chorley, Lancashire.
Boucher, J. W., A.I.E.E., Edison & Swan United Electric Light Co., Ltd., 12, Dawson-st., Dublin.
Bowden, Th., Marconi's Wireless Telegraph Co., Tyssen-st., Dalston, N.E.
Braby, Ivon, M.I.E.E., Helena, Alan-rd., Wimbledon.
Brash, W. R., 44, Dalhousie-st., Glasgow.
Brew, W., M.I.E.E., Dublin Corporation Electricity Supply, Fleet-st., Dublin.

Electricians—*continued.*

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.
Brooks, E. E., Technical School, Leicester.
Brown, F., 11, Upper George-st., Bryanston-square, London, W.
Brown, J. C., D.SC., University, Liverpool.
Brown, J. W., Corporation Electricity Works, Morley.
Brown, W. R., A.M.I.E.E., 18 & 20, Mill-st., Macclesfield.
Brown, Alex., & Co., 233, St. Vincent-st., Glasgow.
Brown & Bye, 60, Stoke Newington-rd., N.
Brunner, H. B., Winnington Park, Northwich, Cheshire.
Buckley, M. J., A.M.I.E.E., 26, Bessboro'-ter., North Circular-rd., Dublin.
Bullivant & Co., 70, Lees-rd., Oldham.
Burnby, S., & Son, 20, Warner-rd., Camberwell, London, S.E.
Bush, E., & Co., 26, Sunbridge-rd., Bradford.
Butterfield Bros., 48, Yorkshire-st., Oldham.
Button, T., London-rd., Kingston.
Caiger, G., 29, Radnor-street, Hulme, Manchester.
Carr, Byrom, Technical School, Sheffield.
Carr, E. R., A.M.I.E.E., 7, Hayter-rd., Brixton, S.W.
Carter, G. H., 65, Torriano-avenue, London, N.W.
Carter, R., Thetford Electricity Works, Thetford, Norfolk.
Cassells, R. D., & Co., Ltd., 168A, St. Vincent-st., Glasgow.
Caton, Wm., 28, Peter-st., Oldham.
Chadwick, J. M., Findhorn House, Forres, N.B.
Charlton, R. B., & Co., Manors Railway Station Works, Newcastle-on-Tyne.
Chauvin, G. von, M.I.E.E., 12, Queen Anne's Gate, London, S.W.
Chisholm, A. H., A.I.E.E., 162, Abbey-st., Jamaica-rd., Bermondsey, S.E.
Church, G. H., M.I.E.E., Works Department, Royal Arsenal, Woolwich.
Clark, Robert, Taybank, Errol, N.B.
Clark, Thomas, Telegraph Construction & Maintenance Co., Ltd., Enderby's Wharf, East Greenwich.
Clark, T., A.I.E.E., 65, Roselea Drive, Dennistoun, Glasgow.
Clarke, W. H., "Isawood," Chermside-rd., Aigburth, Liverpool.
Claxton, Wm. Newman, Station-rd., Alford, Lincolnshire.
Clements & Son, 106A, Fenchurch-st., E.C.
Clephan, T. J. S., 22 & 24, Standishgate, Wigan.
Close, F. W., 147, Waterloo-rd., Wolverhampton.
Clough, N., A.I.E.E., 22A, College Hill, Cannon-st., E.C.
Codd, Ll. B., Standard Works, Dame Agnes-st., Nottingham.
Coffin, H. L., 16, Mortlake-rd., Kew.
Coleman, C., Corporation Electricity Department, Hastings.
Coleman, G. T., 9, Cheapside, Leicester.

Electricians—*continued.*

Collett, A. E., 1, Reginald-ter., Leeds.
Collins, C. J., 29, Suffield-rd., Newington, London, S.E.
Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.
Constans, Philip, 303, High Holborn, London, W.C.
Cookson, W. R., Binfield-park, Bracknell, Berks.
Corking, J. T., Jackson-st., Gateshead.
Cornell, Wm. T., 67, May-st., West Kensington, W.
Couch, Chas. Thos., 133, Cambridge-street, Pimlico, London, S.W.
Cowap, G. F., Tarporley, Cheshire.
Cox, C. F., Works Department, Royal Arsenal, Woolwich.
Cross, W., 159, Belgrave Gate, Leicester.
Cruise, E. G., 17, Trebovir-rd., S.W.
Cunnynghame, H. H., M.I.E.E., Home Office, Whitehall, London, S.W.
Dale, A. Arthur, Daisy Bank, Leckhampton, nr. Cheltenham, Glos.
Dale, S., A.I.E.E., 16, Radmoor-rd., Ashby-rd., Loughborough.
Dallas, J. D., 67, Ridgmount-gdns., London, W.C.
Daniel, G. A., Nettlefolds, Ltd., Castle Works, Tydu, near Newport, Mon.
Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.
Darke, W. C., 129, Seaford-rd., Tottenham, N.
Davy, J. H., 2, Victoria-ave., New Barnet.
Dickson, J. D. H., 6, Cranmer-rd., Cambridge.
Dixon, W. H. T., Central Station, C.L.C. Rly. Co., Manchester.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Dowsett, H. M., A.I.E.E., Marconi's Wireless Telegraph Co., 18, Finch-lane, E.C.
Drake, W., Electric Parade, Clacton-on-Sea.
DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.
Dudley Electrical Co., High-st., & King-st. Works, Dudley.
Duncan, W. J. V., Phœnix Works, Mentmore-ter., London Fields, London, N.E. *See advts., pages* 404 *&* 633.
Dunn, E. E., Queen-st., Ramsgate.
Dunn, H. E., Marconi's Wireless Telegraph Co., Ltd., 18, Finch-lane, E.C.
Dunn, W. J., Law Accident Insurance Society, Ltd., 215, Strand, W.C.
Eagar, H. T., Mardwell Cottage, Pleasant-place, Margate.
Edwards, E., West Cliff, Herne Bay.
Electrical Instrument Manufacturers, Ltd., Frenzywater, Waltham Cross, N.
Ellis, W., F.R.S., M.I.E.E., 78, Coleraine-rd., Blackheath, S.E.
Elwin, E. P., 1, Anerley Park, Anerley, S.E.
Evans, E. M., Swan-sq., Burslem.
Evans, G. H. D., Talarfor, Barmouth.

Electricians—*continued.*

Everett, E. I., A.M.I.E.E., Collindale Works, Hendon, London, N.W.
Fanshawe, Harry, Thoralby, Fortune-gate, Harlesden.
Felten & Guilleaume Lahmeyerwerke Action Gesellschaft, Mülheim am Rhein.
Ferguson, Charles Joseph, 74, Chiswell-st., London, E.C.
Fleming, M. J., borough surveyor, Town Hall, Waterford.
Fletcher, Kilpatrick & Co., 15, East Vermont-st., Glasgow.
Foster, L. L., Charing Cross, West End & City Electricity Supply Co., Ltd., 85, Fenchurch-st., E.C.
Fournier, E. E., Chapelizod, Dublin.
Fowler, H., William-st., Windsor.
Fox, Chas. G., Ernest F. Moy, Ltd., Greenland-pl., Camden Town, London, N.W.
Franks, A., 95 & 97, Deansgate, Manchester.
Fraser, A., Eastern Telegraph Co., Ltd., Electra House, Moorgate, London, E.C.
Frederison, M., 8, Regent-st., London, W.
Freudemacher, P. W., A.M.I.E.E., "Astolat," Berlin-rd., Catford, S.E.
Frew & Co., Ltd., 6 & 7, Mill-st., Perth.
Frost, H. G., 54, High-st., Deal.
Fry, H., c/o J. Sunderland & Co., Halifax.
Fulton, T. Crichton, A.I.E.E., 44, West George-st., Glasgow.
Galgey, J. M., 2, Clifton-terrace, Cork.
Galliers, H. J., 32, St. James-st., Brighton.
Garcke, E., Donington House, Norfolk-st., W.C.
Garrett Bros., 19, Cowper-st., Northampton.
Gatehouse, T. E., F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., *Electrical Review*, 4, Ludgate Hill, E.C.
Gayler, D., c/o Wm. McGeoch & Co., Ltd., 11, Charing Cross-rd., London, W.C.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.
Gibbons, James, Haseley, near Tetsworth, Oxfordshire.
Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.
Gillard & Co., Terretts-pl., Upper-st., Islington, N.
Gleeson, C. & R., 45, Bell-st., Edgware-rd., N.W.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.
Gordon, J., Pim Bros., Great George-st., Dublin.
Gott, J., Commercial Cable Co., 55 & 56, Bishopsgate-st. Within, London, E.C.
Graham, J. W. & R., Faraday Works, Fitzwilliam-st., Huddersfield.

Electricians—*continued.*

Grantham, G. E., 245, Elm-grove, Brighton.
Graves, James, M.I.E.E., Anglo-American Telegraph Co., Ltd., Valentia, Ireland.
Green, W. J. S., 214, Birchfield-rd., Birmingham.
Green & Abbott, 473, Oxford-st., W.
Greenhill, J. E., Downs-park-road, Clapton, London, E.
Greeves, O. V., A.I.E.E., Portadown.
Grimsley, F. C., Belgrave-rd., Leicester.
Gripper, Francis E., M.I.E.E., Broad Sanctuary-chbrs., London, S.W.
Gwinn, A. H., & Co., 26, Romford-rd., Stratford, London, E.
Haine & Co., 13, Connaught-st., London, W.
Hancock & Rixon, 52, Great Marlborough-st., London, W.
Hanks, F. T., A.M.I.E.E., "Inglewood," Benton, Newcastle-on-Tyne.
Harmer, C., & Son, 11, Lingfield-rd., Wimbledon, Surrey.
Harrap, Hewett & Duffield, 5, Budge-row, Cannon-st., E.C.
Harris, H. D., Borough Electricity Works, Hornsey, Middlesex.
Haslam, A. P., M.I.E.E., 83, St. Dunstan's-rd., Hammersmith, W.
Haycraft & Son, Ltd., Broadway, Deptford; & Lewisham High-rd., London, S.E.
Heath, T. W., & Son, Pembroke Works, Pembroke-sq., Kensington, W.
Heaton, C., 2, City-rd., Bradford, Yorks.
Hebbert, Ernest G., Aysgarth, Calverley-park-gardens, Tunbridge Wells.
Henderson, J. H., 46B, Lancaster-ave., Fennel-st., Manchester.
Hepworth, C. M., 17, Cecil-ct., Charing Cross-rd., W.C.
Herbert & Moult, Parker-st. & Derbyshire-lane, Hucknall Torkard, Notts.
Hetherington Bros., Penrith, Cumberland.
Heywood, T. M., Mount Stuart-sq., Cardiff.
Hill, Alfred W., A.M.I.E.E., Maxim Electrical Co., Ltd., Maxim Works, Gillingham-st., S.W.
Hill, J. G., Trevarrick, St. Austell.
Hill, T., St. Austell Electric Light & Power Co., Ltd., St. Austell.
Hill, Geo., & Co., Trafford Electric Works, Cornbrook, Manchester. (Teleph. No 2920.)
Hislop, L. M., 117, High-st., Portobello, Edinburgh.
Hislop, R. G., 7 & 9, Pitt-st., Edinburgh.
Hobart, H. M., Oswaldestre House, Norfolk-st., Strand, London, W.C.
Holding, G., Corporation Electricity Works, Newcastle-under-Lyme, Staffs.
Holland, C. E., 4, Redington-road, Hampstead, London, N.W.
Holt, W., 83, Snarsgate-street, Dover.
Hooker, G., High-st., Sittingbourne.
Howitt, J., & Sons, St. Mark's Works, & 36, Stodman-st., Newark.
Hulme & Son, 8 & 9, Sadlergate, Derby.
Humphreys, H., Meirion, High-st., Aberystwith.

Electricians—*continued.*

Hunter, W., Overhead Railway, Liverpool.
Hurworth, T., Leeds Industrial Co-operative Society, Leeds.
Huston, F., 52, Creswick-st., Breck-rd., Liverpool.
Hutton, F. H., M.A., Vicar's-ct., Lincoln.
Hutton, J., 98, King's-rd., Camden-rd., London, N.W.
Hyland & Borrow, 91, King's-rd., Chelsea, London, S.W.
INDIA-RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Inkpen, J. & W. T., 71, City-rd., E.C.
Izant, Alfred, 6, Lorenzo-st., King's Cross, London, W.C.
Jackson, H., 97, Drayton-gdns., South Kensington, S.W.
Jacques, H. S., & Co., 21, Duke-st., Whitehaven.
Johnson Bros., Idle-rd., Bradford.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page 404 & inside back cover.*
Johnson, Wm., & Co., 49, Leopold-st., Sheffield.
Johnson, W. H., & Son, St. James's-st., Lynn.
Joll, F. W., A.M.I.E.E., c/o Electrical Co., Ltd., 122 & 124, Charing Cross-rd., London, W.C.
Jones, S. W. H., 19 & 20, New-st., Worcester.
Jones, T. S. & J. D., 15, Beaufort-sq., Chepstow.
Judd, Walter, M.I.E.E., Eastern, Europe & Azores & Direct Spanish Telegraph Cos., 66, Electra House, Finsbury Pavement, E.C.
Judson, F. H., Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, S.E.
Kemp, R., A.M.I.E.E., 33, Falkland Mansions, Hyndland, Glasgow.
Kerr, George A., Woodside, Upper Norwood, London, S.E.
Kershaw, Abraham, Dorrington-st., Leeds.
King, John, 29, Kay-rd., Brixton, London, S.W.
King & Co., Eton, Windsor.
Knight, Alfred W., Cuckfield & Market-pl., Hayward's Heath, Sussex.
Laidler, J., & Sons, 83, New Elvet, Durham.
Lamb, C. G., M.A., B.SC., A.M.I.E.E., Engineering Laboratory, Cambridge.
Lane, W. H., Sidney-rd., Staines.
Langdon-Davies, C., 35, Craven-st., Charing Cross, London, W.C.
Leaver, J. J., 30, High-st., Weston-super-Mare.
Le Claire, August, 67, Praed-st., London, W.
Lednor, C., King-st., Ramsgate.
Legge, W. N., Corporation Electricity Works, Southport.
Lindsay, A., 8, Bothwell-st., Glasgow.
Linsell, S. E., A.M.I.E.E., Martin's Hall, Stebbing, Essex.
Lock, W. B., A.I.E.E., 15 & 16, Norfolk-st., King's Lynn.

Electricians—*continued.*

Lomas, Jno., U.D.C. Electricity Works, Mirfield, Yorks.

LOWDON BROS. & CO., Temple Electric Works, Dundee; 50, Frederick-st., Edinburgh; 332, Argyle-st., Glasgow; Cult's Electricity Station, Aberdeenshire; 2, Abbot-st., Dunfermline; & 132, Market-st., St. Andrews.

Lowrance, M., & Son, Peel-sq., & Market-st., Barnsley, Yorks.

Lowson, J., A.M.I.E.E., 10, West Campbell-st., Glasgow.

Lundberg, P. A., Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.)

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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Lyth, F. W., Central Station, C.L.C. Railway Co., Manchester.

M'Dermott, J., 168A, St. Vincent-st., Glasgow.

Macdonald, J., Rosehaugh, Avoch, Ross-shire, N.B.

Macdonald, The Right Hon. Sir J. H. A., F.R.S., F.R.S.E., K.C.B., LL.D., M.I.E.E., 15, Abercromby-pl., Edinburgh.

McFarlane, James. Works manager to Holland House Electrical Co., Ltd., 9, Holland-pl., Glasgow.

Macfarlane Bros., Roxburgh Works, Scotstoun, Glasgow.

Maclay, Wm., A.I.E.E., Thornwood, Langside, Glasgow.

McMillan, J. (Ericsson-Bell Telephone Co.), Baltic-chbrs., 50, Wellington-st., Glasgow.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Malley, John D., 12, Richardson-st., Smithdown-rd., Liverpool.

Mamelsdorf, V., A.I.E.E., 2, Tokenhouse-bldgs., London, E.C.

Manners, H., 80, New Kent-rd., London, S.E.

Manson, W., Great Northern Telegraph Co., Aberdeen.

Marler, H. A., A.I.E.E., 51, Northolme-rd., Highbury, N.

Marr, J. J., & Co., 18, Moorfields, Liverpool.

Marsh, J., 58, Wharncliffe Silkstone Colliery, near Barnsley.

Martin, W. G., 102, High-st., Stoke Newington, London, N.

Martin & McFie, 8, Wellington-st., Glasgow.

Mayer, A., Cathkin-rd., Langside, Glasgow.

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Meade, R. E., Corporation Electricity Works, Stafford.

Medland, J. B., 44, Lorrimore-rd., London, S.E.

Melhuish, Richard, Ltd., 84, 85, 86 & 87, Fetter-lane, London, E.C.

Mertens, J. T., A.I.E.E., Hove Electric Lighting Co., Hove, Sussex.

Miller, T., & Co., 66, Victoria-st., S.W.

Mills, H., 138, Newington-butts, London, S.E.

Mitchell, W., Camden-passage, Islington, N.

Moffat, J. M., 448, Merton-rd., Wandsworth.

Mond, R. L., M.A., F.R.S.E., The Poplars, 20, Avenue-rd., Regent's Park, London, N.W.

Moore, J. S., 56, Grange-road, London, S.E.

Mordey, Geo., 24, Elliott-rd., North Brixton, London, S.W.

Mutual Electric Trust, Ltd., Lewes-rd., Brighton.

Nevile, R. H. C., Wellingore, Lincoln.

Noble, J., & Sons, Peterborough.

Nott, C. H., Exe Bridge Iron Works, Tiverton, Devon.

Nuthall, B., Ivy Side, King's-rd., Kingston-on-Thames.

Offer & Sons, Church-st., Kingston-on-Thames.

Ohlson, H., Hooper's Telegraph & India Rubber Works, Ltd., 31, Lombard-st., E.C.

Oldham, F., & Co., 22, Archway-rd., Highgate, London, N.

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, London, N.W. *See advt. page 642.*

Orr, R. A. N., Corporation Electricity Works, Faversham, Kent.

Osborne & Hunter, 108A, West Regent-st., Glasgow.

Paget, C. G., A.M.I.E.E., 47, Chatsworth-rd., Croydon.

Paget, H. P., Lister Electric Mfg. Co., Dursley, Glos.

Pain, R., & Son, Woking.

Palmer, W., 138, Burdett-rd., London, E.

Parker, P. C., A.I.E.E., County of Durham Electrical Distribution Co., Gateshead.

Parkinson, Joseph, Meadowside, Lancaster.

Parsons, E. M., 67, King Edward-st., Hull.

Parsons, J., & Son, 48, Bedwin-st., Salisbury.

Partridge, H. R. C., A.I.E.E., Bolton Iron & Steel Co., Bolton, Lancashire.

Paterson, J. S., Corporation Telephone Department, Glasgow.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page 608.*

Pearce, G., 162, Clapham-park-rd., London, S.W.

Pegler, W., jun., The Cross, Pontypool.

Phillips, A., & Co., 78, High-st., Dartford.

Platt & Bleasdale, Albion Electrical Works, Bolton, Lancs.

Plucknett, C. J., & Co., 29, Poland-st., London, W.

Powles, Walter, A.I.E.E., 249–251, Kensal-rd., London, W.

Pragnell, E. C., 136, Great Dover-st., London, S.E.

Electricians—*continued.*

Primavesi Bros., Bournemouth.
Privett, P. A. D., West End, Melksham, Wiltshire.
Prout, T. A., A.I.E.E., 19, Courtenay-rd., Waterloo, Liverpool.
Pullen, W. J., 4, Pemberton-pl., London-rd., Sittingbourne.
Raine, A., Cleveland Trust, Ltd., Saltburn-by-the-Sea.
Rastrick & Son, Ltd., King's-ter., Southsea.
Reeve, George, 4, Crimscott-st., London, E.C.
Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.
Renfrew, R. S., 136 & 140, North-st., Glasgow.
Rennie, John, M.I.E.E., Board of Trade Electrical Standards Laboratory, 8, Richmond-ter., Whitehall, London, S.W.
Richards, David, 44, Wern-road, Landore, near Swansea, S. Wales.
Richards, Rupert, & Co., 60, Huntley-st., Tottenham Court-rd., W.C.
Richardson, J. C., 19, Claremont-sq., London, N.
Richardson, T., 62, High-st., Loftus, R.S.O., Yorks.
Ridd, P. J., National Telephone Co., 6 & 8, Marshalsea-rd., S.E.
Roberts, T., & Son, Juniper-st., Liverpool.
Robertson, J. C., & Co., 11, Wemyss-pl., Glasgow.
Roche, E. C., A.I.E.E., Polytechnic, 309, Regent-st., W.
Rogers, W. R., Felling Electricity Works, Pelaw-on-Tyne.
Rogers & Gowlett, High-st., Watford.
Ross & Morrison, 9, Killermont-st., Glasgow.
Rowsell, P., 9, Derwent-grove, East Dulwich, London, S.E.
Rudge, E., 1, New Bond-st.-pl., Bath.
Russell, J., & Sons, 4, Mile End-rd., E.
Sachs, Carl J., electrician-in-charge British Museum, Great Russell-street, Bloomsbury, London, W.C.
Salanson, H., & Co., 20, High-st., Bristol; & 23, High-st., Cardiff.
Sanderson, C. J., & Sons, 30, Featherstone-st., City-rd., London, E.C.
Santonna, T. F., A.I.E.E., Sidbury, Worcester.
Saunders, Wm., 205, St. George's-rd., Bolton.
Saunders, E. J., & Co., 81, Albany-st., Regent's Park, N.W.
Saunderson, Llewellyn, Kingstown, co. Dublin.
Sayers, J. A., 78, Hubert-grove, Clapham, London, S.W.
Schneider, A., M.A., M.I.E.E., Acton-lane Works, Chiswick, London, W.
SCHOLES, GEORGE H., & CO., Blantyre-st., Manchester. (Telegrams: "Kilowatt, Manchester." Telephone No. 4061, Nat.)
Sharp, G., Tinsley Car Sheds, Sheffield.
Sharpe, J. W., Woodroffe, Portarlington-rd., Bournemouth.
Shaw, G. H., & Son, Exchange, Blackburn.
Sheppard & Co., 5, Grocers' Hall-ct., Poultry, E.C.

Electricians—*continued.*

Shepperd, A. H., A.I.E.E., Engineer-in-Chief's Office, G.P.O., London, E.C.
SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.
Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.
Silcock, Charles, Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, S.E.
Sinclair, Wm., 60, Thistle-st., Edinburgh.
Skipwith, R. E., Thorneywood, Woodborough, Notts.
Smith, A. C. Imrie, 12, York-st., Glasgow.
Smith, B. L., Scalands, Robertsbridge, Sussex.
Smith, C. A., 4, Eastgate, Louth.
Smith, F. J., South Staffordshire Tramways (Lessee) Co., Ltd., James Bridge, South Staffs.
Smith, G. E., 1, Spence-yd., Sherwood-st., Nottingham.
Smithers, T., 33, Borough-st., Brighton.
Speedy, Eynon & Co., 3, Adelaide-st., Strand, London, W.C.
Speke, J. W. & H., 177, Spencer-pl., Leeds.
Spence, James, 17, Kensal-rd., Westbourne-park, W.
Sprague, J. T., M.I.E.E., 117, Green-lane, Birmingham.
Stavers, John, 8, Hyde Park Mansions, London, N.W.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stephenson, S. O., Claremont-rd., Forest Gate, E.
Stephenson, G. V., & Sons, 31, Blackburn-rd., Accrington.
Stevenson, E. A., Telegraph Construction & Maintenance Co., Ltd., Enderby's-wharf, East Greenwich.
Stevenson, J., 90, Garfield-rd., Radford, Notts.
Stevenson, J. R., & Co., 7A, Young-st., Edinburgh.
Storier, D., Town Council Electricity Works, Broughty Ferry, Forfarshire.
Stormont, J., 629, Pollokshaws-rd., Glasgow.
Stroh, A., M.I.E.E., 98, Haverstock Hill, London, N.W.
Tait, Richard J., Chester-le-Street, Durham.
Tanner, A. M., c/o British Thomson-Houston Co., Ltd., 83, Cannon-st., E.C.
Tate, J., Harris-st., Bradford.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.
Tatlock, R. R., & Readman, 4, Lindsay-pl., Edinburgh.
Taylor, William, 17, Bishop-st., Dublin.
Tester, J. F., 2, Park-rd., Dereham, Norfolk.
THOMPSON, W. P., & CO., 322, High Holborn, London. (Telegrams: "Discovery, London." Telephone No. 823, Holborn); & 6, Lord-st., Liverpool. (Telegrams: "Patent, Liverpool." Telephone No. 1605.) *See advt., page* 650.

Electricians—*continued.*

Tinsley, H., "Penlee," Elmer's End-rd., Beckenham.
Treglohan, Thomas P., c/o Plymouth & District Students' Association, Plymouth.
Treharne, F. W., Llynderw, Llanishen, nr. Cardiff.
Trotter, Howard B., A.I.E.E., 63, Queen Victoria-st., E.C.
Trotter, John, 40, Gordon-st., Glasgow.
Tuson, C., A.M.I.E.E., "Trenance," Welldon-cres., Harrow.
Tutte, H. E., A.M.I.E.E., 10, West-st., Fareham.
Usher, Thos. G., & Co., 44, Leazes Park-rd., Newcastle.
VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.
Wainwright Bros., Pritchard-st., Manchester.
Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.
Warwick, B., 134, Highbury-hill, London, N.
Watson, H., A.M.I.E.E., 9, Holland-pl., Glasgow.
Watts, E. J., Marconi's Wireless Telegraph Co., Ltd., 18, Finch-lane, E.C.
Webb, W. L., Co. of Northampton Electric Power & Traction Co., Ltd., Wellingborough.
Wells, Herbert H., 219, High-st., Lewes, Sussex.
Weston, Robert, 102, Mortimer-rd., Kingsland, London, N.
Wetton, C. E., A.I.E.E., rep. British Insulated & Helsby Cables, Ltd., Lennox House, Norfolk-st., W.C. (Telegs.: "Airlike, London.")
Wheeley, C., The Jetty, Margate.
Whitaker, A. E., A.I.E.E., 97A, Upper Parliament-st., Nottingham.
Whiteford, W. G., Co. of Northampton Electric Power & Traction Co., Ltd., Wellingborough.
Wilcocks, W., Vestry Electricity Works, Hammersmith, W.
Williams & Bach, 92, New Bond-st., London, W.
Willway, J. S., & Sons, Ltd., St. Augustine's, Bristol.
Wilson, J. B., City of Carlisle Electric Tramways Co., Ltd., 1, Warwick-rd., Carlisle.
Wilson, W. S., High-st., Watford.
Windybank & Ballard, Albert-rd., Kingston-on-Thames.
Winter, G. E., 60, Caversham-rd., N.W.
Woakes, Dr. Arnold B., 78, Harley-st., London, W.
Wood, Arthur, Newport, Isle of Wight.
Wood, Henry George, A.M.I.E.E., South Eastern & Chatham Railway Electrical Department, London Bridge, S.E.
Wood, T. H., & Sons, 206, Broadway, Bexley Heath, S.E.
Woodward, F., & Co., Clerkenwell Close, E.C.
Wright, J., 3, Surbiton Park-ter., Kingston-on-Thames.
Yardley, Wm., Kingston-rd., Leatherhead, Surrey.
Yates & Eagle, St. Nicholas-st., Leicester.
Yelf & Son, 64, King-st., Southsea.

Electricians—*continued.*

Youldon, E. C., 137, Ditchling-rd., Brighton.
Young, W., Aylesbury, Bucks.
Young, W. F., Studley Royal, Ripon.

Electricians—Consulting.

F.—Electriciens—Consultants.
G.—Elektriker—Beratende.

Alabaster H., Gatehouse & Co., 4, Ludgate Hill, London, E.C.
Anderson, Richard, & Co., Leadenhall House, 101, Leadenhall-st., London, E.C.
Ansell, F. Graham, F.C.S., Wickwar, Glos.
ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 *&* 406.
Bearcroft, C. R. D., 25, John-st., Bedford-row, W.C.
Biggs, C. H. W., Glebe Lodge, Champion-hill, London, S.E.
BLAKEY, EDWIN, M.I.E.E., Barmouth, North Wales.
Brookes-Edwards, H., Cardigan Works, Wakefield, Yorks.
Carrick, W. B., 13, Balmoral-st., Gosforth, Newcastle-on-Tyne.
Carter, J. H., 82, Mark-lane, London, E.C.
Cook, Ernest H., D.SC. LOND., Clifton Laboratory, 27, Berkeley-square, Bristol.
Cramp, Wm., A.M.I.E.E., Atlantic-chbrs., Brazennose-st., Manchester.
Crawley, C. W. S., M.I.E.E., 89, Upper Richmond-rd., Putney, S.W.
Dawnay, Archibald Davis, Wales & West of England Girder Works, East Moors, Cardiff.
Dawson, Philip, M.I.C.E., M.I.E.E., 29, Great George-st., Westminster, London, S.W.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.
Edmunds, Henry, Parliament Mansions, Victoria-st., Westminster, London, S.W.
Erskine-Murray, J., D.SC., F.R.S.E., 219, St. Vincent-st., Glasgow.
FLETCHER, G. E., A.M.I.C.E., M.I.E.E., 77, King-st., Manchester. (Telegs.: "Rheostat, Manchester." Nat. Teleph. No. 5670.)
Fulton, T. Crichton, A.I.E.E., 44, West George-st. Glasgow.
Gardner, E., Patricroft, Manchester.
Gatehouse, T. E., F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., *Electrical Review*, 4, Ludgate Hill, London, E.C.
Handford, Fredk. J., 64, Cheapside, E.C.
Hobart, H. M., Oswaldestre House, Norfolk-st., Strand, W.C.

Electricians—Consulting—*continued.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-court, Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Johnston, A. W., A.M.I.E.E., 286, Springburn-rd., Glasgow.

Lorrain, J. G., M.I.E.E., M.I.MECH.E., &c., Norfolk House, Norfolk-st., Strand, London, W.C. Consulting electrician & chartered patent agent. (Telegs.: "Lorrain, London." Teleph. No. 2511.)

MACKIE, W., & CO., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See* DYNAMO MANUFACTURERS.

Massey, W. H., M.I.C.E., M.I.E.E., 25, Queen Anne's-gate, Westminster, S.W. (Telegs.: "Massive, London." Teleph. No. 832, Westminster.)

Maycock, W. Perren, M.I.E.E., The Residential Club, Trafford Park, Manchester.

Miller, T. L., & Wilson, 19, Brasennose-st., Manchester (Telegrams: "Kinematic, Manchester." Telephone No. 5020, Manchester); & 7, Tower-bldgs., Water-st., Liverpool. (Telegrams: "Kinetic, Liverpool." Telephone No. 6216.)

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

Notcutt, S. A., A.B., LL.M., B.SC., Constitution Hill, Ipswich.

O'Gorman & Cozens-Hardy, 82, Victoria-st., Westminster, S.W.

Peschek, J., 44, Wellington-rd., Old Charlton, S.E. Works: West-st., Charlton, S.E. (Telephone No. 222, Woolwich.)

PULFORD BROS., LTD. Head office, show-room & works: 108 & 110, Whitechapel, Liverpool.

Rayleigh, the Right Hon. Lord, O.M., F.R.S., M.A., D.C.L., LL.D., F.R.A.S., F.R.G.S. (Hon. Professor of Natural Philosophy at the Royal Institution), Terling-pl., Witham, Essex.

Redmond, D. D., M.D., F.R.C.S., 126, Sandford-road, Dublin.

Reed, Alexander Henry, 64, Mark-lane, E.C.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook-green Works, Hammersmith, London, W. *See advt., page* 603.

SAYERS, JAMES E., & CALDWELL, 157, West George-st., Glasgow.

Shaw, W., A.M.I.E.E., 105, Colmore-row, Birmingham.

Stegmann, G., 10, North Side, Wandsworth Common, S.W.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

Swinburne, Cooper & Baillie, 82, Victoria-st., S.W. (Telegrams: "Swooper, London." Telephone No. 292, Westminster.)

Electricians—Consulting—*continued.*

Swinton, A. A. Campbell, 66, Victoria-st., Westminster, London, S.W. (Telegs.: "Dunamis, London." Teleph. No. 156, Westminster.)

THOMPSON, W. P., & CO., 322, High Holborn, London (Telegrams: "Discovery, London." Telephone No. 823, Holborn); & 6, Lord-st., Liverpool. (Telegrams: "Patent, Liverpool." Telephone No. 1605.) *See advt., page* 650.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Electricians—Domestic.

F.—Electriciens—Inst. de maisons, &c.

G.—Elektriker für Hausanlagen.

Apps, A., 433, Strand, London, W.C.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 109, Oxford-st., W. For information regarding our manufactures, *see page* 74.

Campbell, John, 31, Stafford-st., Oban, N.B.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Izant, Alfred, 6, Lorenzo-st., King's Cross, London, W.C.

Rashleigh Phipps & Co., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 2155, Central.)

Robisher, J., 60, Vine-street, Higher Openshaw, near Manchester.

Smeeton & Page, 63, Queen Victoria-st., London, E.C.

Smith, Wm., & Co., 243, Broad-st., Pendleton, Manchester.

Stegmann, G., 10, North Side, Wandsworth Common, S.W.

WOODWARD, W. R., Beaumont Works, 155A, Boleyn-rd., Forest Gate, London, E.

Wort, Arthur, 20, Tavistock-rd., Forest Gate, London, E.

Electricians—Experts.

F.—Electriciens—Experts.

G.—Elektriker—Fachkundige.

Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, London, E.C.

Apps, A., 433, Strand, London, W.C.

Baily, Francis G., M.A., M.I.E.E., Heriot Watt College, Edinburgh.

Electricians—Experts—*continued.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Efandem Co., Piccadilly Circus Mansions, 67A, Shaftesbury-ave., London, W.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

Fulton, T. Crichton, A.I.E.E., 44, West George-st., Glasgow.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Miller, T. L., & Wilson, 19, Brasennose-st., Manchester (Telegrams: "Kinematic, Manchester." Telephone No. 5020, Manchester); & 7, Tower-bldgs., Water-st., Liverpool. (Telegrams: "Kinetic, Liverpool." Telephone No. 6216.)

O'Gorman & Cozens-Hardy, 82, Victoria-st., Westminster, S.W.

PRITCHETTS & GOLD, LTD., 20, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. Experts in electric storage batteries. *See* ALPHABETICAL. *See advt., page* 417.

PULFORD BROS., LTD. Head office & works: 108 & 110, Whitechapel, Liverpool. Egerton G. Pulford, consulting engineer.

TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.

THOMPSON, W. P., & CO., 322, High Holborn, London (Telegrams: "Discovery, London." Telephone No. 823, Holborn); & 6, Lord-st., Liverpool. (Telegrams: "Patent, Liverpool." Telephone No. 1605.) *See advt., page* 650.

Electricians—Manufacturing.

(*See also* MANUFACTURING COMPANIES—ELECTRIC.)

F.—Electriciens—Fab.
G.—Elektriker—Fab.

Anderson, Richard, & Co. (successors to Sanderson & Co.), Huddersfield; & Leadenhall House, 101, Leadenhall-st., London, E.C.

Antwerp Telephone & Electrical Works, Ltd., Rod. B. Bumiller, manager, Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom: Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., London, E.C.

Apps, A., 433, Strand, London, W.C.

ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 & 406.

Barnett, Rowland & Co., Ltd. Office & works: 3, Hanover-sq., Newcastle-on-Tyne. Branch office & show-rooms: 17, Dean-st.

Electricians—Manufacturing—*continued.*

Baughan & Co., London-st., Reading.

Beckett & Parker, Tenby-st., Birmingham.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton-garden, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) *See advt., page* 617.

Botten, Henry, 39, Lime-st., London, E.C.

Bradshaw, J. C., & Co., 10, Dixon-rd., New Cross, S.E.

Bristöl, L., Bristol Electric Safety Lamp Works, 40, Great Smith-st., Westminster, London, S.W.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.

CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Carlyle-rd., Cambridge.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advts., page* 391.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Cole, John A., 15, Gloucester-st., West Norwood, S.E.

CONDUITS & FITTINGS, LTD., manufacturers of CONREX electrical steel conduits & patent fittings, "Conrex" tube bender, &c., Conduitrex Works, Salusbury-rd., Kilburn, London, N.W. (Telegs.: "Mabercon, London." Teleph. No. 1560, Paddington.) *See advt., page* 449.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Corse, W. J., & Co., 53, Union-st., Plymouth. (Telephone No. 0871.)

Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt.* OPPOSITE.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Makers of dynamo machines, arc lamps, & all requisites for electric lighting. *See advt. inside front cover.*

CRYSELCO, LTD., Kempston Works, Bedford. *See advt., page* 605.

Donald, James T., & Co., Ltd., 35, M'Alpine-st., Glasgow.

Electricians—Manufacturing—*continued.*

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow: Australasian, Oswald Haes, 6, Margaret-st., Sydney. *See advt., page* 21.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein.

Field & Son, Market-sq., Aylesbury.

Fielder & Rees, 35, Chiswell-st., London, E.C.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegrams: "Foxship, London.") *See advts., pages* 404 *&* 633.

Garrett, F. T. & A., High-street, Dunstable; Towcester; & Northampton.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Gill & Co., 4 & 5, High-st., Oxford.

Harris & Harris, 79, Turner's-rd., Burdett-rd., Bow, E.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Hill, Geo., & Co., Trafford Electric Works, Cornbrook, Manchester. (Teleph. No. 2920.)

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

Electricians—Manufacturing—*continued.*

HOLLAND HOUSE ELECTRICAL CO. LTD., 9, HOLLAND-PL., & 121A, St. Vincent-sq., GLASGOW. (Telegs.: "Electrical, Glasgow." Teleph. Nos.: 167, Nat.; & 2190, Corp.)

Home & Rowland, Troughton-rd., Charlton, S.E.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-court, Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Kelso & Co., 55, Oxford-st., Glasgow.

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: Corp., 4519; Nat., 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Teleph. No. 725, Westminster.)

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 715.

Linay, J. C., High-st., Chatham.

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire (Telegrams: "Electricity, Dursley." Teleph. No. 6, Nat.); & London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.

LOWDON BROS. & CO., Temple Electric Works, Dundee (Telegrams: "Lowdons, Dundee"); 50, Frederick-st., Edinburgh (Telegrams: "Lowdon, Edinburgh"); 332, Argyle-st., Glasgow (Telegrams: "Lowdons, Glasgow"); Cult's Electricity Station, Aberdeenshire; 2, Abbot-st., Dunfermline; & 132, Market-st., St. Andrews.

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Electricians—Manufacturing—*continued.*

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See advts., page 694 *& on lower outside edges.*

Lyle, J., 37, S. Portland-st., Glasgow.

MACKIE, W., & CO., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See advt., page* 473.

MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilatore, Milan." Teleph. Nos. 809–3150.) Works in Sesto S. Giovanni. *See advts., pages* 582, 585, 997, 998 *&* 1227.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See advt., page* 388.

Mason & Brown, 82, Rutland-st., Leicester.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Miller, Leslie, A.M.I.E.E., 93, Hatton Garden, London, E.C.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell).

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

OFFORD & CO., 97 & 98, Woodcock-st., Birmingham. (Telegs.: "Offord, Woodcock-st., Birmingham." Nat. Teleph. No. 2229.)

Parsons, C. A., & Co., Heaton Works, Newcastle-on-Tyne; 99, Great Clyde-st., Glasgow; & 66, Victoria-st., Westminster, London, S.W.

Pattison, W., & Son, 88, Claypath, Durham.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page* 608.

PEEBLES, BRUCE, & CO., LTD., Edinburgh (Telegrams: "Peebles, Edinburgh.")

Electricians—Manufacturing—*continued.*

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless steel conduits. *See advt., page* 447.

Peschek, J., 44, Wellington-rd., Old Charlton, London, S.E. Works: West-st., Charlton, London, S.E. (Telephone No. 222, Woolwich.)

PRITCHETTS & GOLD, LTD., 20, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. Manufacturers of storage batteries. *See* ALPHABETICAL. *See advt., page* 417.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.

ROBERTS, ERNEST, 6, Holborn-pl., London, W.C. (Telegrams: "Roborant, London." Telephone No. 1642, Holborn.)

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.

Round, John, 3, Marmont-road, London, S.E.

ROYCE, LTD., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

Rudd, J. A., & Co., 68, Gordon-st., Glasgow.

Sanders, W., & Co., Falcon Electrical Works, Wednesbury.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SIMPLEX CONDUITS, LTD., THE. Head office: Garrison-lane. Works: Maxstoke-st., Birmingham; & at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; 165A, West George-st., Glasgow; & 11, Queen Victoria-st., London, E.C. *See advts., pages* 445 *&* 446.

Standard Electric Co., Ltd., 17, Victoria-st., London, S.W. Works: 123, Colvend-st., Rutherglen Bridge, Glasgow.

Stegmann, G., 10, North Side, Wandsworth Common, S.W.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.

Stone, A. F., & Son, 130, Hanover-st., Sheffield.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

Treacher, C. W., & Co., 165, Queen Victoria-st., London, E.C.

Tyer & Co., Ltd., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Electricians—Manufacturing—*continued.*

Wagner, C. T., 206 & 207, Upper Thames-st., E.C.

Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 858, Western.)

Walters & Son, 57, Lower Mosley-st., Manchester.

Ward & Newman, Hope Works, Ley-st., Ilford, Essex.

White, Thomas, 9, Mill-st., Hanover-sq., London, W.

Williamson, J. C., Lanehurst, Woodford Green, Essex.

Electricians—Medical.

F.—Electriciens—médicales.

G.—Elektrotherapie.

Barnes, F. W., 19, Margaret-st., Cavendish-sq., W.

Dowsing Radiant Heat Co., Ltd. Chief Medical Institution: 28, York-pl., Baker-st., W. (Tel. No. 1552, Paddington.) West Suburban Branch: Oldfields, Acton Vale, W. (Tel. No. 259, Hammersmith.) Provincial: 5, Oxford-row, Bath (Tel. No. 217); Old Christchurch-rd., Bournemouth (Tel. No. 413); & branches in all chief towns.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Hearder, W., D.SC., PH.D., F.S.A., 195, Union-st., Plymouth.

Hedley, Dr. W. S., 8, Mansfield-st., Portland-pl., W.

Jones, Dr. Lewis, A.I.E.E., St. Bartholomew's Hospital, West Smithfield, E.C.; & 143, Harley-st., W.

Lyster, C. R. C., Electrical Department, Middlesex Hospital, London, W.

PARKES, ROBERT J. (& apparatus maker), 2, Church-st., Southport.

Peers, G. R., A.M.I.E.E., 344, Bury New-rd., Manchester.

Peto & Radford, Ltd., 100, Hatton Garden, E.C.

Turner, Dr. Dawson, Royal Infirmary, Edinburgh.

Electricians—Medical Manufacturing.

F.—Appareils électro-medicaux—Fab. de.

G.—Elektrotherapeutische Instrumente—Fabr. von.

Apps, A., 433, Strand, London, W.C.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bridge, G. E., & Co., Old Christchurch-rd., Bournemouth.

Electricians—Medical Manufacturing—*continued.*

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

British Electric Medical Co., Byron House, Fleet-st., E.C.

Down Bros., Ltd., 21, St. Thomas-st., Borough, S.E.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Howett, E., Welby-st., Grantham.

Kroeger, M., 67, Elizabeth-st., Eaton-sq., S.W.

Lynch & Co., Ltd., Silver-st., Falcon-sq., E.C.

Ozonair, Ltd., patentees & manufacturers of apparatus for the commercial production of ozone for ventilating, medical & manufacturing purposes, 27, Chancery-lane, London, W.C.

Phœnix Electric Heating Co., Ltd., 3, Holborn-pl., High Holborn, London, W.C.

ROYAL STANDARD ELECTRIC LAMP MANUFACTURING CO., 4, Hart-st., New Oxford-st., London, W.C. *See advt., page* 604.

Sanitas Electrical Co., Ltd., 61, New Cavendish-st., W.

Schwind, C. L., Broomfield, Derby.

Watson, W., & Sons, 313, High Holborn, London, W.C.

Electricians' Tools—Makers of.

(*See* MACHINE TOOL MAKERS.)

Electricity Meters—Makers of.

F.—Compteurs d'électricité.

G.—Elektricitäts Zähler—Fab. von.

Apps, A., 433, Strand, London, W.C.

Aron Electricity Meter, Ltd., 80A, Salusbury-rd., Kilburn, N.W.

Bastian Meter Co., Ltd., Bartholomew Works, Kentish Town, London, N.W.

BAT ELECTRICAL CO., 23-25, North-st., King's Cross, London.

Braulik, G., 217 & 218, Upper Thames-st., E.C. *See advt., page* 387.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

Electricity Meters—Makers of—*continued.*

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester. Also The Westinghouse Integrating Wattmeter as approved by the Board of Trade.

CHAMBERLAIN & HOOKHAM, LTD., New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") *See advt.* BELOW.

Electric Coin Freed Meter Dimming Synd., Ltd., Albion-chbrs., 11, Adam-st., Strand, London, W.C.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 633.

Geipel & Lange (Vulcan Meter), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.

HOWLETT, H. N., A.I.E.E. (agent), 211, Upper Thames-st., E.C.

International Electric Co. (H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. *See advt., page* 29.

CHAMBERLAIN & HOOKHAM, LD.

Electrical Engineers, BIRMINGHAM.

Telegrams: **"Solar, Birmingham."**

SOLE MANUFACTURERS OF

HOOKHAM PATENT ELECTRICITY METERS

APPROVED BY THE BOARD OF TRADE.

For Continuous and Alternating Currents.

Used by all the Leading Lighting Companies and Corporations in the Kingdom.

Write for Catalogue.

Agents for Great Britain and Ireland:

VENNER & CO., 6, Old Queen St., Westminster, S.W.

Telegrams: "TRYDAN, LONDON."

Electricity Meters—Makers of—*continued.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Matthews' Improved Electricity Meter, Ltd., 35, Bucklersbury, E.C.

Rochdale Electric Co., Ltd., Shawclough, Rochdale.

Rumney & Rumney, 39, Victoria-st., London, S.W.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

WALSALL ELECTRICAL CO., LTD. Office & show-rooms: 57, Bridge-st., Walsall (Telegrams: "Electrical, Walsall." Telephone No. 45); 12, Burlington-chbrs., New-st., Birmingham (Telegrams: "Luminosity, Birmingham." Telephone No. 517); 6, Central-chbrs., 17A, South Castle-st., Liverpool (Telegrams: "Luminosity, Liverpool." Telephone No. 7283); & Leysian Mission-bldgs., City-rd., London, E.C. (Telegrams: "Dynametro, London." Telephone No. 8841, London Wall.)

Electricity Works.

F.—Usines électriques.

G.—Elektricitäts Centrale.

(*See also* LIGHT CO.'S—ELECTRIC; & RAILWAYS & TRAMWAYS—ELECTRIC.)

For other particulars, *see* ALPHABETICAL SECTION.

ABBREVIATIONS.

L. Light.	*K.W.* kilowatts.
P. Power.	*ph.* phase.
T. Traction.	*pr.* pressure.
a. alternating.	*py.* periodicity.
c. continuous.	*v.* voltage.
inc. incandescent.	

Aberavon, Glamorgan. *Tramway scheme under consideration.* Engineer, A. J. Bond.

Aberdare, Glamorgan. *An electric lighting order has been granted & a tramway scheme approved by the Urban District Council.* Consulting engineer, O. Williams.

Aberdeen Corporation. L. P. T. *c.*, 3-wire, 220 *v.* for L. & for P. up to 5 H.P., 440 *v.* for 5 H.P. & upwards, for T. 500 *v.*, 3390 *K.W.* J. Alex. Bell, M.I.E.E., M.I.M.E., city elec. & trys. engr.

Aberdeen Suburban Tramways Co. Res. elec. engineer, J. Ross. P. *supplied by Corp.*

Abersychan. *Provisional order obtained.*

Abertillery, Monmouth. *An electric lighting order has been granted to the Urban District Council.* Consulting engineers, Medhurst & Lloyd.

Electricity Works—*continued.*

Aberystwith. Chiswick Electric Supply Corp., Ltd., props. L. P. *c.*, 3-wire, 220 & 440 *v.*, 260 *K.W.* Engr., E. P. Perkins.

Abram, Lancs. *The Urban District Council is negotiating with the Lancashire Electric Power Co. for supply of energy.* Consulting engineer, G. Heaton.

Accrington Corporation. L. P. *c.*, 230 & 460 *v.*, 518 *K.W.* H. Gray, A.M.I.E.E., engineer.

Acton Urban District Council, 130, Churchfield-rd., Acton, W. L. *c.*, 3-wire, 230 *v.*; P., 230–460 *v.*, 780 *K.W.* Engr., J. Martin Blair; asst., H. A. Harding. *Current in bulk from Metropolitan Electric Supply Co.*

Airdrie & Coatbridge Tramways Co. Tramway Depôt: Main-st., Coatbridge. 500 *v.* Manager, A. Delves.

Airdrie Corporation. *The electric lighting order has been transferred to the* Scottish House-to-House Electricity Co., Ltd. *See* Coatbridge.

Alderley & Wilmslow Electric Supply, Ltd., Alderley Edge, Cheshire. L. P. *c.*, 3-wire, 210 & 420 *v.*, 242 *K.W.* Engr., C. W. Bentley.

Aldershot Urban District Council. L. *c.*, 3-wire, 210 *v.*; P. 210 & 420 *v.*, 440 *K.W.* Engr., F. Garside.

Aldrington, Sussex. 3-wire, 220 *v. supply by Brighton Corp.* Chief engr., H. H. Scott; res. engr., G. M. Harris.

Allerton, Woolton & Childwall (Liverpool). *This district has been taken over by the Liverpool Corp.*

Alloa, N.B. British Electric Plant Co., Ltd., *supply current in bulk.* L. P. *c.*, 3-wire, 220 & 440 *v.*, 350 *K.W.* Chief engr. (& gen. man. B.E.P. Co.), R. H. Willis.

Alnwick, Northumberland. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*, 150 *K.W.* Engr. & gen. man., C. W. Fairweather; res. engr., J. W. Summerside.

Altrincham Electric Supply, Ltd., Stamford New-rd., Altrincham. L. P. *a.*, 1-*ph.*, 80 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 660 *K.W.* H. C. Caldwell, A.M.I.E.E., engr.

Altrincham. *The U.D.C. has been granted a provisional order to construct T.*

Amberley Road Station. *See* Metropolitan Electric Supply Co.

Amble, Northumberland. *An electric lighting order has been granted to the Northern Counties Electricity Supply Co., Ltd.*

Amblecote. *See* Midland Electric Corp. for Power Distribution.

Ambleside. *See* Windermere & District Electricity Supply Co., Ltd.

Andover. *The Council will transfer E.L. order to the Gas Co.*

Annfield Plain, Durham. *E.L. under consideration by the U.D.C.*

Arbroath. *Provisional order revoked.*

Ardsley, East & West, Yorks. *An electric lighting order has been granted to the U.D.C.*

Electricity Works—*continued.*

Armagh. *The U.D.C. has resolved to undertake the public lighting of its area.* Consulting engineer, H. T. Harris.

Ashford & District Electric Supply Co., 17, Bank-st., Ashford. Engineer, A. J. Fippard. *Works not yet commenced.*

Ashington. Northern Counties Electricity Supply Co., proprietors. L. *c.*, 3-wire, 230 & 460 *v.* Consulting engineer, C. W. Fairweather.

Ashtead & Mickleham. *See* Leatherhead & District Electricity Co.

Ashton-in-Makerfield Urban District Council. *Provisional order granted.*

Ashton-on-Mersey. *See* Altrincham Electric Supply, Ltd., proprietors.

Ashton-under-Lyne Corporation. L. P. *c.*, 3-wire, 240 *v.* & 480 *v.*, 500 *v.* for T., 1760 *K.W.* N. Appelbee, engineer; J. W. Dugdale, tram manager.

Aspull, Lancs. *An electric lighting order has been granted to the Urban District Council.*

Aston-Manor Corporation, Aston-Manor, Birmingham. *c.* L., 3-wire, 230 *v.*; P., 460 *v.*; T., 500 *v.*, 1600 *K.W.* Engineer, R. Foster.

Atherton District Council, Atherton, Lancs. *Current supplied in bulk by South Lancashire Electric Traction & Power Co., Ltd.* L. P., *a.* for transmission to sub-station, *c.*, 500 *v.* for distribution, 3-wire, 2-*ph.*, 50 *py.*, 7500 *v.* primary, 230 *v.* secondary. Engr., C. Astbury.

Audenshaw, Lancs. *Electricity supplied by Manchester Corp.*

Ayr Corporation, Ayr, N.B. *c.* L., 100, 200 & 250 *v.*; P., 250 & 500 *v.*; T., 550 *v.*; L. & P. *a.*, 1-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 1150 *K.W.* Roland Marshall, engr.

Bacup (Lancs.). *Corporation have entered into a provisional agreement with the Lancashire Power Co.*

Baker-st. & Waterloo Railway. Underground Electric Railways Co. of London, Ltd. Generating Station, Chelsea, S.W. *a.*, 3-*ph.*, 33·3 *py.*, 11,000 *v.*, transformed to *c.*, 600 *v.*

Ballaghaderin. *E.L. under consideration.*

Ballymena, Ireland. *Electric lighting order revoked.* Consulting engineer, V. A. H. McCowen.

Banbury & District Electric Supply Co., Ltd., Banbury, Oxon. L. *c.*, 230 *v.*; P. *c.*, 230 & 460 *v.*, 446 *K.W.* Resident engineer, A. J. Wray, A.I.E.E.

Bangor Corporation. L. P. *c.*, 3-wire, 200 *v.* & 400 *v.*, 440 *K.W.* P. F. White, engineer.

Bankside, London, S.E. (City of London Electric Light Co., Ltd.). *c.* L., 204 *v.*; P., 410 *v.*; *a.*, 1-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 204 *v.*, 24,000 *K.W.* Frank Bailey, M.I.C.E., engr.

Barking Urban District Council, Barking, Essex. *c.* L., 3-wire, 230 & 460 *v.*; P., 230, 460 & 500 *v.*; T., 500–550 *v.*, 1010 *K.W.* Henley L. Howard, A.M.I.M.E., A.M.I.E.E., engr. & man.

Barmouth (Merioneth) Urban District Council. *Electric lighting order revoked.* Consulting engineer, F. J. Warden-Stevens.

Electricity Works—*continued.*

Barnard Castle, Durham. *The electric lighting order has been transferred to the Northern Counties Electricity Supply Co., Ltd.*

Barnes Urban District Council, Mortlake, Surrey. L. P. *c.*, 210 *v.*, 210 & 420 *v.* for motors, 480 *K.W.* Engineer, C. S. Davidson.

Barnet. *See* High Barnet.

Barnsley Corp. Lighting Committee, Barnsley, Yorks. *c.* L., 3-wire, 230 *v.*; P., 230 & 460 *v.*, 1250 *K.W.* E. A. Barker, A.M.I.E.E., elec. engr. *Current supplied to Barnsley & District Elec. Traction Co.*

Barnsley & District Electric Traction Co., Ltd. P. *supplied by Corp. c.*, 500 *v.* Tramways man., W. H. Moorhouse.

Barnstaple Corporation, Barnstaple, Devon. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*, 375 *K.W.* Engr., J. W. Hadfield, A.M.I.E.E.

Barrow-in-Furness Corporation. *c.* L., 220 *v.*; P., 220 *v.* & 440 *v.*; T., 500 *v.*, 1525 *K.W.* H. R. Burnett, engineer.

Barry U.D.C. *The question of putting provisional orders into force is under consideration.* Consulting engrs., R. Hammond & Son.

Barton Regis, Glos. *The electric lighting order has been taken over by the Bristol Corp.*

Basingstoke, Hampshire. *The Council has been considering sale of prov. order to Messrs. Enright.*

Bath Corporation, 7, Dorchester-st., Bath. L. P. *a.*, single-*ph.*, 100 *py.*, 2200, 100–110 L., 220 & 440 *v.* P., 1900 *K.W.* F. Teague, engr.

Bath Electric Tramways, Ltd., Walcot-st., Bath, Somerset. *c.*, 550 *v.*, 675 *K.W.* Manager & engineer, R. D. M'Carter.

Batley Corporation, Batley, Yorks. *c.*, 3-wire; L., 220 *v.*; P., 440 *v.*; T., 500–550 *v.*, 850 *K.W.* Boro' elec. engr., S. Derwen Jones, A.M.I.E.E., A.M.I.M.E.

Battersea Borough Council Electricity Supply Works, Battersea, S.W. L. P. *c.*, 3-wire, 230 & 460 *v.*, 2743 *K.W.* Engr., F. A. Bond, A.M.I.E.E.

Beckenham Urban District Council. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 400 & 200 *v.*; T., 500 *v.*, 1300 *K.W.* Res. engr., J. E. Tapper, A.M.I.E.E.

Bedford Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, primary 2100 *v.*, secondary 210 *v.* for P., 105 *v.* for L., 1300 *K.W.* R. W. L. Phillips, A.M.I.E.E., engineer. *Tramways under consideration.*

Bedlingtonshire, Northumberland. *See* Blyth.

Beeston, Notts. *The Urban District Council will buy energy in bulk from the Notts & Derbyshire Electric Power Co.* Consulting engineer, F. J. Warden-Stevens.

Belfast Corporation. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*; T. *a.*, 3-*ph.*, 50 *py.*, 6000–550 *v. c.*, 6800 *K.W.* V. A. H. McCowen, M.I.E.E., M.I.M.E., engr.

Belfast & North East Ireland Electricity & Power Gas Co. *Works shortly to be commenced.*

Electricity Works—*continued.*

Benfieldside, Durham. Northern Counties Electricity Supply Co., Ltd. *A supply will be taken in bulk from the Cleveland & Durham County Electric Power Co.*

Benwell & Fenham, Northumberland. *The Urban District Council have a contract with the Newcastle Electric Supply Co. to supply electricity.* Consulting engineer, C. H. Merz.

Bermondsey Borough Council. L. P. *c.*, 3-wire, 240 *v.*, 480 *v.* for P., 375 *K.W.* W. E. J. Heenan, M.I.E.E., engineer.

Berwick-on-Tweed. Urban Electric Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 180 *K.W.* Resident engineer, J. H. Home, A.M.I.E.E.

Bessbrook & Newry Tramway. 36 *K.W.* Engineer, J. L. D. Meares.

Bethnal Green (Borough), N.E. *Proposed system E. L.:* 3-wire, *c.*, 240 & 480 *v.*, 600 *K.W.* Consulting engr., R. Hammond; boro' surveyor, E. E. Finch. *Under consideration.*

Beverley, Yorks. *Proposed system: c.*, 3-wire, 230 *v.*, 120 *K.W. A proposal to transfer the E.L. order to Messrs. J. & J. S. Enright is under consideration.*

Bexhill Corporation. L. P. *c.*, 3-wire, 220 *v.*, 220 & 440 *v.* for motors, 693 *K.W.* Engineer, W. T. Le Feuvre.

Bexley Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2100 *v.*, secondary 200 & 400 *v.*, 600 *K.W.*; T. *c.*, 550 *v.* Engineer & manager, C. Mittelhousen; consulting engineers, Messrs. Mordey & Dawbarn.

Bilston Urban District Council, Bilston, Staffs. L. *c.*, 2-wire. *A supply is given by the Midland Electrical Corporation for Power Distribution, Ltd., & the baths only are lighted.* J. P. Wakeford, engineer.

Birkdale District Electric Supply Co., Ltd., Birkdale. *c.*, 3-wire; L., 230 *v.*; P., 230 or 460 *v.*; T., 550 *v.*, 420 *K.W.* Engineer, H. Bentham, A.M.I.E.E.

Birkdale & Southport Tramways. *Supply purchased from Birkdale District Electric Supply Co. & Southport Corporation.* T., 500–550 *v.* Consulting electrical engineer, H. Bentham, A.M.I.E.E.; manager, J. Lloyd.

Birkenhead Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500–550 *v.*, 2875 *K.W.* Wm. Bates, M.INST.C.E., A.M.I.E.E., engineer.

Birmingham, City of, Tramways Co., Ltd., Central House, New-st., Birmingham. T. *c.*, 500–550 *v.*, 1075 *K.W.* Engineering man., G. Conaty; elecn., R. F. Browne.

Birmingham Corporation. L. P. *c.*, 3-wire, 220 & 440 *v.*; T. *a.*, 3-*ph.*, 25 *py.*, 5000–550 *v. c.*, 13,260 *K.W.* Engineer, R. A. Chattock, M.I.E.E.

Birmingham Corporation Tramways. *Current purchased from Corp. Supply Dept.* Gen. manager, Alf. Baker; electrical engineer, C. W. Hill.

Electricity Works—*continued.*

Birmingham & Midland Tramways, Smethwick, Staffs. L. P. T. *a.*, 3-*ph.*, 25 *py.*, 5500–110 *v.* L., 400 *v.* P., *converted to c.*, L. 110 & 250 *v.*, P. T. 500 *v.*, 2350 *K.W.* Engineering man., G. Conaty, M.I.M.E.

Birstall, Yorks. *The Yorkshire Electric Power Co. will supply in bulk.*

Bishop Auckland, Durham. Cleveland & Durham Electric Power, Ltd., proprietors. L. P. *a.*, 3-*ph.*, 25 *py.*, 2200–440 *v.*; *c.*, 250 *v.*, 3100 *K.W.* District engineer, C. H. Lydall.

Bishop's Stortford. *The U.D.C.'s provisional order will be transferred to the Bishop's Stortford & Stansted Electric Lighting Co.*

Blackburn Corporation. *c.* L., 220 *v.*, arc & inc.; P., 220 & 440 *v.*; T., 500–550 *v.*; & L. & P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 110 & 220 *v.*, 4518 *K.W.* P. P. Wheelwright, A.I.E.E., engineer.

Blackburn, Whalley & Padiham Light Railway. 500 *v.*, 600 *K.W.* *Under construction.* Consulting engineer, C. Chadwell.

Blackheath. *See* South Metropolitan Electric Light & Power Co., Ltd.

Blackpool Corporation. L. P. T. *a.*, single-*ph.*, 83 *py.*, 2100–200 *v.*, 500 *v. c.* for T., 3711 *K.W.* C. Furness, engineer.

Blackpool & Fleetwood Tramroad Co., Bispham, nr. Blackpool. T., 500 *v.*, 600 *K.W.* Engineer, A. Cameron.

Blackpool & Fylde Light Railway. *Generating station under construction.* Consulting engineers, Myres, Veevers & Myres.

Blackpool & Garstang Light Railway Co., 5, Clifton-st., Blackpool. *Generating station under construction.*

Blackpool, St. Anne's & Lytham Tramways, 30, Birley-st., Blackpool. 500 *v.* P. *supplied by Blackpool Corp. & St. Anne's U.D.C.* Manager, Harry W. Laing.

Blackrock, County Dublin. *An electric lighting order has been granted to the U.D.C.*

Blaenau-Festiniog, Merionethshire. Yale Electric Power Co., Ltd., proprietors. L. P. *c.*, 2-wire, 230 *v.*, 500 *v.* for motors, 550 *K.W.* T. P. O. Yale, A.M.I.E.E., engineer.

Blaydon, Durham. *The electric lighting order will shortly be transferred to the County of Durham Electrical Power Distribution Co., Ltd.*

Blaydon, Durham. Priestman Power Co., Ltd., props. *a.*, 3-*ph.*, 40 *py.*, 5500 *v.*, *transformed as required.* Consulting engineer, C. H. Merz.

Blyth & Cowpen, Northumberland. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. T. *c.*, 3-wire, 230 *v.*, 460 *v.* for motors, 400 *K.W.* Engr., C. W. Fairweather.

Bognor. *E.L. order revoked.*

Bolton Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500-550 *v.*; & *a.* L., 1-*ph.*, 83 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*; P., 3-*ph.*, 50 *py.*, primary 6000–6600 *v.*, secondary 230 & 400 *v.*, 5000 *K.W.* Engr., A. A. Day, AM.I.C.E., M.I.E.E.

Electricity Works—*continued.*

Bonchurch. *See* Isle of Wight Electric Light & Power Co., Ltd.

Bo'ness Town Council. L. *c.*, 3-wire, 230 *v.*, 200 *K.W.* Consulting engineers, Burstall & Monkhouse; engineer, J. M. McGown.

Bonnybridge. Scottish Central Electric Power Co., proprietors. P. T. *a.*, 2-*ph.*, 50 *py.*, 3000–440 *v.* P., & *c.* T., 500–550 *v.* Chief engr., W. D. Morgan.

Bonnyrigg, N.B. *The Lothians Electric Power Co. have offered to give a supply of electricity for L.*

Bootle Corporation. *c.*, 3-wire; L., 220 *v.*; P., 440 *v.*; T., 500 *v.*, 2050 *K.W.* T. D. Clothier, engr.

Borrowstouness, N.B. *Works erected by National Electric Construction Co., Ltd.* L. *c.*, 3-wire, 230 & 460 *v.*, 200 *K.W.* Consulting engineers, Burstall & Monkhouse; resident, John M'Gown.

Boston, Lincolnshire. *Order transferred to the National Provincial Electricity Corp., Ltd.*

Bourne. *E.L. under consideration by the U.D.C.*

Bournemouth Corporation. L., arc & inc., P. T. *c.*, 550 *v.*, 1290 *K.W.* Engineers, I. Bulfin, B.A. A.M.I.C.E., M.I.M.E., A.M.I.E.E. (lighting); F. W. Lacey (trams).

Bournemouth, Branksome, Christchurch & Poole. Bournemouth & Poole Electricity Supply Co., Ltd., proprietors. L. *c.*, inc. 250 *v.*; P., 250 & 500 *v.*; T., 580 *v.*; *a.* L. P., 1-*ph.*, 100 *py.*, 2000–100 & 200 L., 200 & 400 P., 4260 *K.W.* Engr., E. L. Ingram, M.I.E.E.

Bow. Charing Cross, West End & City Electric Supply Co., Ltd. *a.*, 3-*ph.*, 10,000 *v. for bulk supply to sub-stations.* 16,000 *K.W.*

Bowdon, Cheshire. *See* Altrincham Electric Supply, Ltd.

Boyle Mills Electric Light Station, Boyle, Ireland. L. *c.*, 230 *v.*, 60 *K.W.* Engr., Robt. Stewart.

Bradford Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 8680 *K.W.* Engr. & man., T. Roles, A.M.I.E.E.

Bradford-on-Avon & Trowbridge. *Provisional order obtained by Western Electric Distributing Corp.*

Branksome. *See* Bournemouth.

Bray Urban District Council, Bray, Ireland. L. *a.*, single-*ph.*, 60 *py.*, 1000–100 & 200 *v.*, 520 *K.W.* Consulting engineers, Robert Hammond & Son; engineer, W. J. U. Sowter, A.M.I.E.E.

Brechin. North of Scotland Electric Light & Power Co., Ltd., proprietors. L. P. *c.*, 3-wire, 240 *v.*, 240 & 480 *v.* for P., 282 *K.W.* H. Hale, A.M.I.M.E., A.M.I.E.E., manager & engineer; H. Dixon, resident engineer.

Bredbury & Romiley, Cheshire. *Electric lighting scheme abandoned.*

Brentford Electric Supply Co., Ltd. *E.L. order obtained.*

Bridgend. South Wales Electrical Power Distribution Co., proprietors. L. P. *a.*, 2-*ph.*, 60 *py.*, 3000–220 & 440 *v.*, 510 *K.W.* Engineer, T. E. Lewis.

Electricity Works—*continued.*

Bridgend Urban District Council, Bridgend, Glam. L. P. *a.*, 2-*ph.*, 60 *py.*, 200 *v.*, 106 *K.W.* Current transmitted from South Wales Power Co.'s Station at 3000 *v.*

Bridgetown, Somerset. L.

Bridgwater & District Electric Supply & Traction Co., Ltd., Mount-st., Bridgwater, Somerset. L. *c.*, 3-wire, 230 *v.*, 200 *K.W.* Consulting engineer, A. J. Fippard; engineer & secretary, H. Walker, A.M.I.E.E.

Bridlington Corporation, Bridlington, Yorks. *c.*, 3-wire; L. P., 220 & 440 *v.*, 450 *K.W.* A. J. Beckett, engineer.

Brierfield Urban District Council, Brierfield, Lancs. L. *c.*, 3-wire, 230 *v.* Consulting engineer, W. A. Fraser. *Current in bulk from Nelson Corp.*

Brierley Hill, Staffs. *An electric lighting order has been granted to the Corporation.*

Brighouse Corporation. L. *c.*, 2-wire, 110 *v.*, 120 *K.W.* A. Aspinall, engineer.

Brighton Corporation. *c.* L., 3-wire, arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 550 *v.*, 5595 *K.W.* Arthur Wright, cons. engr.; J. Christie, engr. & man.; W. Marsh, tram. engr.

Brighton New Palace Pier. Brighton Marine Palace & Pier Co., proprietors. L. *c.*, 3-wire, 460–230 *v.* Engineer, A. R. Spilsbury.

Brighton & Rottingdean Seashore Electric Tramroad Co., Madeira-rd., Brighton. T. *c.*, 500 *v.* M. Volk, engr. *Not worked at present.*

Brimsdown, N. North Metropolitan Electric Power Supply Co., proprietors. *a.*, 3-*ph.*, 50 *py.*, 10,000–11,000 *v.*, 3000 *K.W.* Engineer, H. H. Perry. *Supplies substations at* Edmonton; Wood Green; Finchley; & Hendon; *also bulk lighting for* Stoke Newington, Enfield & Barnet.

Bristol Corporation. *c.* L., 600 & 500 *v.* arc, 250 *v.* inc.; P., 500 & 250 *v.*; *a.* L. & P., single-*ph.*, 93 *py.*, primary 2100 *v.*, secondary 210 or 105 *v.*, & 3-*ph.*, 50 *py.*, 6000 *v.*, 500 & 250 *v.* *c.*, 9050 *K.W.* H. Faraday Proctor, A.M.I.C.E., M.I.E.E., engineer.

Bristol Tramways. Bristol Tramways & Carriage Co., Ltd., proprietors. T., 500 *v.* Engineer-in-chief, Sir J. Clifton Robinson; resident engineer, G. T. C. Edwards.

British Eastern Electric Power Co., Ltd., 57½, Broad-st., London, E.C. *Works not yet erected.*

British Electric Plant Co., Ltd. *See* Alloa.

Briton Ferry, Glamorgan. *a.*, 2-*ph.*, 50 *py.* *Current to be purchased from South Wales Electrical Power Distribution Co.* 2-wire, 200 *v.* distribution. Consulting engineers, Lewis & Fletcher.

Brixham. *The electric lighting order has been transferred to the Brixham Gas Co.*

Broadstairs & St. Peter's, Kent. *See* Isle of Thanet Electric Tramways & Lighting Co., Ltd.

Brockenhurst & Milton. Christy Bros. & Middleton. *Site has been secured.*

Electricity Works—*continued.*

Bromley Electric Light & Power Co., Ltd., Bromley, Kent. L. *c.*, 3-wire, primary 2100 *v.*, secondary 420 & 210 *v.*, 1367 *K.W.* R. R. Barker, engineer.

Brompton & Kensington Electricity Supply Co., Ltd., Richmond-rd., Earl's Court, S.W. L. P *a.*, single-*ph.*, 83 *py.*, 100 *v.*, 2575 *K.W.* Manager & chief engineer, H. W. Bowden, M.I.C.E., M.I.E.E.; works engineer, Wm. Whitie.

Bromsgrove, North Worcestershire. *Provisional order revoked.*

Bromsgrove & District Electric Traction & Lighting Co., Ltd., 17, Newhall-st., Birmingham. Engineers, Pritchard, Green & Co. *Lines not yet constructed.*

Broughty Ferry Corporation, Broughty Ferry, Forfarshire. L. P. *c.*, 2-wire, 230 *v.*, 150 *K.W.* Engineer, Jas. L. Turnbull.

Broxburn & Uphall Lighting Committee, Broxburn, N.B. L. P. *c.*, 3-wire, 230 *v.*, 138 *K.W.* Consulting engineer, A. Lindsay, A.I.E.E.

Brumby & Frodingham, Lincolnshire. *An electric lighting order has been granted to the Urban District Council.*

Brynamman & District Electric Supply Co., Ltd., Brynamman, Carmarthenshire. L. P. *c.*, 220 *v.*, 25 *K.W.* & extensions.

Brynmawr. *An electric lighting order has been granted to the U.D.C.*

Buckfastleigh Electric Supply Co., Buckfastleigh, Devon. L. P. *c.*, 230 *v.*, 36 *K.W.* Engr., A. Kirby; elecn., A. McKenzie.

Buckhaven, Fife. *The Council have asked Wemyss & District Tramways Co. to submit terms for E.L. of Denbeath.*

Buckingham Electric Light Co. (private). Gillies & Hornidge, engineers. L. *c.*, 2-wire, 220 *v.*, 54 *K.W.* *The T.C. has accepted the tender of the B.E.L. Co. for public lighting.*

Bulmer Place. Notting Hill Electric Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 200 *v.*, 3800 *K.W.* Engr., Geo. Schultz; asst. engr., A. P. McDonall.

Buncrana Electric Supply Co., Buncrana, nr. Londonderry. L. *c.*, 3-wire, 235 *v.*; P., 470 *v.*, 125 *K.W.* Station engineer, J. K. Swan.

Burgess Hill & District Electric Supply Co. Burgess Hill, East Sussex. L., 250 *v.*

Burnley Corporation. *c.*, 3- & 5-wire; L., 110 & 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 1990 *K.W.* Engineer, Jas. E. Starkie, A.M.I.E.E., A.M.I.M.E.

Burslem Corporation, Staffs. L. *c.*, 2-wire, 220 *v.*, 300 *K.W.* Engineer, Ashton Bremner, A.M.I.E.E.

Burton & Ashby Light Railways. Power Station, Swadlincote. 550 *v.*, 330 *K.W.* Engineer & manager, J. Toulmin.

Burton-on-Trent Corporation. L. P. T. *c.*, 500 *v.*; *a.*, single-*ph.*, 75 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.*, 1710 *K.W.* P. J. Pringle, M.I.E.E., M.I.M.E., engr. & manager.

Bury Corporation, Bury, Lancs. *c.* L., 220 *v.*; P., 220 & 440 *v.*; T., 500–550 *v.*, 1760 *K.W.* S. J. Watson, M.I.E.E., engineer.

Electricity Works—*continued.*

Bury St. Edmunds Corporation, Bury St. Edmunds, Suffolk. *c.*, 3-wire, L., 200 *v.*; P., 200 & 400 *v.*, 232 *K.W.* Engineer, Sydney E. Day.

Buxton Urban District Council. L. *c.*, 3-wire, 230 *v.*, 538 *K.W.* W. J. Leeming, A.M.I.E.E., engr.

Caerphilly, Glam. *The U.D.C. E.L. scheme has been sanctioned.*

Calverley. *The Urban District Council have obtained an electric lighting order.*

Camberwell. County of London & Brush Provincial Electric Lighting Co., proprietors. P. *c.*, 410 *v.*; L. P. *a.*, 1-*ph.*, 50 *py.*, primary 6000–2000 *v.*, secondary 205 *v.*; 2-*ph. supplied from Wandsworth Station.* Chief engr., C. P. Sparks.

Camborne; Redruth; & Illogan. Urban Electric Supply Co., Ltd., proprietors, Carn Brea, R.S.O., Cornwall. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*; T., 500–520 *v.*, 650 *K.W.* Engineer, F. S. Hanning, A.M.I.E.E.

Cambridge Electric Supply Co., Ltd. L. P. *a.*, single-*ph.*, 200 & 100 *v.*, 90 *py.*, 200 *v.* for motors, 1470 *K.W.* H. B. Harvey, A.M.I.E.E., engineer.

Cambuslang. Lanark County Council, proprietors. *c.* L. P., 3-wire, 250 & 500 *v.*, 110 *K.W.* Engineer, A. J. Abraham, A.M.I.E.E.

Cannock, Staffs. *The electric lighting order to be transferred to the Staffs., Shropshire & Worcestershire Electric Supply Co.*

Canterbury Corporation. *c.*, 3-wire, L., 220 *v.*; P., 220 or 440 *v.*, 900 *K.W.* C. A. Blascheck, A.M.I.E.E., engineer.

Cardiff Corporation. *c.*, 3-wire; L., 200 & 100 *v.*; P., 200 & 400 *v.*; T., 550–500 *v.*; L. & P. *a.*, 1- & 3-*ph.*, 40 & 50 *py.*, primary 2560 & 6600 *v.*, secondary 100, 200 & 400 *v.*, 8760 *K.W.* A. Ellis, M.I.E.E., M.I.M.E., engineer.

Carisbrooke & Northwood, Isle of Wight. *An E.L. order has been granted to the Isle of Wight E. L. & P. Co.*

Carlisle, City of, Electric Tramways Co., Ltd. T. *c.*, 500 *v.* Engineers, Pritchard, Green & Co. *Corporation supply electrical energy.*

Carlisle Corporation. *c.*, 3-wire, L. P., 230 & 460 *v.*, 500 *v.* for T., 870 *K.W.* C. D. Burnet, engr.

Carlow (Alexander's Electric Works). L. P. *c.*, 100 & 200 *v.*; & *a.*, single-*ph.*, 70 *py.*, 3-*ph.*, 30 *py.*, 100 & 200 *v.*, 200 *v.* for motors, 200 *K.W.* G. M. Harriss, chief engineer; Oscar St. John McKee, resident engineer.

Carmarthen. *E. L. under consideration.*

Carmarthenshire Electric Power Co., Royal-chbrs., Park-pl., Cardiff. Consulting engineers, Bramwell & Harris. *Stations to be built at* Carmarthen; Fir-y-dail; Llanelly; Pontyberon; & St. Clears.

Carnaby Street. *See* St. James' & Pall Mall Electric Light Co., Ltd.

Carnarvon Corporation. *c.*, L. 230 *v.*, P. 230 & 460 *v.*, 200 *K.W.* Engineer, A. C. Goodman.

Carnoustie, Forfar. The Electric Supply Corporation, Ltd., proprietors. *c.*, 3-wire, 220 *v.* Consulting engineer, K. A. Scott Moncrieff.

Electricity Works—*continued.*

Carrickfergus, Ireland. *Works to be erected by Messrs. Curran Bros., Belfast.*

Carshalton, Surrey. *See* Sutton.

Carville. Newcastle-on-Tyne Electricity Supply Co., Ltd., props. 33,000 *K.W. Supplies current to North-Eastern Railway, &c. See also* Wallsend.

Castleford Urban District Council, Castleford, Yorks. *An application for further extending period of order has been made.* Consulting engineers, R. Hammond & Son.

Caterham, Surrey. Urban Electric Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 88 *K.W.* F. Bruton, engineer.

Cavehill & Whitewell Tramway Co. P. *supplied by Belfast Corp.* Manager, F. P. Comber.

Caversham. *E.L. under consideration.* Consulting engineer, F. J. Warden-Stevens.

Cefn Mawr. *Negotiations proceeding with the Llangollen Electric Lighting Co.*

Central Electric Supply Co., Ltd., 19, Carnaby-st., London, W. P. *a.*, 3-*ph.*, 50 *py.*, primary 6000 *v.*, secondary 250–500 *v.*, 9030 *K.W.* Joint engineers, Sir A. B. W. Kennedy, F.R.S., & S. T. Dobson.

Central London Railway Co., Shepherd's Bush, W. P. T. *a.*, 3-*ph.*, 25 *py.*, primary 5000 *v.*, secondary 330 *v.*; converted to 550 *v. c.*; L., arc & inc., P. & T., 5300 *K.W.* Consulting engineers, Sir B. Baker, K.C.M.G., B. Mott & H. F. Parshall; resident engineer, E. P. Grove; chief assistant, W. R. T. Cottrell.

Chagford & Devon Electric Light Co., Ltd. L. *a.*, primary 2000 *v.*, secondary 100 *v.*, 1-*ph.*, 99 *py.*, 22 *K.W.* G. H. Reed, engineer.

Chapel Place Station. Kensington & Knightsbridge Electric Lighting Co., Ltd., proprietors. L. P. *c.*, 200 *v.*, 2150 *K.W.* R. W. Roberts, resident engineer.

Charing Cross, Euston & Hampstead Railway, Hamilton House, Victoria Embankment, E.C. Underground Electric Railways Co. of London, Ltd., proprietors. *Under construction.*

Charing Cross, West End & City Electric Supply Co., Ltd., 60, St. Martin's-lane, London, W.C. L. P. *c.*, 3-wire, 100, 200 & 400 *v.*, 20,400 *K.W.* Engr., H. W. Kingston.

Charlton. *See* South Metropolitan Electric Light & Power Co., Ltd.

Charlton Kings. *Provisional order has been granted to the Corp. of Cheltenham.*

Chatham & District Light Railways Co., 83, Cannon-st., London, E.C. *c.*, 500 *v.*, 675 *K.W.* Engineer, W. Jensen, A.M.I.E.E.

Chatham Dockyard. Admiralty, props. *c.* L., inc. 220 *v.*, arc 440 *v.*; P. T., 440 *v.*, 4500 *K.W.* Engineer-in-charge, F. Purser Fletcher, A.M.I.MECH.E., A.M.I.E.E.

Chatham, Rochester & District. Kent Electric Power Co., props., Chatham. L. P. *a.*, single-*ph.*, primary 2400 *v.*, secondary 100 & 200 *v.*, 100 *py.*, 900 *K.W.* Engineer, Chas. T. Linney, A.M.I.E.E.

Electricity Works—*continued.*

Cheadle & Gatley, Cheshire. Cons. engrs., Medhurst, Page & Lloyd; engr., C. R. Brady.

Cheam. *See* Sutton.

Chelmsford Electric Light Co., Ltd., Anchor-st., Chelmsford. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.*, 874 *K.W.* Engineer, A. H. French.

Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gdns., S.W. L. *c.*, 3-wire, arc & inc., 200 *v.*; P., 400 *v.*, 3500 *K.W.* Engineer, P. Still, A.M.I.C.E., M.I.E.E.

Cheltenham Corporation, Cheltenham, Glos. L. P. *a.*, single-*ph.*, 100 *py.*, 2000–200 *v.*; T. (supply to company) *c.* 500–550 *v.*, 1980 *K.W.* Engineer, W. J. Bache, M.I.E.E.

Cheltenham & District Tramways. *Power supplied by Corp.* Engineer, H. J. McCormick.

Chepping Wycombe. *See* Wycombe Borough Electric Light & Power Co., Ltd.

Chepstow Electric Light & Power Co., Nelson-st., Chepstow. *c.* L. (arc & inc.) & P., 230 *v.*, 100 *K.W.* Resident engineer, W. H. Scott.

Cheriton, Kent. *An electric lighting order has been granted to the U.D.C. Tramways under consideration.*

Chertsey & Horsell. *See* Woking Electric Supply Co., Ltd.

Chesham Electric Light & Power Co., Ltd., Chesham, Bucks. *c.*, 3-wire; L. inc., 230 *v.*; P. T., 230 & 460 *v.*, 275 *K.W.* Resident engineer, R. J. Jocelyn Swan, A.M.I.E.E.

Cheshunt Urban District Council, Herts. *Have transferred their electric lighting order to the North Metropolitan Electrical Power Dist. Co.* Consulting engineer, H. W. Wilkinson.

Chester Corporation. *c.*, 3-wire; L., 210 & 420 *v.*; P., 210 & 420 *v.*; T., 500 *v.*, 1300 *K.W.* Engr. S. E. Britton, A.M.I.E.E., A.M.I.M.E.

Chesterfield Corporation. *c.*, 3-wire; L., arc & inc., 240 *v.*; P., 240 & 480 *v.*; T., 650 *v.*, 1000 *K.W.* R. L. Acland, engineer.

Chester-le-Street, Durham. *An electric lighting order has been granted to the County of Durham Electrical Power Distribution Co., Ltd.*

Chichester. *The Corporation's E.L. order is to be transferred to the Chichester Electric Light & Power Co.*

Chilvers Coton. *See* Nuneaton.

Chippenham. *Works not yet erected.* Consulting engineer, J. S. Enright.

Chipping Norton. L., arc & inc.

Chislehurst Electric Supply Co., Ltd. L. P. *c.*, 3-wire, primary 2000 *v.*, secondary 210 *v.*, & 420-210 *v.* for motors, 300 *K.W.* Resident engineer, A. E. Darlington.

Chiswick Electricity Supply Corp., Chiswick, W. L. P. *c.*, 3-wire, 220 *v.* & 440 *v.*, 900 *K.W.* Engineer, A. W. Money.

Chorley, Lancs. *Order revoked.*

Christchurch, Hants. Bournemouth & Poole Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 250 *v.*; P., 250 & 500 *v.*; T., 500 *v.*, 375 *K.W.* Resident engineer, C. McCausland.

Electricity Works—*continued.*

Church Stretton Electric Supply Co., Church Stretton, Salop. L., 3-wire, *c.*, 200 *v.*, 100 *K.W.* Engineer, G. Payne.

City of London Electric Lighting Co. *See* Bankside Station.

City & South London Railway Co., Ltd., 71, Finsbury Pavement, London, E.C. T. *c.*, 3-wire, 500 *v.*, 3300 *K.W.* P. V. M'Mahon, engineer.

Clacton Urban District Council, Clacton, Essex. L. P. *c.*, 3-wire, 230 & 460 *v.*, 200 *K.W.* Consulting engineer, W. H. Trentham; chief engineer, H. W. Everitt.

Cleckheaton District Council. *c.* L., 3-wire, arc & inc., 230 *v.*; P., 230 & 460 *v.*, 870 *K.W.* Engineer, A. Pickersgill. *Current supplied to Spen Valley Tramways.*

Cleethorpes, Lincolnshire. *Electric lighting order granted to the Urban District Council.* Consulting engineer, C. S. Vesey Brown. *The Council have purchased the power station of the Grimsby Street Tramways Co. & will lease them to a company.*

Clevedon, Portishead & Long Ashton. *Provisional order revoked.*

Cleveland & Durham County Electric Power Co., Hinton's-bldgs., Middlesbrough. *See* Bishop Auckland, Consett, Grangetown & Thornaby-on-Tees.

Cleveland Trust, Ltd. *See* Saltburn-by-Sea.

Clitheroe Corporation. *Works not yet erected.* Consulting engineer, T. Barton, M.I.E.E.

Clontarf, Ireland. *An electric lighting order has been granted to the Township Commissioners.*

Clontarf, Ireland. Clontarf & Hill of Howth Tramroad Co. *Power supplied by Dublin United Tramways Co.* Engineer, P. S. Sheardown.

Cloonlara. *Power station to be erected by Shannon Water & Electric Power Co.*

Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow. *See* Yoker & Motherwell.

Clydebank, N.B. *Electric lighting order to be transferred to Clyde Valley Electrical Power Co.* Consulting engineer, J. E. Barr.

Coast Development Corp., Ltd. *See* Felixstowe Pier Railway; Southwold; & Walton-on-Naze.

Coatbridge & Airdrie Electric Supply Co., Ltd., Coatbridge & Airdrie, N.B. L. P. *c.*, 3-wire, 240 & 480 *v.*, 800 *K.W.* J. A. Donachie, engr.

Colchester Corporation. *c.*, 3-wire; L., arc & inc., 210 *v.*; P., 210 & 420 *v.*; T., 500 *v.*, 1000 *K.W.* A. R. Sillar, M.I.E.E., A.M.I.M.E., engineer.

Coleraine. Belfast & North-East Electric Lighting & Gas Power Co. *Station to be erected.*

Colne Borough Electricity Works. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*; T., 500–550 *v.*, 770 *K.W.* A. G. Cooper, A.M.I.E.E., engineer.

Colne & Trawden Light Railways Co., Colne, Lancs. *c.*, 500 *v.* *Current supplied by Colne Corp.* Manager & engineer, Marten Turner.

Colwyn Bay U.D.C. L. *c.*, 3-wire, 220 *v.*, 315 *K.W.* Engineer, A. R. Tudman, A.M.I.E.E.

Compton. *An E.L. order has been obtained.*

Electricity Works—*continued.*

Consett, Durham. Cleveland & Durham County Electric Power Co., proprietors. L. P. *a.*, 2- & 3-*ph.*, 50 *py.*, 2200-220 *v.* L., 440 *v.* P., 600 *K.W.* Res. engr., F. H. McLoughlin.

Consett Iron Co. *are about to provide their Chopwell & Garesfield Collieries with an electrical installation. a.* 3-*ph. energy will be generated at Chopwell at* 625 *v.; part will be stepped up to* 3000 *v., transmitted* 2½ *miles & transformed to* 625 *v.*

Conway Corporation. *Works not yet commenced.*

Conway Valley. *A scheme is under consideration for developing power.*

Cork Electric Tramways & Lighting Co., Ltd., Cork. L., 3-wire, *c.*, private arc & inc., 230 *v.*, 460 *v.* for P. & arc L.; T., 500 *v.*, 1900 *K.W.* Engineer & manager, H. H. Nalder; T. manager, H. G. Whiting. *See also* Queenstown.

Cornwall Electric Power Co., 30 & 31, St. Swithin's-lane, London, E.C. Consulting engineers, Baker & Appleby. *Stations proposed to be built at* Par Harbour & Hayle.

County of Durham Electric Power Supply Co., Royal Exchange-bldgs., Newcastle-on-Tyne. *See* Gateshead.

County of Durham Electrical Power Distribution Co., Ltd. *See* Durham, Jarrow & Gateshead.

County of London Electric Supply Co., Ltd., Electricity Works, City-rd., E.C. L. *a.*, 2-*ph.*, 50 *py.*, primary 2000-2200 *v.*, secondary 104 *v.*; & P. *c.*, 530 *v.*, 4350 *K.W.* Chief engineer, Chas. P. Sparks, M.I.C.E.; resident engineer, A. R. Bacon. *See also* Wandsworth.

County of Northampton Electric Power & Traction Co., Ltd. *See* Wellingborough.

Coventry Corporation. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1890 *K.W.* J. A. Jeckell, engineer.

Coventry Electric Tramways Co., Priestley's Bridge, Coventry. T. *c.*, 400 *K.W.* I. E. Winslow, consulting engineer; T. R. Whitehead, resident engineer.

Cowes, Isle of Wight. The Isle of Wight Electric Light & Power Co., Ltd., proprietors. L. *c.* inc., 240 *v.*, arc & P., 240 & 480 *v.*, 156 *K.W.* Engineer & manager, A. E. Mayes. *Bulk supply taken from Newport, I.W., at* 2500 *v. c.*

Cowpen. *See* Blyth.

Crediton, Devon. *The electric lighting order has been revoked.*

Crewe Corporation, Crewe, Cheshire. *c.*, 3-wire, L., 230 *v.*; P., 230 & 460 *v.*, 700 *K.W.* Engineer, H. H. Denton, M.I.E.E.

Crieff, N.B. *An electric lighting order has been granted to the Burgh Commissioners.* Consulting engineers, Hawtayne & Zeden.

Cromer Urban District Council, Cromer, Norfolk. *c.*, 3-wire, L. inc., 240 *v.*; P., 240 & 480 *v.*, 190 *K.W.* Engineer, E. Hesketh, A.M.I.E.E.

Crompton, Lancs. *Tramways leased to Oldham Corp. c.*, 500 *v.*

Crompton, Lancs. *An electric lighting order has been granted to the U.D.C. Proposed works for* L. & T., *c.*, 3-wire, 460 *v.*

Electricity Works—*continued.*

Crook. *E.L. under consideration.*

Croydon Corporation. *c.* L., 230 *v.*; P., 230 & 460 *v.*; T., 550 *v.*; & *a.* L. P., 1-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 200 *v.*; P., 200 & 400 *v.*, 4490 *K.W.* Alex C. Cramb, chief engr.

Cults. *Lowdon Bros. & Co. have obtained provisional order.*

Cwm Dyli. North Wales Electrical Power Co., proprietors.

Cwmbran. South Wales Electrical Power Distribution Co., proprietors. *a.*, 3-*ph.*, 25 *py.*, 2200 *v.* Engineer, T. H. Johnson.

Dalkeith, Midlothian. Electric Supply Corp., Ltd. *c.*, 3-wire; L. inc., 235 *v.*; arc & P., 450 *v.*, 120 *K.W.* Engineer, H. A. Tulloch.

Darlaston. *See* Ocker Hill.

Darlington Corporation, Darlington, Durham. *c.*, 3-wire, L. P. 230 & 460 *v.*, T. 500-550 *v.*, 1050 *K.W.* Engineer, J. R. P. Lunn.

Dartford Urban District Council. L. *c.*, 3-wire, 230 & 460 *v.*, & for motors, T., 500 *v.*, 700 *K.W.* Engineer, J. D. Pember.

Dartmouth. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. inc., 240 *v.*; arc L. & P., 240 & 480 *v.*, 180 *K.W.* Resident engineer, G. E. Smith.

Darwen Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500 *v.*, 900 *K.W.* C. Garnett, A.M.I.E.E., engineer to Electricity Works; R. W. Smith-Saville, tramways engineer.

Datchet. *See* Slough.

Davies-st. Station. *See* Westminster Electric Supply Corporation.

Dawlish, Devon. *An E.L. order granted to Crompton & Co. will probably be transferred to the Electric Supply Corp.* Chief engineer, K. A. Scott Moncrieff.

Denny & Dunipace. *Provisional order has been obtained.*

Denton, Lancs. *Supply by Manchester Corporation.*

Deptford. London Electric Supply Corporation, proprietors, Stowage Wharf, Deptford, S.E. L. P. *a.*, 1-*ph.*, 83 *py.*, primary 10,000 *v.*, secondary 100 & 200 *v.*; T., 3-*ph. a.*, 25 *py.*, transm. to substa. 6000 *v.*; & P. *c.*, 500 *v.*, 11,000 *K.W.* G. W. Partridge, M.I.E.E., M.I.C.E., engineer-in-chief; supt. engineer, M. Feetham, M.I.M.E.; assistant engineer, T. M. Aitken, A.M.I.C.E.

Derby & Ashbourne Light Railway. *Under construction.* Engineer, J. F. Albright.

Derby Corporation. L. P. *a.*, single-*ph.*, 40 *py.*, primary 2000 *v.*, secondary 200 *v.*; & *c.*, 230 & 460 *v.*; T., 500-550 *v.*, 3600 *K.W.* T. P. Wilmshurst, engineer.

Derbyshire & Nottinghamshire Electric Power Co. *See* Ilkeston.

Devizes. *The T.C. has resolved to abandon its E.L. order.* Consulting engineer, Wingfield Bowles.

Devonport & District Tramways Co., Devonport. T. *c.*, 530 *v.* Supply taken in bulk from Devonport Corporation, but supplied by Co. from own sub-sta.

Electricity Works—*continued.*

Devonport & East Stonehouse, Devon. Devonport Corporation, proprietors. *c.* L., 3-wire, arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 1800 *K.W.* Engineer, J. W. Spark.

Dewsbury, Batley & Birstal Tramways. *Worked by the Yorkshire (Woollen District) Electric Tramways Co., Ltd.*

Dewsbury Corporation. *c.* L., 3-wire, arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500–550 *v.*, 1010 *K.W.* R. H. Campion, A.M.I.E.E., engineer.

Diss, Norfolk. Suffolk Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 2-wire, 200 *v.* Engineer & manager, N. Prentice.

Dollar, N.B. The Electric Supply Corp., Ltd. *c.*, 2-wire, L. P., 225 *v.*, 50 *K.W.* Engineer, K. M. Scott Moncrieff.

Doncaster Corporation. L. (arc & inc.), 3-wire; P. *c.*, 230 & 460 *v.*; T., 500 *v.*, 1250 *K.W.* Engineer, E. S. Rayner, A.M.I.E.E.

Dorchester Corporation. *The electric lighting order will probably be transferred to a company.*

Dorking, Surrey. Edmundson's Electricity Corp., proprietors. L. *c.*, 3-wire, 240 & 480 *v.*, 180 *K.W.* Resident engineer, C. Lakin Smith.

Douglas Southern Electric Tramways, Douglas, Isle of Man. *c.*, 500 *v.*, 200 *K.W.* Engineer, F. W. Ketley.

Dover Corporation. L. Small P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.* Large P. & T. *c.*, 500 *v.*, 1650 *K.W.* L. W. Woodman, M.I.E.E., engineer.

Drayton-in-Hales. *See* Market Drayton Electric Light & Power Co.

Droylsden, Lancs. *Electricity supplied by Manchester Corporation.*

Dublin Corporation. L. P. *a.*, 1- & 3-*ph.*, 50 *py.*, primary 5000 *v.*, secondary 200 *v.*; P., 200 or 346 *v.*, 4500 *K.W.* Mark Ruddle, M.I.E.E., engineer.

Dublin & Lucan Electric Railway Co., Fonthill, Chapelizon, co. Dublin. T. *c.*, 500 *v.*, 240 *K.W.* Electrical engineer, H. Harrison.

Dublin United Tramways Co., Ltd., Ringsend Station, Dublin. T. 500 *v.*; *c.* & *a.*, 3-*ph.*, 25 *py.*, primary 2500 *v.*, transformed & converted to 500 *v. c.* Electrical engineer, P. S. Sheardown, M.I.E.E.

Dublin. *Scheme approved of Irish Electrical Agency, Ltd., for E.L. & P. in Dalkey, Kingstown & Killiney.*

Dudley Corporation. *c.*, 3-wire; L., arc 460 *v.*, inc. 230 *v.*; P., 460 *v.*; T., 2-wire, 500 *v.*, 1600 *K.W.* Engineer, C. E. Savage, A.I.E.E.; chief assistant, E. S. Hounam.

Dudley, Stourbridge & District Electric Traction Co., Ltd., Harts Hill, Brierley Hill. T. *c.*, 500–550 *v.*, 400 *K.W.* T. Satterthwaite, engr.

Dukinfield, Cheshire. Stalybridge, Hyde, Mossley & Dukinfield Electricity Board, proprietors. L. P. T. *a.*, 3-*ph.*, 40 *py.*, 6000–230 *v.* L., 200 *v.* P., 500–550 *v. c.* for T., 1500 *K.W.* Engineer, R. Blackmore.

Electricity Works—*continued.*

Dulverton Electric Lighting Co., Ltd., High-st., Dulverton, Somerset.

Dumbarton. *Works under construction by the Electric Supply Corp.*

Dumfries, N.B. *Provisional order transferred to the* India Rubber, G. P. & Telegraph Works Co., Ltd., *who will erect works.*

Dunblane, Scotland. *E.L. under consideration by T.C.*

Dundalk, Ireland. L. P. T. *Works not yet erected.* Engineers, J. H. Ryan, M.I.C.E., & A. E. Porte, M.I.E.E.

Dundee, Broughty Ferry & District Tramways Co., Ltd., 4, High-st., Dundee. *c.*, 500 *v.*, 400 *K.W.* Engineer & manager, J. H. Shepherd.

Dundee Corporation. *c.*, 3-wire, L., 200 *v.*; P., 200 & 400 *v.*; T., 500–550 *v.*, 3010 *K.W.* Engineer, H. Richardson, M.I.E.E.

Dunfermline. *Electricity supply under consideration.*

Dunfermline. Fife Electric Power Co., proprietors. P. *a.*, 2-*ph.*, 50 *py.*, 3000-440 *v.*, 600 *K.W.* Manager, J. S. Thomson.

Dungannon. *An electric lighting order has been granted to the U.D.C.*

Durham. County of Durham Electrical Power Distribution Co., Ltd., proprietors. *c.*, 3-wire, L. arc, 240 *v.*; P., 480 *v.*, 450 *K.W.* Gen. man., A. S. Esslemont; district supt., W. S. Verrill.

Durham Collieries Electric Power Co., Philadelphia, co. Durham. *a.*, 3-*ph.*, 50 *py.*, 6600 *v.*, 5000 *K.W.* Consulting engineers, Harper Bros.; engineer-in-chief, C. W. Nicholl; resident engineer, W. J. S. Jones.

Ealing Corporation. L. P. *a.*, single-*ph.*, 40 *py.*, primary 2200 *v.*, secondary 102 & 205 *v.*, 1850 *K.W.* J. Douglas Knight, M.I.E.E., M.I.M.E.A., borough electrical engineer; A. E. Pullen, A.M.I.E.E., chief assistant engineer.

Earl's Court. *See* Brompton & Kensington Electricity Supply Co.

East Barnet, Hertfordshire. *An electric lighting order has been granted to the N. Metropolitan Electrical Power Distribution Co.*

East Ham Corporation. L. P. *c.*, 3-wire, 240 & 480 *v.*; T., 500 *v.*, 1925 *K.W.* W. C. Ullmann, M.I.E.E., M.I.MECH.E., engineer.

East Molesey. *Supply to be given by Twickenham & Teddington Electric Supply Co.'s main works at Twickenham.*

East Retford Corporation. *E.L. order revoked.*

East Stonehouse, Devon. *See* Devonport.

Eastbourne Corporation. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 200 *v.*, 1200 *K.W.* Engineer, J. K. Brydges, M.I.E.E.

Easthampstead. *A P.O. has been granted to Camberley & District E.L. Co. for part of district & an Act of Parliament to Ascot District Gas Co. for part.*

Eastleigh & Bishopstoke, Hants. *An electric lighting order has been granted to the U.D.C.*

Ebbw Vale, Mon. *Current in bulk to be supplied to the U.D.C. by the Ebb Vale Steel, Iron & Coal Co., Ltd.* Consulting engineer, R. P. Wilson; resident engr., W. Horsfall.

Electricity Works—*continued.*

Eccles Corporation. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 500 *K.W.* H. W. Angus, engineer. *Traction plant to be installed later. Current for tramways at present supplied by Salford Corporation.*

Eccleston-pl. Westminster Electric Supply Corporation, Ltd., proprietors, *q.v.*

Edinburgh Corporation. *c.*, 3-wire, L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; *a.* L., single-*ph.*, 52 *py.*, primary 2000 *v.*, secondary 230 *v.*, 12,817 *K.W.* Frank A. Newington, M.I.E.E., engineer.

Edmonton, Middlesex. *The Urban District Council have transferred their order to the North Metropolitan Electric Power Supply Co.* Consulting engineer, R. Hammond.

Edmundson's Electricity Corp. *See* Dorking; & Guernsey.

Egremont, Cumberland. *An electric lighting order granted to the Urban District Council will be allowed to expire.*

Electric Supply Corp., Ltd. *See* Carnoustie; Dalkeith; Dollar; Exmouth; Hendon; Jedburgh; Melrose; & St. Andrews.

Elgin, N.B. *Scheme under consideration. Proposed plant: a.*, 3-*ph.*, 5000 *v.*

Elland Urban District Council, Yorkshire. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 280 *K.W.* Engineer, A. V. Wardrop, A.M.I.E.E.

Eltham. *Electricity supplied from Woolwich Boro' Council's Plumstead Station. a.*, 3-*ph.*, 50 *py.*, 6000–22 & 380 *v.*, 500 *K.W.* Chief engineer, T. W. Ellis.

Ely, Cambridgeshire. *An electric lighting order is held by the* City of Ely Electric Light & Power Co., Ltd., 66, Victoria-st., Westminster.

Enfield, Middlesex. N. Metropolitan Electrical Power Distribution Co., Ltd., props. L. P. *c.*, 240 & 480 *v.*, 200 *K.W.* Res. engr., A. H. Bennett.

Epsom Urban District Council. *c.*, 3-wire; L. inc., 230 *v.*; P., 460 *v.*; T., 230 & 460 *v.*, 295 *K.W.* H. Fraser Foster, engineer.

Erdington, Warwick. *The Council has decided to take energy from Aston Manor T.C.*

Erith Urban District Council. L. *a.*, 3-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 200 & 350 *v.* T., 1350 *K.W.* Engineer, Geo. E. Heath; tram manager, A. Coveney.

Eston, Yorks. *The electric lighting order is to be transferred to the Cleveland & Durham County Electric Power Co.*

Ewell. *See* Dover Corp.

Exeter Corporation. L. *a.*, 1-*ph.*, 60 *py.*, 2000–100 *v.*; P. T., *a.*, 1- & 2-*ph.*, 60 *py.*, primary 2000 *v.*, secondary P. 100 & 200 *v.*; T. *c.*, 500–550 *v.*, 1500 *K.W.* H. D. Munro, M.I.E.E., engineer.

Exmouth, Devon. The Electric Supply Corporation, Ltd., proprietors. L. P. *c.*, 225 & 450 *v.*, 300 *K.W.* Assistant engineer, P. Gibson.

Failsworth, Lancs. *E.L. order transferred to Manchester Corp.*

Electricity Works—*continued.*

Falkirk Corporation, Falkirk, N.B. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*, 300 *K.W.* Engineer, J. McMillan.

Falkirk & District Tramways Co. *Energy supplied by Scottish Central Electric Power Co.'s Bonnybridge Works at* 3000 *v.*

Falmouth. *Generating Station is being erected by the Electric Supply Corp.* Engr., F. E. Wilkinson.

Fareham U.D.C. L. *a.*, 1-*ph.*, 125 *py.*, primary 1100 *v.*, secondary 100 & 200 *v.*, 140 *K.W.* A. Blake, engineer.

Farnworth Urban District Council. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 610 *K.W.* Engineer, R. B. Leach.

Faversham Corporation, Faversham, Kent. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 250 *K.W.* Cons. engrs., Talbot & Stevenson; res. engr., Gordon Sommerville, A.M.I.E.E.; elecn., R. A. N. Orr.

Felixstowe Pier Electric Railway. Coast Development Corp., Ltd., proprietors. Engineer, E. A. Lambert.

Felixstowe Urban District Council, Felixstowe, Suffolk. *c.*, 2-wire; L., arc 500 *v.*, inc. & P. 200 *v.* Consulting engineer, R. P. Wilson; resident engineer, N. Prentice.

Felling Electricity Works, Pelaw, Durham. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *a.*, 3-*ph.*, 40 *py.* *Electricity in bulk from* Hebburn. *c.*, 3-wire distribution, primary 5500-460 *v.*, secondary 230 *v.* Consulting engineer, C. W. Fairweather.

Fenton Urban District Council. *An agreement with Stoke-on-Trent T.C. under consideration.*

Ferryhill. *E.L. under consideration.*

Fife Electric Power Co., Ltd., 5, Great George-st., Westminster, S.W. Consulting engineers, Bramwell & Harris. *Generation to be at* 3000 *v.*, 2-*ph.*, 50 *py.* Engineer, J. S. Thompson. *See* Dunfermline.

Finchley Urban District Council. L. *c.*, 3-wire, 250 *v.*; P., 250 & 500 *v.*, 1000 *K.W.* Engineer, E. Calvert, A.M.I.E.E.

Fisher-st. *See* Metropolitan Electric Supply Co., Ltd.

Fladbury Electric Light & Power, Fladbury. L. *c.*, 220 *v.* Engineers, Morris, Jones & Co.

Fleetwood & District Electric Light & Power Synd., Ltd., Old Bank-chbrs., Albert-sq., Fleetwood. *c.*, 3-wire; L. arc & inc., 200 *v.*; P., 200 & 400 *v.*, 280 *K.W.* Resident engineer, O. Hansom, A.M.I.E.E., A.M.I.M.E.

Folkestone Electricity Supply Co., Ltd. L. *c.*, 3-wire, inc. 210 *v.*, arc & P., 210 & 420 *v.*, 1693 *K.W.* T. Hesketh, M.I.E.E., engineer.

Foots Cray, Kent. *Works not yet erected.* Consulting engineers, Mordey & Dawbarn.

Fort William Electric Light Co. L. *c.*, 3-wire, 304–150 *v.*, 180 *K.W.* Irvine Reid, engineer.

Friern Barnet. *An electric lighting order granted to the Urban District Council is at present in abeyance.*

Electricity Works—*continued.*

Frimley. *E.L. under consideration.*

Frinton-on-Sea & District Electric Light & Power Co., Ltd., 6, Old Jewry, London, E.C.; & Frinton-on-Sea. *c.*, 3-wire, 230 *v.*, 30 *K.W.* Engineer, W. Hockley.

Frome Electricity Supply, Frome, Somerset. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 525 *K.W.* Resident engineer, F. H. Merritt.

Fulham Borough Council. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 200 *v.*, 3000 *K.W.* Engineer, A. J. Fuller, A.M.I.E.E.

Gainsborough, Lincolnshire. *An electric lighting order has been granted to the U.D.C.*

Galashiels, N.B. *An electric lighting order has been granted to the Burgh Commissioners.* Consulting engineers, Handcock & Dykes.

Galway Electric Co., Ltd., Newtownsmyth, Galway. L. P. *c.*, 2-wire, 110 *v.*, 110 *K.W.* T. O'Halloran, engineer.

Garston. *See* Liverpool Corp.

Gateshead. County of Durham Electric Power Supply Co. *supplies current in bulk to County of Durham Electrical Power Distribution Co., Ltd.*

Gateshead. County of Durham Electrical Power Distribution Co., proprietors. *c.* 3-wire; L. P., 240 & 480 *v.*; T., 500 *v.*; & P. *a.*, 3-*ph.*, 440 *v.*, 2750 *K.W.* Gen. mgr., A. S. Esslemont; engrs., U. J. S. Jones (works), W. D. Morgan (distribution).

Gateshead & District Tramways Co., Tramway Depôt, Sunderland-rd., Gateshead. Manager, W. Morrison.

Gelligaer, Glam. *The U.D.C.'s application for a provisional order has been refused.*

General Electric Tramways Co., Ltd. *See* West Hartlepool.

Giants' Causeway, Portrush & Bush Valley Electric Railway & Tramway Co., Ltd., Portrush. T. *c.*, 550 *v.*, 150 *K.W.* W. A. Traill, engineer.

Gillingham Corporation, Gillingham-rd., Gillingham, Kent. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 100 & 230 *v.* L., 100, 173, 230 & 398 *v.* P., 950 *K.W.* Engineer, A. D. Chalmers, A.M.I.E.E., A.M.I.MECH.E.; chief assistant, A. J. Ryan, A.M.I.E.E.

Gillingham, Dorset. *A scheme has been prepared by Messrs. Parry, Ross & Richards.*

Glamorgan County Council Light Railway. *Not yet constructed.* Engineers, Sinnott & Stracey, Cardiff. (Teleph. No. 0803.)

Glasgow Corporation. *c.* 3-wire; L., 250 *v.*; P., 250 & 500 *v.*, 17,735 *K.W.* Engineer, W. W. Lackie.

Glasgow Corporation. T. *a.*, 3-*ph.*, 25 *py.*, primary 6500 *v.*, secondary 330 *v.*, sub-sta., thence *c.*, 525 *v.* to line. General manager, Jas. Dalrymple; engineer, J. Ferguson, A.I.E.E.

Glastonbury, Somerset. *An electric lighting order has been granted to the Corp.*

Electricity Works—*continued.*

Glossop, Derbyshire. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 240 & 480 *v.*; T., 500–530 *v.*, 225 *K.W.* Engineer & manager, C. E. Knowles, A.M.I.C.E.

Gloucester Corporation. *c.*, 3-wire; L., inc. 220 *v.*, arc L. & P., 220 & 440 *v.*; T., 550 *v.*, 1750 *K.W.* Engineer, Geo. R. White.

Gloucestershire Electric Power Co., 7, St. Helen's-pl., London, E.C. Consulting engineer, G. L. Addenbrooke. *Proposed stations:* one in the Forest of Dean & one near Stroud.

Godalming. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. inc., 240 *v.*; arc & P., 240 & 480 *v.*, 380 *K.W.* Resident engineer, R. S. Robertson.

Golborne, Lancs. *Current to be supplied by Lancashire Electric Power Co.*

Golcar. *See* Huddersfield.

Gomersal. Electrical Distribution of Yorkshire, Ltd., props. L. P. *a.*, 1-*ph.*, 50 *py.*, 2000–230 *v.* *Bulk supply from Yorks. Power Co.* Engr., Wm. B. Woodhouse.

Goole, Yorks. *An E.L. order granted to U.D.C. Works to be erected.* Cons. engr., W. Emmott.

Gorleston. *See* Yarmouth.

Gorseinon Electric Light Co., Ltd. L. *c.*, 2-wire, 200 *v.*, 60 *K.W.* David Powell, engineer.

Gorton, Lancs. *E.L. order leased to Manchester Corp.* Engineer, C. J. Lomax.

Gosport & Alverstoke Electric Lighting Co., Ltd., Gosport, Hants. L. *c.*, 240 *v.*; P., 480 *v.* Engr., J. Fereday Glenn. *Current supplied by Gosport & Fareham Tramways.*

Gosport & Fareham Tramways. Provincial Tramways Co., Ltd., props. *a.*, 3-*ph.*, 25 *py.*, 6000–500 *v.* *c.*, 1000 *K.W.* Engr. & man., J. Fereday Glenn.

Gourock, N.B. *An electric lighting order has been granted to the Town Council. Works not yet erected.* (Telephone No. 17.) *Tramways leased to Greenock & Port Glasgow Tramways Co.*

Govan Town Council. L. P. *c.*, 3-wire, 250 & 500 *v.*, 2050 *K.W.* T. C. Parsons, A.M.I.E.E., engineer.

Grangemouth. *E.L. under consideration.*

Grangetown, Yorks. Cleveland & Durham County Electric Power Co., proprietors. L. P. *a.*, 3-*ph.*, 40 *py.*, 11,500–2750 & 440 *v.*, 6500 *K.W.* Manager, A. B. Gridley.

Grantham. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. inc., 240 *v.*; P., 240 & 480 *v.*, 400 *K.W.* Engineer, J. E. Edmundson, A.M.I.E.E.

Gravesend Corporation. *c.* L. arc & inc. P., 3-wire, 230 & 460 *v.*; T., 500–550 *v.*, 1050 *K.W.* C. F. McInnes, A.M.I.E.E., resident engr.

Gravesend & Northfleet Electric Tramways, Ltd., Donington House, Norfolk-st., Strand, W.C.; & Northfleet. *c.*, 500 *v.* Man., A. W. Kipping.

Grays Thurrock Urban District Council. *c.* L. arc & inc. P., 3-wire, 230 or 460 *v.*, 200 *K.W.* Engineer, E. D. Long, A.M.I.E.E.

Electricity Works—*continued.*

Great Crosby & Waterloo with Seaforth. Liverpool District Lighting Co., Ltd., proprietors. *c.* L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 891 *K.W.* W. Miles Horsfall, M.I.E.E., engineer.

Great Grimsby Corporation. *c.* L., 3-wire, inc., 230 *v.*; arc & P., 230 & 460 *v.*, 900 *K.W.* Engineer, W. A. Vignoles, M.I.E.E.; chief assistant, A. S. Channon.

Great Grimsby. Provincial Tramways Co., Ltd., proprietors. T. *c.*, 530 *v.*, 300 *K.W.* Cons. engr., Jno. Glenn; elec. engr., S. E. Barnes; manager & resident engr., H. L. White.

Great Northern & City Railway Co., Poole-st. Power House, New North-rd., N. T. *c.*, 575 *v.*, 3440 *K.W.* Resident engineer & manager, R. P. Brousson.

Great Northern, Piccadilly & Brompton Railway, Hamilton House, Victoria Embankment, E.C. Underground Electric Railways Co. of London, Ltd., proprietors.

Great Northern Railway Co. of Ireland. *See* Hill of Howth.

Great Western & Hammersmith & City Railways. L. T. *a.*, 3-*ph.*, 50 *py.*, 6500–220 & 110 *v.* L.; & *c.* L. P. T., 600 *v.*, 6000 *K.W.* Consulting engrs., Kennedy & Jenkin; gen. mangrs., J. C. Inglis & A. C. Ellis. *Under construction.*

Greenock Corporation. *c.*, 3-wire; L. P., 250 & 500 *v.*; T., 500 *v.*, 2000 *K.W.* Engineer, J. A. Robertson, M.I.E.E.

Greenock & Port Glasgow Tramway Co. *Current supplied by Greenock Corp. c.*, 500 *v.* Manager, G. W. King.

Guernsey Electricity Supply Co. Edmundson's Electricity Corporation, Ltd., proprietors. *c.*, 3-wire; L. arc & inc., 210 *v.*; P., 210 & 420 *v.*, 870 *K.W.* A. G. Bird, A.M.I.E.E., engineer.

Guernsey Railway Co., Ltd. T. *c.*, 500 *v.*, 100 *K.W.* A. L. Davis, A.M.I.E.E., engineer.

Guildford Electricity Supply Co., Ltd. *c.* L. arc & inc., 215 *v.*; P., 215 & 430 *v.* for motors; T., 500 *v.*, 428 *K.W.* H. L. Alderton, resident engr.

Hackney Borough Council, Millfields-rd., Clapton, N.E. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 3372 *K.W.* L. L. Robinson, M.I.E.E., res. engr.; J. R. J. Bowden, assist.

Halesowen, Worcestershire. *Powers leased to the Empire Electric Lighting Co.* Electrical engineer, R. P. Wilson.

Halifax Corporation. *c.* L. arc & inc., 3-wire, 230 *v.*; P., 230 & 460 *v.*; T., 500–560 *v.*; & T., 3-*ph.*, 25 *py.*, primary 5500 *v.*, secondary 500 *v.*, 4750 *K.W.* W. M. Rogerson, A.M.I.E.E., engineer.

Ham. *Supply to be given by the Twickenham & Teddington Electric Supply Co., Ltd.*

Hamilton Corporation, Hamilton, N.B. *Leased to Edmundson's Electricity Corporation, Ltd. c.*, 3-wire; L., arc & inc. 240 *v.*; P., 240 & 480 *v.*, 380 *K.W.* Engineer, T. M. Colson, A.M.I.E.E.

Hamilton, Motherwell & Wishaw Tramway. *See* Lanarkshire Tramways Co.

Electricity Works—*continued.*

Hammersmith Borough Council, 85, Fulham Palace-rd., Hammersmith, W. L. P. *a.*, 1-*ph.*, 50 *py.*, 2300–110 & 220 *v.*, 4500 *K.W.* G. G. Bell, engineer.

Hampshire Light Railways (Electric) Co., Ltd. *See* Portsdown & Horndean Light Railway.

Hampstead Borough Council, Lithos-rd., Hampstead, N.W. *c.*, 3-wire; L. arc, 1400 *v.*; L. P. *a.*, single-*ph.*, 90 *py.*, primary 2000 *v.*, secondary 105 & 210 *v.*, 4990 *K.W.* G. H. Cottam, M.I.E.E., engineer; E. Sayer, A.M.I.E.E., chief assistant.

Hampton-in-Arden, Warwickshire. *An act obtained in* 1904.

Hampton, Middlesex. *E.L. order leased to the Twickenham & Teddington Electric Supply Co., Ltd.*

Handsworth Urban District Council, Handsworth, Staffs. L. P. *c.*, 3-wire, 240 & 480 *v.*, 420 *K.W.* Consulting engineers, Kennedy & Jenkin; engineer, F. A. Nixon.

Hanley Corporation. L. P. *a.*, single-*ph.*, 100 *py.*, 2000–100 & 200 *v.* L., 100, 200 & 400 *v.* P., 1850 *K.W.* Engineer, C. H. Yeaman; deputy, W. Adams.

Hanwell. *Order owned by U.D.C. They will probably take bulk supply from Metropolitan Electric Supply Co.*

Harrington Electric Light Co., Ltd., Harrington, Long Eaton, Derbyshire. L. *c.*, arc 110 *v.*, inc. & P. 115 *v.*, 360 *K.W.* Engineer, Geo. Coe.

Harrogate Corporation, Ripon-rd. Office: 33, Swan-rd., Harrogate. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 2000 *K.W.* G. Wilkinson, M.I.M.E., M.I.E.E., engr.

Harrow Electric Light & Power Co., West-st., Harrow. L. *c.*, 3-wire, 220 *v.*; P., 440 *v.*, 534 *K.W.* Engineer, P. Olver.

Hartlepool Electric Tramways Co., Ltd. *c.*, 500 *v.*, 500 *K.W.* Engineer, W. H. Bettison.

Hartlepool. Northern Counties Electricity Supply Co., Ltd. L. *c.*, 3-wire, 460–230 *v.*, 100 *K.W.* Consulting engineer, C. W. Fairweather.

Haslingden Corporation, Haslingden, Lancs. *A provisional order has been granted. Works not yet erected. Proposed system: c.*, 3-wire, 220 *v.*, 250 *K.W.* (Telephone No. 16.)

Hastings Corporation. L. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 *v.*; P., 200 or 400 *v.*, 1200 *K.W.* Russell F. Ferguson, M.I.E.E., A.M.I.MECH.E., engineer; Harry Webber, chief assistant.

Hastings & District Electric Tramways Co., Ltd., 1, Queen Victoria-st., London, E.C.; & Hastings. *a. current is generated at* 6600 *v., transmitted to sub-stations & transformed to c.*, 500 *v.* Tramways manager, T. B. Holliday.

Hawick. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. arc. & inc., 240 *v.*; P. 240 & 480 *v.*, 600 *K.W.* Resident engineer, A. N. Rye.

Haydock. *Provisional order has been obtained.*

Hayward's Heath. *E.L. under consideration.*

Electricity Works—*continued.*

Heanor. *The U.D.C. are considering an E.L. scheme of the Notts & Derbyshire Elec. Power Co.*

Heaton Norris, Lancs. *See* Manchester Corp.

Heavitree. *The Exeter Corp. run tramways in Heavitree, & have obtained a provisional order for E.L. & P.*

Hebburn, Durham. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*; & *a.* P., 3-*ph.*, 40 *py.*, 5500-440 *v.*, 2500 *K.W.* Res. engr., A. Manthorpe; elecn., W. Bates.

Hebden Bridge Urban District Council, Hebden Bridge, Yorks. 3-wire, 480 *v.*, 200 *K.W.* Resident engr., J. W. Garside.

Heckmondwike Urban District Council, Heckmondwike, Yorks. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 950 *K.W.* Engr., G. H. Carter, A.I.E.E.; chief assistant, H. C. Carter.

Hemel Hempstead. *E. L. under consideration.*

Hemsworth Electricity Supply Co. *have applied for a year's extension of E. L. order.*

Hendon, London, N. Electric Supply Corporation, Ltd., proprietors. Consulting engineers, R. Hammond & Son. *c.*, 3-wire, 220 *v. Under construction.*

Hereford Corporation. *c.*, 3-wire; L., inc. 220 *v.*, arc 440 *v.*; P. 220 & 440 *v.*, 450 *K.W.* W. T. Kerr, engineer.

Herne Bay Pier Electric Railway. Herne Bay Pier Co., Ltd., proprietors. L. (arc. & inc.) P. & T. *c.*, 250 *v.*, 50 *K.W.* H. C. Dufton, engr.

Hertford. *North Metropolitan Electric Power Supply Co. supply current in bulk to* North Metropolitan Electrical Power Distribution Co., Ltd. L. *c.*, 3-wire, inc. & arc 230 *v.*; P. 460 *v.*, 340 *K.W.* Engineer, J. M. Bowman; assistant, E. C. Squire.

Hertfordshire C.C. *have obtained an order to construct T. in Watford & Bushey.*

Hessle. *Provisional order has been obtained.*

Heston & Isleworth Urban District Council, Middlesex. *c.*, 3-wire; L. P., 240 & 480 *v.*, 600 *K.W.* Res. engr., P. E. Rycroft, A.M.I.E.E.

Hexham & District Electric Supply Co., Ltd., Hexham, Northumberland. L. P. *a.*, 3-*ph.*, 40 *py.*, 2500–120 *v.* L., 440 *v.* P., 100 *K.W.* Engineer, W. E. Poole.

Heysham, Lancs. *An electric lighting order has been granted to the U.D.C.*

Heywood Corporation. L. P. *c.*, 3-wire, 200 & 400 *v.*, T. 166 *K.W.* Engineer, J. Stott.

High Barnet, Herts. North Metropolitan Electrical Power Distribution Co., Ltd. L. *c.*, 3-wire, inc. 230 *v.*, arc & P. 230 & 460 *v.*, T. 600 *v.*, 400 *K.W. Power supply taken from North Metropolitan Power Supply Co.*, 3-*ph.*, 50 *py.* at 10,000 *v.*, *transmitted to c.* 460 *v.* Resident engineer, H. B. Sale.

Hill of Howth Tramroad, Amiens Street Terminus, Dublin, Ireland. Great Northern Railway Co. (Ireland), proprietors. *c.*, 550 *v.*, 550 *K.W.* Engineer-in-chief, W. H. Mills, M.I.C.E.; electrical engineer, A. W. Whieldon, M.I.E.E.

Electricity Works—*continued.*

Hinckley. *See* Leicestershire & Warwickshire Electric Power Co.

Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey. *c.* L. inc., 220 *v.*; P., 440 & 220 *v.*; T., 440 *v.*, 115 *K.W.* Engineer T. Reader.

Hindley, Lancs. *An electric lighting order has been granted to the Urban District Council.* Consulting engineer, C. Hopkinson.

Hipperholme. *The U.D.C. are negotiating for transfer of E.L. provisional order.*

Hitchin & Stevenage, Herts. *Works to be erected by the Electric Supply Corporation. Temporary supply available Oct.*, 1905.

Hoddesdon, Herts. *An electric lighting order has been granted to the Urban District Council.* Consulting engineer, W. H. Flood.

Holmforth. *E.L. under consideration.*

Holyhead Urban District Council, Holyhead, Anglesey. L. *c.*, inc. & arc 200 *v.*; P. 200 & 400 *v.*, 220 *K.W.* Res. engr., P. Williams.

Holywood Tramways Co. *Not yet commenced.* Consulting engineer, C. H. Merz.

Honley Urban District Council, Yorks. L. P. *c.*, 2-wire, 200 *v.*, 70 *K.W.* Electrical engineer, H. Marsden.

Hopeman (Elgin) Urban District Council. Consulting engineer, C. C. Doig.

Horbury, Yorks. *An electric lighting order has been granted to the Urban District Council.*

Horley. *The London Gazette of Feb.* 16, 1906, *contains notice of revocation of provisional order.*

Hornsey Borough Council. *c.*, 3-wire; L., inc. 240 *v.*, arc & P. 240 & 480 *v.*, 1300 *K.W.* Engineer, N. Staniland, A.M.I.E.E.

Horsforth, Yorks. *Provisional order granted to the Urban District Council, who recently decided to open negotiations with the Yorkshire Electric Power Co. for transfer of order. Tramways order transferred to Leeds Corp.* (Telephone No. 37, Horsforth.)

Horsham Urban District Council, Horsham, Sussex. *c.*, 3-wire; L., inc. 230 *v.*, arc & P., 460–230 *v.*, 400 *K.W.* Engr., J. B. Morgan.

Houghton-le-Spring Tramways. Sunderland District Tramways, Ltd., props. *c.*, 550 *v.*, 500 *K.W.* Engr. & man., R. D. McCarter.

Hove Electric Lighting Co., Ltd., 7, Cromwell-rd., Hove, Sussex. L. *c.*, 3-wire, 220 *v.*, 1608 *K.W.* C. B. Smith, M.I.E.E., res. engr.

Hoylake & West Kirby Urban District Council, Cheshire. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2350 *v.*, secondary 230 *v.*, 625 *K.W.* Engr., C. J. Turner, A.I.E.E.; asst., E. F. Jones.

Hucknall Torkard, Notts. *An electric lighting order has been granted to the Urban District Council.* Consulting engineer, F. J. Warden-Stevens.

Hucknall-under-Huthwaite, Notts. *An electric lighting order has been granted to the U.D.C.*

Huddersfield Corp. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 3290 *K.W.* A. B. Mountain, M.I.E.E., engineer.

Electricity Works—*continued.*

Huddersfield Corporation Tramways. T. *c.*, 500 to 550 *v.*, 1400 *K.W.* Man. & engr., R. H. Wilkinson.

Hull City. L. (arc & inc.) *c.*, 3-wire, primary 2000 *v.*, secondary 220 *v.*; P., 440 *v.*, 5000 *K.W.* H. Bell, A.M.I.E.E., engineer.

Hull Corporation Tramways. T. *c.*, 500 *v.*, 1560 *K.W.* Engineer, J. Wilkinson, M.I.E.E.

Hunstanton. *E.L. order expires May*, 1905.

Huntingdon. *E. L. under consideration by Council.* Consulting engineer, F. J. Warden-Stevens.

Hurst U.D.C. Tramways. *c.*, 500 *v.* Engineer, E. Garside. *Leased to Ashton-under-Lyne.*

Huyton. *See* Prescot.

Hyde, Cheshire. *See* Stalybridge.

Hyde Tramways. Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board, props. P. T. *a.*, 3-*ph.*, 40 *py.*, 6000–200 *v.*; P., *c.* L., 230 *v.*; P., 460 *v.*; T., 500–550 *v.*, 1500 *K.W.* Engineer, R. Blackmore.

Hythe, Kent. Folkestone Electricity Supply Co., Ltd., proprietors. *c.* L. inc., 210 *v.*; P., 420 *v.*, 150 *K.W.* *Current supplied at* 2800 *v. from Folkestone.* Managing engr., T. Hesketh, M.I.E.E.; res. engr., A. C. Wampach.

Ilford Urban District Council. *c.* L., 3-wire, 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 2600 *K.W.* Engineer, A. H. Shaw, M.I.E.E.

Ilfracombe Electric Light & Power Co., Ltd., Ilfracombe, Devon. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 180 *K.W.* Engineer, A. Alan Jenkins, A.M.I.E.E.; electrician, C. B. Day.

Ilkeston, Derbyshire. Derbyshire & Nottinghamshire Electric Power Co., proprietors. *c.* L., 230 *v.*; & *a.*, 3-*ph.*, 500–550 *v.*, 160 *K.W.*; P., 460–500 *v.*; & *a.*, 3-*ph.*, 25 *py.*, 11,000–2000 & 440 *v.*; T., 500–550 *v.*, 720 *K.W.* Consulting engrs., Bramwell & Harris; engr. & man., A. E. Loos; resident engr.-in-charge, S. S. Foster.

Ilkeston Town Council, Ilkeston, Derbyshire. L. 3-wire, P. T. *c.*, 230 & 460 *v.*, 720 *K.W.* *Current supplied in bulk by the Derby & Notts Electric Power Co.* Engineer, A. C. Gilbert.

Ilkley U.D.C., Ilkley, Yorks. Consulting engineer, F. J. Warden-Stevens. *c.* 230 *v.* *E.L. scheme under consideration.*

Illogan, Cornwall. *See* Camborne.

Imperial Tramways Co. *See* Middlesbrough, Stockton-on-Tees & Thornaby Electric Tramways.

Ince-in-Makerfield, Lancs. *The electric lighting order to be transferred to Wigan T.C.* Consulting engineers, Lacey & Sillar.

Ingleton Electric Lighting & Power Co., Ltd. L. P. *c.*, 3-wire, 100 & 200 *v.*, 32 *K.W.* Engineer, D. Tattersall.

Inverness, Scotland. North of Scotland Electric Light & Power Co., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 180 *K.W.* Engineer, E. J. Williams.

Ipswich Corporation. *c.* L., 3-wire, arc & inc., 230 *v.*; P., 460 *v.*; T., 500 *v.*, 1550 *K.W.* F. Ayton, A.M.I.E.E., engineer.

Electricity Works—*continued.*

Irvine, Ayrshire. *Scheme under consideration.* Consulting engineers, Kirkland & Capper.

Isle of Thanet Electric Tramways & Lighting Co., Ltd., St. Peters, Kent. 3-wire, *c.* L. arc & inc., 240 *v.*; P., 480 *v.*; *a.* T., 3-*ph.*, 50 *py.*, primary 2500 *v.*, secondary 310 *v.*; converted to *c.*, 550 *v.*, 1000 *K.W.* R. Humphries, A.M.I.E.E., engineer. *See also* Margate.

Isle of Wight Electric Light & Power Co., Ltd. *See* Newport, Shanklin, Ventnor, Carisbrooke, Cowes & Ryde.

Isleworth. *See* Heston.

Islington Borough Council, Eden-grove, Holloway, N. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.* L., 200 & 400 *v.* for P., 5100 *K.W.* Chief engr., Albert Gay, M.I.E.E.

Ivybridge. *L. c.* 200 *v. supply by Messrs. Heath & Co., Plymouth.*

Jarrow & District Electric Traction Co., Ltd. *Energy to be supplied by County of Durham Electrical Power Distribution Co., Ltd.*

Jarrow. County of Durham Electrical Power Distribution Co., Ltd., proprietors. *c.*, 3-wire, L., inc. & arc 240 *v.*; P., 480 *v.*; T., 500 *v.*; & *a.*, 3-*ph.*, 40 *py.*, 5500–240 & 480 *v.* L., 440 *v.* P., 500 *K.W.* Manager, A. S. Esslemont; technical manager, J. S. Watson; local supt., J. Butcher; asst., J. McLaren. *Scheme in progress for running as a substation from Gateshead at* 5000 *v.*

Jedburgh, Roxburgh. The Electric Supply Corporation, Ltd., proprietors. *c.* L., 225 *v.*; P., 225 & 450 *v.*, 70 *K.W.* Chief engineer, K. A. Scott-Moncrieff.

Kearsley District Council. L. P. *Tramways worked by Farnworth District Council.* Consulting engineers, Lacey, Sillar & Leigh.

Keighley Corporation, Yorks. *c.* L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 740 *K.W.* J. M. Smyth, A.M.I.C.E., M.I.E.E., engineer.

Kelvinside. *See* Glasgow.

Kendal Corporation. L. P. *c.*, 3-wire, 220 *v.* & 440 *v.*, 1095 *K.W.* Engr., W. Thomson; elecn., J. Ainscough.

Kensington Court Station. Kensington & Knightsbridge Electric Light Co., Ltd., 148, Brompton-rd., S.W., proprietors. L. P. *c.*, 200 *v.*; & *a.*, 3-*ph.*, 45 *py.*, 5000 *v. from* P. *house at Wood Lane transmission to substations*, 2200 *K.W.* H. W. Miller, engr. *See also* Chapel Place Station.

Kensington & Notting Hill Cos.' Joint Electricity Supply Works, Shepherd's Bush. L. P. *a.*, 3-wire, 3-*ph.*, 45 *py.*, 5250–220 *v.*, 13,000 *K.W.* Engineers, H. W. Miller & G. Schultz; resident engineer, C. M. Bennett.

Kent Electric Power Co., Bank-chbrs., 1, Railway-st., Chatham. *Station at Frindsbury under construction.* Joint consulting engrs., G. L. Addenbrooke & A. A. C. Swinton; gen. man., H. E. M. Kensit, A.M.I.E.E. *See* Chatham.

Electricity Works—*continued.*

Kerry Electric Supply Co., Ltd., Killarney, co. Kerry, Ireland. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 140 *K.W.* Engineer, Valentine Ryan.

Kersley, Lancs. Consulting electrical engineer, G. E. Fletcher.

Keswick Electric Lighting Co., Ltd., Keswick, Cumberland. L. *a.*, 1-*ph.*, 75 *py.*, primary 2000 *v.*, secondary 100 *v.*, 120 *K.W.* G. A. Leighton, engineer.

Kettering Urban District Council, Kettering, Northamptonshire. L. P. *c.*, 3-wire, 230 & 460 *v.*, 460 *K.W.* Res. engr., W. A. Walker.

Keynsham Electric Light & Power Co., Ltd. L. *c.*, 115 & 230 *v.*, 43 *K.W.* G. J. T. Parfitt, A.M.I.E.E., engineer.

Kidbrook. *See* South Metropolitan Electric Light & Power Co., Ltd.

Kidderminster & District Electric Lighting & Traction Co., Ltd. *c.* L., 3-wire, 230 *v.*; T. 500 *v.*; P. 460 *v.*, 750 *K.W.* A. Charlton, managing engineer.

Kidderminster & Stourport Electric Tramway Co. 500 *v.* Electrical engineer, A. Charlton.

Kildare, Ireland. L. *c.*, 2-wire, 200 *v.*, 32 *K.W.* Consulting engineer, W. H. Clegg; resident engineer, H. Rylance.

Killarney. *See* Kerry Electric Supply Co.

Kilmacolm Electric Lighting Co., Ltd., Kilmacolm, Renfrewshire, Scotland. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 100 *K.W.* Engineer, Jas. Brown, A.M.I.E.E.

Kilmarnock Corporation, Kilmarnock, Scotland. L. *c.*, 3-wire, inc. 240 *v.*, arc & P., 480 *v.*; T., 500–550 *v.*, 480 *K.W.* Burgh engineer & tram manager, A. H. Burbidge, A.M.I.E.E.

King's Lynn (Norfolk) Corporation. *c.*, 3-wire; L., arc & inc., 200 *v.*; P., 200 & 400 *v.*, 680 *K.W.* J. Pilling, M.I.E.E., engineer.

King's Norton, Worcester. *An electric lighting order has been granted to the Urban District Council. Works not yet erected.* Engineer, A. W. Cross.

King's Norton, Worcester. *Under construction. Tramways leased to City of Birmingham Tramways Co., Ltd.*

King's-rd. Station of St. Pancras Borough Council, King's-rd., N.W. L. P. *a.*, 50 *py.*, 3-*ph.* to sub-stations, 5300 *v.*; & to consumers *c.*, inc. 220 *v.*, arc 440 *v.*; P., 3-wire, 220 & 440 *v.*, 3620 *K.W.* J. T. Baron, M.I.E.E., engineer; T. W. Merry, chief assistant engineer.

Kingsbury. *E.L. order transferred to the North Metropolitan Electric Power Supply Co.*

Kingston-upon-Thames Corporation. L. P. *a.*, single-*ph.*, 77 *py.*, primary 2100 *v.*, secondary 105 *v.*, series arc 1000 *v.*, 865 *K.W.* J. E. Edgcome, engineer.

Kingstown, Ireland. *An electric lighting order has been granted to the Town Commissioners.*

Kingswear. L. *c.*, 240 & 480 *v.* *Current supplied by Urban Electric Supply Co., Ltd., Dartmouth.*

Electricity Works—*continued.*

Kingswinford, Staffs. *Electric lighting order has been transferred to the Midland Electric Corporation for Power Distribution, Ltd.*

Kingswood. *See* Keynsham Electric Light & Power Co., Ltd., proprietors.

Kinver Light Railway, Tram Depôt, Brierley Hill, Staffs. *Current supplied by Dudley, Stourbridge & District Electric Traction Co., Ltd., & Midland Electric Corp.*

Kirkby-in-Ashfield. Consulting engineer, R. Hammond.

Kirkcaldy Corporation. *c.* L., 3-wire, arc 43 *v.*, inc. 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 1090 *K.W.* Engineer, O. F. Francis, A.M.I.E.E.; assistant engineer, J. B. Bingham, A.M.I.E.E.

Kirkintilloch. *Provisional order obtained.*

Knutsford, Cheshire. *The U.D.C. have decided to dispose of their E.L. order.*

Lambeth. South London Electric Supply Corp., Ltd., proprietors. L. P. *a.*, single-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 220 *v.*, 3800 *K.W.* H. W. Sprunt, engr. & man.

Lambton Collieries, Ltd., Dean-st., Newcastle-on-Tyne; & Durham. L. P. *Power will be supplied by Durham Electric Power Co. a.*, 3-*ph.*, 50 *py.*, 6000–110 & 220 *v.* L., 525 *v.* P., *c.* 550 *v.*, 6000 *K.W.* Engr., M. Georgi; elecn., H. J. Fisher.

Lanark. *E.L. orders have been granted to the C.C. authorising it to supply electrical energy in Bothwell & Blantyre. See* Cambuslang.

Lanarkshire Tramways Co., 83, Cannon-st., London, E.C.; & Motherwell, N.B. T. *c.*, 500 *v.*, 825 *K.W.* Gen. man. & engr., G. F. Moller.

Lancashire Electric Power Co., 196, Deansgate, Manchester. *See* Radcliffe.

Lancashire Light Railways Co., Ltd., Atherton, Lancs. Engr., J. R. Salter, A.M.I.M.E., M.I.E.E. *Power supplied from Prescot.*

Lancashire United Tramways, Ltd., Howe Bridge, Atherton. P. T. *a.*, 2-*ph.*, 50 *py.*, primary 7500 *v.*, secondary 2200 *v.*, converted to *c.* L., 500 *v.*; P., 550 *v.*; T., 500–550 *v.*, 2750 *K.W.* Sub-stations at Hindley & Walkden, 450 *K.W.* Engineer, J. R. Salter, M.I.E.E.

Lancashire & Yorkshire Railway Co. (Liverpool-Southport). *a.*, 3-*ph.*, 60 *py.*, 7500 *v.*, *converted to* 600–675 *v.*, 6750 *K.W.* Engineer, W. B. Worthington.

Lancaster Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500 *v.*, 1200 *K.W.* Consulting engineer, W. A. Tester, A.M.I.E.E.; chief assistant engineer, D. A. Hamilton.

Larbert, Scotland. Scottish Central Electric Power Co., proprietors. L. *a.*, 2-*ph.*, 4-wire, 50 *py.*, 3000–220 *v.*; P., 2- & 3-*ph.*, 50 *py.*, 3000–440 *v.*; T., 2-*ph.*, 50 *py.*, 3000–500–550 *v. c.* Engr., W. D. Morgan.

Larne Electric Light Works, Ltd., Larne. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2200 *v.*, secondary 105 & 210 *v.*, 155 *K.W.* M. G. Smyth, A.M.I.E.E., engineer & manager.

Electricity Works—*continued.*

Launceston. *A provisional order has been granted to the District Council. Works to be erected by Crompton & Co.*

Leadgate, Durham. *Northern Counties Electricity Supply Co., Ltd., will take supply in bulk from the Cleveland & Durham County Electric Power Co.*

Leamington Spa, Warwickshire. Midland Electric Light & Power Co., Ltd., proprietors. L. P. *c.*, 3-wire, 115 & 230 *v.*, 600 *K.W.* Engr., F. W. E. Jones, M.I.E.E.

Leamington & Warwick Tramways. Leamington & Warwick Electrical Co., proprietors. *c.*, 550 *v.* *See also* Warwick.

Leatherhead & District Electricity Co., Ltd., Bridge-st., Leatherhead; Ashstead; & Mickleham, Surrey. *c.*, 3-wire; L., 220 & 440 *v.*; P., 440 *v.*, 160 *K.W.* Engr., H. L. Dixon, A.M.I.E.E.

Lee. *See* South Metropolitan Electric Light & Power Co., Ltd.

Leeds Corporation. L. P. *a.*, 1- & 2-*ph.*, 50 & 83 *p.*, primary 2000 *v.*, secondary L. 100 & 200 *v.*, P. 200 & 400 *v.*, 11,340 *K.W.* H. Dickinson, engr.

Leeds Corporation Tramways. T. *c.*, 500 *v.*, 4150 *K.W.*, & 2000 *K.W. turbo alternators*, 6600 *v.*, 3-*ph.*, *under construction.* Engineer, J. Burbridge; chief assistant, H. G. Jeken.

Leek Urban District Council, Leek, Staffs. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 120 *K.W.* Engineer, R. M. Carr, A.M.I.E.E.; assistant engineers, F. Williams & R. B. Penning.

Lees, Lancs. *Tramways order granted to the U.D.C. leased to the Oldham Corp. The E.L. order is to be transferred to the Lancs. Elec. Power Co.*

Leicester Corporation. L. P. *a.*, single-*ph.*, 50 *p.*, primary 2000 *v.*, secondary 100 & 200 *v.*; T., 500–550 *v.*, 3400 *K.W.* A. Colson, M.I.E.E., engr.

Leicester. *See* Railway Lighting, Ltd.

Leicestershire & Warwickshire Electric Power Co., 5, Great George-st., Westminster, S.W. *Stations to be constructed at Glenfield, Leek, Measham, Newbold-on-Avon & Wootton. Station at Hinckley under construction.* P. *a.*, 2-*ph.*, 50 *p.*, 2200–440 *v.* Engineer, H. Graham Harris (Bramwell & Harris).

Leigh Corporation. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 750 *K.W.* Engr. & manager, A. T. Smith. *T. under consideration.*

Leith Corporation. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 550 *v.*, 2172 *K.W.* A. P. Rutherford, A.M.I.E.E., engineer.

Levenshulme, Lancs. *Sub-station supplied by Manchester Corp.*

Lewes & District Electric Supply Co., Ltd., Lewes, Sussex. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 210 *K.W.* Engr., C. F. Butler, A.M.I.E.E.

Lewisham. *See* South Metropolitan Electric Light & Power Co., Ltd.

Leyland, Lancs. *An electric lighting order has been granted to the Urban District Council.*

Leyton Urban District Council, Cathall-rd., Leytonstone, N.E. *c.*, 3-wire, L. arc & inc., 150 *v.*; P., 150 & 300 *v.*; T., 500–550 *v.*, 2700 *K.W.* F. Harman Lewis, A.I.E.E., engineer.

Electricity Works—*continued.*

Lichfield. *Provisional order has been granted to the Corp.*

Limavady, co. Londonderry, Ireland. Proprietor & electrician, E. J. S. Ritter; engr., A. Rankin. L. *a.*, 1-*ph.*, 100 *p.*, 1100–220 *v.*, 240 *K.W.*

Limehouse, London. *See* Stepney.

Limerick Corporation, Ireland. L. P. *c.*, 3-wire, 230 & 460 *v.*, 225 *K.W.* Consulting engr., J. Enright; resident & consulting engr., J. Gallinagh.

Lincoln Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230, 460 & 500 *v.*, T. 1368 *K.W.* S. Clegg, M.I.E.E., resident engineer.

Linthwaite Electric Tramways. Huddersfield Corporation, proprietors. T. *c.*, 500–550 *v.*, 1400 *K.W.* Engr. & man., R. H. Wilkinson.

Litherland. *E.L. under consideration.*

Little Lever. *Negotiations proceeding with the Lancashire Electric Power Co. for supply of energy.*

Littleborough, Lancashire. P. & T. *leased to Rochdale T.C.*

Littlehampton. *E.L. under consideration by Council.* Consulting engineer, F. J. Warden-Stevens.

Liverpool Corporation, Highfield-st., Liverpool. *c.* L. arc & inc., 2- & 3-wire, 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 27,670 *K.W.* A. Bromley Holmes, M.I.C.E., consulting engineer; resident engineer, Alfred Clough, A.M.I.C.E.

Liverpool Dist. Lighting Co., Ltd. *See* Gt. Crosby.

Liverpool Overhead Railway, 24, North John-st., Liverpool. T. *c.*, 500 *v.*, 2300 *K.W.* Engineer, S. B. Cottrell, M.I.C.E., M.I.MECH.E.

Liversedge, Yorks. *The E.L. order granted to the U.D.C. has been revoked.* Engr., Chas. Gott.

Llandaff & Dinas Powis, Glamorgan. *An electric lighting order has been granted to the Rural District Council.* Consulting engr., R. H. Fletcher.

Llandilo (Carmarthen) Urban District Council. L. *c.*, 2-wire, 230 *v.*, 130 *K.W.* Engr., T. Bowen.

Llandinam. *Electricity is about to be supplied free of charge by Mr. David Davies, M.P.*

Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester; & Llandrindod Wells. L. P. *c.*, 3-wire, 230 & 460 *v.*, 260 *K.W.* Engineer, B. Thomas.

Llandudno & Colwyn Bay Light Railway, Llandudno. T. *c.*, 550 *v.* Electrician, W. Morton. *Will probably be in operation by Easter*, 1907.

Llandudno Urban District Council. L. P. *c.*, 3-wire, 220 & 440 *v.*, 700 *K.W.* Harold Morton, engineer.

Llanelly U.D.C. *It is contemplated to supply energy in bulk from the S. Wales Electrical Power Distribution Co. to the U.D.C. & to the Traction Co.* Consulting engineer, J. C. Howell.

Llangollen & District Electric Light & Power Co., Ltd., Llangollen, Denbigh. *c.*, 2-wire, 220 *v.*, 10 *K.W.* Engineer, H. W. Edwards.

Llanrwst Electricity Supply Co., Ltd., 13, Church-st., Llanrwst, Denbigh. L. *c.*, 2-wire, 220 *v.*, 36 *K.W.* Engineer, C. F. M'Innes.

Electricity Works—*continued.*

Loch Leven Water & Electric Power Co. *Power in process of development.* British Aluminium Co., Ltd., proprietors. Engineer, W. Murray Morrison, M.INST.C.E., M.I.E.E.

London. *Powers are to be sought for erection of large power station at St. Neots, from which electrical energy is to be transmitted in bulk to existing companies & borough councils.* Engrs., Harper Bros. & Kincaid, Waller, Manville & Dawson.

London County Council Generating Station, Victoria Embankment, E.C. *c.* L. arc, 500 *v.*, inc. 100 *v.*; P., 550 *v.*, 150 *K.W.* Chief engineer, Maurice Fitzmaurice, C.M.G.; chief elecn., Chas. A. Baker; res. engr., R. Simpson.

London County Council Tramways, 62, Finsbury Pavement, E.C. *Current supplied by London Electric Supply Corporation, Ltd., & others. Permanent generating station under construction at Greenwich. a.*, 3-*ph.*, 6600 *v.*, *converted to c.* 550 *v.*, 14,000 *K.W.* Chief officer of tramways, A. L. C. Fell; electrical engineer, J. H. Rider.

London Electric Supply Corp. *See* Deptford.

London United Tramways (1901), Ltd., 16, Great George-st., Westminster, S.W., & 74, High-rd., Chiswick, W. T. *a.*, 3-*ph.*, 25 *py.*, 5000 *v.* transmission to sub-stations; *c.*, 500 *v.*, 3500 *K.W.* Engineer, Sir Clifton Robinson, A.M.I.C.E., M.I.E.E. *Sub-stations at* Fulwell, 2500 *K.W.*; Hanwell, 750 *K.W.*; Hounslow, 500 *K.W.*; Hillingdon, 500 *K.W.*; Kingston, 1500 *K.W.*; Wimbledon, 1500 *K.W.*

Londonderry Corporation. L. & P. *c.*, 220 & 440 *v.*, 700 *K.W.* R. V. Macrory, resident engr.

Long Eaton (Derby) Urban District Council, Long Eaton, Derbyshire. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 450 *K.W.* Resident engineer, F. Worrall, A.M.I.C.E.

Longton Corporation. L. P. *c.*, 3-wire, 230 *v.*, 300 *K.W.* W. Langford, engineer.

Lothians Electric Power Co., 34, N. Bridge-st., Edinburgh. *Sites for stations scheduled at Kingsnowe, West Linton & Auchengray.*

Loughborough Corporation, Loughborough, Leicestershire. *c.* L., 220 *v.*; P., 440 *v.*, 500 *K.W.* Engineer, W. H. Allen.

Louth, Lincs. *An electric lighting order has been granted to the Corporation.* Consulting engineers, Handcock & Dykes.

Lower Bebington, Cheshire. *An electric lighting order has been granted to the Urban District Council.* Consulting engineer, W. M. Horsfall.

Lowestoft Corporation. *c.*, 3-wire; L. P. inc. & arc, 460 *v.*; T., 500–550 *v.*, 1475 *K.W.* G. A. Bruce, M.I.E.E., engineer.

Lucan & Leixlip Electric Railway Co., Suffolk-st., Dublin. *Current supplied by Dublin & Lucan Electric Railway Co.* Engr., H. Harrison.

Ludlow Electric Light Co., Ltd., 14, Corve-st., Ludlow, Salop. *c.*, 2-wire, 220 *v.*, 35 *K.W.* Consulting engineer, J. Parker.

Luton Corporation. *c.*, 3-wire; L. arc & inc., 250 *v.*; P., 250 & 500 *v.*, 647 *K.W.* Engineer, W. H. Cooke, A.M.I.E.E.

Electricity Works—*continued.*

Lye & Wollescote (Worcester) Urban District Council. *Works not yet commenced.* T., British Electric Traction Co., Ltd.; L., Midland Electric Corporation for Power Distribution, Ltd.

Lymington Electric Light & Power Co., Ltd., Lymington. L. *c.*, 3-wire, inc., 240 *v.*; P., 240 & 480 *v.*, 124 *K.W.* Glynn Salter, engineer.

Lynton & Lynmouth Electric Light Co., Ltd., Lynmouth, Devon. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 175 *K.W.* P. T. Kimmins, resident engineer.

Lytham, Lancs. *A local company has been formed to take over the E. L. order.*

Macclesfield Corporation. *The E.L. order granted to the Corporation is to be transferred to the local tramways company.* Engr., J. H. Woodward.

Macroom & District Electric Lighting Syndicate, Ltd., Cork, Ireland. L. *a.*, single-*ph.*, 100 *py.*, primary 2200 *v.*, secondary 230 *v.*, 150 *K.W.* Engineer, Walter Lee.

Maesteg, Glam. *The Urban District Council have obtained an electric lighting order.* Consulting engineer, — Humphreys.

Maidenhead Corporation. L. P., & equipped for T. *c.*, 3-wire, 230 *v.*, 230 & 460 *v.* for P., 430 *K.W.* C. O. Milton, engineer.

Maidstone Corporation. *c.* L. P., 230 & 460 *v.*; T., 500–550 *v.*, 750 *K.W.* E. E. Hoadley, M.I.E.E., resident engineer.

Maldens, The, & Coombe, Surrey. *The electric lighting order to be transferred to the County of London Elec. Supply Co.*

Malton, Yorks. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 230 & 460 *v.*, 155 *K.W.* Engr., C. W. Fairweather, M.I.E.E.; res. engr., J. Chandler.

Malvern Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 *v.*, 200 *K.W.* W. J. Rendell Baker, resident engineer.

Manchester Corporation. L. P. T., 3- & 5-wire for L.; *a.*, 3-*ph.*, 50 *py.*, primary 6500 *v.*; *c.* L., 200 *v.*; P., 3-wire, 400 *v.*; T., 500 *v.*, 34,500 *K.W.* Engineer, S. L. Pearce, A.M.I.C.E., M.I.E.E., M.I.MECH.E.

Manchester. Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester. L. *a.*, 3-*ph.*, 30 *py.*, primary 3000 *v.*; *c.* L., inc. 250 *v.*, arc 250 & 500 *v.*; P., 250–500 *v.*; T., 500 *v.*, 3100 *K.W.* Engineer, J. J. McGregor.

Manchester & Liverpool Electric Railway. 500 *v.* *Not yet constructed.*

Manchester & Oldham Tramways. *Through service under consideration.*

Mansfield Corporation. *c.* L. inc., 240 *v.*; P., 240, 480, 500 *v.*; T., 500–600 *v.*, 720 *K.W.* Engineer, E. Holcombe Hewlett, M.I.E.E., M.AM.I.E.E.

Mansfield & District Tramways, Ltd., Sutton-rd., Mansfield. Engineer & manager, C. R. Walker.

Electricity Works—*continued.*

Mansfield Woodhouse U.D.C. *will supply energy to Mansfield T.C.* Consulting engineer, F. J. Warden-Stevens.

Manx Electric Railway Co., Ltd., 1, Strathallan-cres., Douglas, Isle of Man. L. *a.*, 1-*ph.*, 80 *py.*, primary 1000 *v.*, secondary 100 & 230 *v.*; *c.* arc, 500 *v.*; P. T. *a.*, 3-*ph.*, 25 *py.* transmission to sub-stations 7000 *v.*, transformed to 330 *v.*, converted to 500–550 *v. c.*, 1140 *K.W.* Engineer, F. Edmondson, A.M.I.E.E. *See also* Snaefell Mountain Railway.

Mardy Electric Light Co., Ltd., Mardy, Glam. L. *c.*, 2-wire, 220 *v.*, 50 *K.W.* G. Polsom, engineer.

Margam, Glamorgan. *Negotiations pending with South Wales Electrical Power Distribution Co. for supply in bulk.* Consulting engineer, C. A. L. Prusmann; chief engineer, G. T. Evans.

Margate. Isle of Thanet Electric Tramways & Lighting Co., Ltd., proprietors. L. *c.*, 3-wire, arc & inc., 240 *v.*; P., 480 *v.*; T., 500 *v.*, 300 *K.W.*; *a.*, 3-*ph.*, 50 *py.*, transmission to sub-station. Engineer, R. Humphries, A.M.I.E.E.

Market Drayton Electric Light & Power Co., Ltd., Market Drayton, Shropshire. L. P. *c.*, 3-wire, 240 & 480 *v.*, 90 *K.W.* Resident engineer, C. F. Bottomley.

Marlborough Electric Supply Co., Ltd., 38, Parliament-st., S.W. *E.L. order obtained.*

Marylebone Borough Council. L. *c.*, 3-wire, 240 *v.*, 12,000 *K.W.* Consulting engr., A. Wright; elec. engr. & man., F. A. Wilkinson, M.I.E.E.

Marylebone. *See* Railway Lighting, Ltd.

Melksham Urban District Council. *Electric lighting under consideration.* Consulting engineer, J. S. Enright.

Melrose, Roxburgh, N.B. Electric Supply Corporation, Ltd. L. *c.*, 3-wire, 250 *v.*; P., 225 & 450 *v.*, 80 *K.W.*

Melton Mowbray Electric Light Co., Ltd. L. *c.*, 3-wire, arc & inc., 240 *v.*; P., 240 & 480 *v.*, 300 *K.W.* Engr., H. Joseph, A.M.I.E.E.

Menai Bridge. *The Mona Electric Lighting Co. propose to erect generating station at Pwllfenog, after obtaining provisional order.*

Mersey Railway. Office: Worcester House, Walbrook, London, E.C. T. *c.*, 650 *v.*, 4000 *K.W.* Resident engineer, J. Shaw.

Merthyr Tydfil. Merthyr Electric Traction & Lighting Co., Ltd., proprietors. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 930 *K.W.* Engineer, G. Charlton.

Merton. *Supply given from Wimbledon.*

Metropolitan District Railway, St. James's Park Station, London, S.W. *a.*, 3-*ph.*, 1000 *py.*, 11,000 *v.*, 60,000 *K.W.* Resident electrical engineer, C. A. King.

Metropolitan Electric Supply Co., 16, Stratford-pl., Oxford-st., W. L. P. *c.*, 100 & 200 *v.*, & *a.*, 1- & 2-*ph.*, 60 *py.*, 100 & 200 *v.*, 21,650 *K.W.* Engineer, J. S. Highfield, Amberley-rd., Randolph-rd., Fisher-st., Moscow-rd., Tower-st. & Willesden Stations.

Electricity Works—*continued.*

Metropolitan Electric Tramways, Engineers' Department, Spencer House, South-pl., Finsbury Pavement, London, E.C. *Current supplied by North Metropolitan Electric Power Supply Co. a.*, 3-*ph.*, 50 *py.*, 10,000 *v. converted to c.* 550 *v. See* Brimsdown & Willesden Works. Engineer, A. H. Pott, M.I.C.E., M.I.E.E.

Metropolitan Railway Co. *See* Neasden.

Mevagissey Electric Lighting Co., Ltd. L. *c.*, 2-wire, 110 *v.*, 26 *K.W.* J. G. Hill, engineer.

Mexborough, Swinton & Rawmarsh Tramways Co., Ltd., Rawmarsh, Yorks. *c.* L., 230 & 460 *v.*; T., 500 *v.*, 600 *K.W.* Engr., H. Johnson.

Mexborough Urban District Council. *c.*, 3-wire, L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 300 *K.W.* Engineer, J. Senior.

Mid-Yorkshire Tramways Co. P. station, Menstone, Wharfedale. *Under construction. Shipley section transferred to & worked by Bradford Corp.* Consulting engineers, Quin & Speight.

Middlesbrough Corporation. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*, 1650 *K.W.* Engineer, H. M. Taylor.

Middlesbrough, Stockton-on-Tees & Thornaby Electric Tramways. Imperial Tramways Co., proprietors. 3-*ph.*, converted to *c.*, 500 *v.*, 900 *K.W.* Engineer, R. F. Rogers.

Middlesex Light Railways. *Leased to Metropolitan Electric Tramways, Ltd.*

Middleton Corporation. *c.*, 3-wire; L., inc. & arc, P., 220 & 440 *v.*; T., 500–550 *v.*, 768 *K.W.* S. Pauls, A.M.I.E.E., engineer.

Middleton & Chadderton Tramways. *Leased to & worked by Manchester Corporation.*

Middleton Electric Traction Co., Ltd. *Current supplied by Middleton Corp.* Manager, W. F. Endean.

Midland Electric Corporation for Power Distribution, Ltd. *See* Ocker Hill, Tipton.

Midland Electric Light & Power Co., Ltd. *See* Leamington Spa.

Mile End Old Town, London. *See* Stepney.

Milford-on-Sea Electric Supply Co., Milford-on-Sea, Hants. L. *c.*, 230 & 460 *v.*, 50 *K.W.* Engineer, L. Nicholson.

Millbank-st. Station. *See* Westminster Electric Supply Corporation, proprietors. W. Robinson, engineer.

Minehead Electric Supply Co., Ltd., Minehead, Somerset. L. P. *c.*, 220 *v.*, 32 *K.W.* Engineer, C. Mounsey.

Mirfield U.D.C., Mirfield, Yorks. L. P. *a.*, 1-*ph.*, 50 *py.*, 2000–200 *v.*, 200 *K.W.* Consulting engr., A. B. Mountain; elecn., Jno. Lomas.

Mitcham, Surrey. *Provisional order granted to Croydon Rural District Council, but negotiations proceeding for a company to take over powers.*

Mitchelstown, Ireland. *An electric lighting order has been granted to the Rural District Council.* Consulting engineer, G. M. Harris.

Monmouth Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, primary 3000 *v.*, secondary 100 & 200 *v.*, 123 *K.W.* Engr., A. E. Wilkins.

Electricity Works—*continued.*

Montrose, Scotland. North of Scotland Electric Light & Power Co., Ltd., proprietors. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 300 *K.W.* H. Hale, A.M.I.M.E., A.M.I.E.E., engr.

Morecambe Corporation. L. P. *c.*, 2-wire, 220 *v.*, 700 *K.W.* Chief engineer, W. H. Hall, A.M.I.E.E.; chief assistant, A. W. Annetts.

Morley Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 200 *v.*, 270 *K.W.* Engr., J. E. Ellis, A.M.I.E.E.; elecns., W. L. Browne, J. W. Brown, T. Bates & H. C. Crisp.

Morpeth, Northumberland. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 230 *v.*; P. 460 *v.*, 80 *K.W.* Consulting engineer, C. W. Fairweather; engineer, W. H. Bibby.

Moss Side, Lancs. *Electricity supplied by & tramways leased to Manchester Corporation.* Engineer, H. B. Longley.

Motherwell. *See* Clyde Valley Electrical Power Co., Ltd.

Motherwell Corporation. 3-wire; *c.* L., inc. 230 *v.*, arc & P. 230 & 460 *v.*, 1410 *K.W.* Engineer, S. Williams.

Mountain Ash, Glamorgan. *The U.D.C. has resolved to generate electricity at the gas works, if the S. Wales Elec. Power Distribution Co. do not carry out the contract. Proposed system: a.*, 3-*ph.*, 2500 *v.* Consulting engineers, R. Hammond & Son.

Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh, N.B. *c.*, L. 230 *v.*; P. 230 & 460 *v.*; T. 500 *v.*, 900 *K.W.* Engineer, T. Hunter.

Mytholmroyd, Yorks. *The Urban District Council have applied for a year's extension of E.L. order.*

Nairn Corporation. *An electric lighting order has been obtained.*

Nantwich, Cheshire. *Electric lighting order revoked.*

National Electric Supply Co., Ltd. *See* Preston.

Neasden, London, N.W. Metropolitan Railway Co., proprietors. P. T. *a.*, 3-*ph.*, 33·3 *py.*, 11,000-360 & 400 *v.* P., *c.* 600 *v.* T. Chief electrical engineer, C. Jones.

Neath Corporation, Glam. *Current in bulk supplied by South Wales Electrical Power Distribution Co.* L. P. *a.*, 2-*ph.*, 50 *py.*, 2000–220 *v.*, 120 *K.W.* Consulting engr., H. T. Sully; res. engr., D. M. Jenkins, A.M.I.C.E.; elecn., H. P. Ward. *Tramways leased to Provincial Gas Traction Co., Ltd.*

Neath, Glam. South Wales Electrical Power Distribution Co., proprietors. L. *a.*, 2-*ph.*, 50 *py.*, 2200–220 *v.*; P., 2- & 3-*ph.*, 50 & 25 *py.*, 2200–440 *v.*, 900 *K.W.* Resident engineer, T. E. Lewis.

Nelson Corporation, Nelson, Lancs. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500 *v.*, 1000 *K.W.* D. Helme, engineer.

New Hunstanton Urban District Council. *The electric lighting order has been revoked.*

New Malden. *The U.D.C. has appointed Messrs. Talbot & Stevenson to prepare & submit a report on carrying out its E.L. order.*

Electricity Works—*continued.*

New Rottingdean Electricity Co., Ltd. *See* Rottingdean.

Newark, Notts. *The Corporation has decided to ask various companies for terms to supply electricity.* Engineer, C. S. Vesey Brown.

Newbiggin-by-the-Sea, Northumberland. *Provisional order obtained.* Northern Counties Electricity Supply Co.

Newburn, Northumberland. Newcastle & District Electric Lighting Co., Ltd., proprietors. *c.*, 480 *v.*, 1000 *K.W.* Engineer, W. D. Hunter.

Newbury, Berks. The Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire, L. P., 240 & 480 *v.*, 817 *K.W.* Engr., H. W. Bush; asst., F. E. Frampton.

Newcastle & District Electric Lighting Co., Ltd., 38, Grainger-st. West, Newcastle-on-Tyne. L. P. *a.*, single-*ph.*, 80 *py.*, primary 1000 *v.*, secondary 100 *v.*; & *c.* L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 8000 *K.W.* W. D. Hunter, M.I.E.E., engineer.

Newcastle-under-Lyme Corporation. L., 3-wire, *c.*, 230 *v.*, 60 *K.W.* Electrician, G. Holding.

Newcastle-on-Tyne Corporation. *c.*, 3-wire, L. inc. 240 *v.*, arc & T., 550 *v.*, 5100 *K.W.* Tramways engineer & manager, E. Hatton; asst. elec. engr., W. Dalton.

Newcastle-upon-Tyne Electric Supply Co., Ltd. *See* Carville & Wallsend.

Newington, London. *See* Southwark.

Newmarket Electric Light Co., Ltd. L. P. *c.*, 3-wire, 210 *v.*, 550 *K.W.* Engineer, F. A. Simpson.

Newport Corporation, Newport, Mon. L. P. T. *a.*, single-*ph.*, primary 2150 *v.*, secondary 100 & 200 *v.*, 87½ *py.*; & *c.*, 2-wire, L. P., 230 & 460 *v.*; T., 500 *v.*, 3050 *K.W.* H. Collings Bishop, M.I.E.E., engineer & manager.

Newport, I.W. Isle of Wight Electric Light & Power Co., Ltd. *c.*, 3-wire; L., inc. 240 *v.*, arc & P. 240 & 480 *v.*, 390 *K.W.* Engineer, A. E. Mayes; asst., A. Crawford. High tension supply to Cowes, *c.*, 2500 *v.*

Newquay Electric Light & Power Co., Newquay. *c.*, 3-wire, 460 *v.* Resident engineer, A. S. Hawkins.

Newton Abbot, Devon. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L., 240 *v.*; P., 240 & 480 *v.*, 180 *K.W.* Resident engineer, F. C. Pay, A.M.I.E.E.

Newton-in-Makerfield, Lancs. *The Urban District Council are now considering the question of carrying the electric lighting order into force.*

North-Eastern Railway, York. *Electric portion nr.* Newcastle-on-Tyne. *Current supplied from* Carville Station of Newcastle-on-Tyne Electric Supply Co., Ltd. 12,000 *K.W. Current generated at* 6000 *v. a.*, 3-*ph.*, 40 *py.*, *& transmitted to nine sub-stations, where it is converted to c.*, 600 *v.* Resident engineer, G. T. Glover.

North Metropolitan Electric Power Supply & Tramways. *See* Brimsdown & Willesden Stations.

Electricity Works—*continued.*

North Metropolitan Electrical Power Distribution Co., Ltd. *See* Enfield; Hertford; & High Barnet.

North of Scotland Electric Light & Power Co., Ltd. *See* Brechin, Inverness & Montrose.

North Staffordshire Railway, Stoke-on-Trent. Electrical engineer, A. F. Rock.

North Wales Power & Traction Co., Ltd. *See* Portmadoc.

North-Western Electricity & Power Gas Co., 37, Cross-st., Manchester. *Proposed stations in Flintshire, Derbyshire, nr. Wrexham & in Staffordshire.* Cons. engrs., Lacey, Sillar & Leigh.

Northallerton Electric Light & Power Co., Ltd., Northallerton, Yorks. L. P. *c.*, 2-wire, 220 *v.*, 150 *K.W.* F. R. Batty, A.M.I.E.E., engineer.

Northampton Corporation Tramways. *c.*, 500 *v.*, 550 *K.W.* Manager, A. — Gottschalk.

Northampton Electric Light & Power Co., Ltd., 25, Bridge-st., Northampton. *c.*, 3-wire; L. arc & inc., 210 *v.*; P., 210 & 420 *v.*, 1140 *K.W.* G. H. Jackson, M.I.E.E., M.I.M.E., chief engr.

Northdown & St. Peter Extra. *Provisional order granted to the Isle of Thanet Electric Lighting & Tramways Co.*

Northern Counties Electricity Supply Co., Ltd. *See* Alnwick; Ashington; Blyth; Felling; Hartlepool; Hebburn; Malton; Morpeth; Shildon; Spennymoor; Thirsk; & Whitley. *See also* Benfieldside, Consett, Leadgate & Stanley.

Northfleet, Kent. *Negotiations between the U.D.C. & Gravesend T.C. have been broken off.* Consulting engineers, Preece & Cardew.

Northwich Electric Supply Co., Ltd. *c.*, 3-wire, L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 245 *K.W.* Engineer & secretary, Wm. Boyd, A.M.I.E.E., A.M.I.M.E.

Northwood Electric Light & Power Co., Ltd., Northwood, Middlesex. L. *c.*, 240 *v.*, 200 *K.W.* Engineer, H. W. Couzens, M.I.E.E.

Norton Folgate, London, N.E. G. E. Ry. L. P. *c.*, 220 *v.*, 1000 *K.W.* Engineer, J. Wilson; resident engineer, H. W. Firth.

Norton, Yorks. *Provisional order granted to the Northern Counties Electricity Supply Co., Ltd.*

Norwich Corporation. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*, 2874 *K.W.* F. M. Long, engineer.

Norwich Electric Tramways Co., Norwich. T. *c.*, 500 *v.*, 800 *K.W.* Engineer & manager, A. N. Banister.

Notting Hill Electric Light Co. *See* Bulmer-pl. Station.

Nottingham Corporation. *c.*, 3-wire; L. inc., 200 *v.*; P., 200 & 400 *v.*; T., 500 *v.*, 9603 *K.W.* H. Talbot, M.I.E.E., engineer.

Nottingham. *See* Railway Lighting, Ltd.

Nuneaton Urban District Council. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 600 *K.W.* Engineer, S. C. Gibson, A.M.I.E.E.

Oban, N.B., Town Council. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 180 *K.W.* Engineer, M. P. Plunkett.

Electricity Works—*continued.*

Ocker Hill, Tipton, Staffs. Midland Electric Corporation for Power Distribution, Ltd., proprietors. L. P. *a.*, 2-*ph.*, 50 *py.*, 200 *v.*; T. transmission to sub-station, 7000 *v.*; *c.*, 500 *v.*, 3100 *K.W.* General manager & engineer, J. H. MacLean, M.I.E.E.; resident engineer & sub-station superintendent, G. R. J. Parkinson.

Ogmore Valley Electricity Supply Co., Ogmore Vale, Glam. L. *a.*, 1-*ph.*, 40 *py.*, 2500–210 & 220 *v.*; *c.*, 2-wire, distribution, 210 & 220 *v.*, 160 *K.W.* Electrician, A. E. Marks.

Oldbury, Worcester. *The electric lighting order granted to the Urban District Council is to be transferred to the Staffordshire, Worcestershire & Shropshire Electric Power Co.*

Oldham, Ashton & Hyde Electric Tramway, Ltd. *Current supplied by Ashton-under-Lyne Corporation, q.v.* Engineer, E. T. Todd.

Oldham Corporation. *c.*, 3-wire; L. arc & inc., 210 *v.*; P., 210 & 420 *v.*; T., 500–550 *v.*, 5232 *K.W.* S. Wilmott Newington, engineer.

Ormesby, Yorks. *The U.D.C. has asked the Cleveland & Durham Electric Power Co. to submit a scheme of E.L.*

Ormskirk, Lancs. *An electric lighting order has been granted to the Urban District Council.* Consulting engineers, Trentham & Peers. *Works to be erected by the National Electric Construction Co.*

Orrell, Lancs. *The Urban District Council have obtained an electric lighting order.*

Ossett, Yorks. *An electric lighting order has been granted to the Corporation.* Consulting engineer, W. Emmott.

Oswestry Electric Lighting & Power Co., Ltd., 6, Salop-rd., Oswestry, Salop. L. P. *c.*, 2-wire, 220 *v.*, 253 *K.W.* E. Bremner Smith, engr.

Otley, Yorks. *An electric lighting order has been granted to the Urban District Council.* Consulting engineer, G. Wilkinson.

Oulton Broad Electricity Co., Ltd., Oulton Broad, Suffolk. L. P. *c.*, 230 *v.*, 34 *K.W.* Engineer, B. Barber.

Oxford Electric Co., Ltd., 45, Broad-st., Oxford. L. P. *c.*, 2-wire, 100 *v.*, 1400 *K.W.* F. H. Francis, A.M.I.E.E., engineer. *T. to be electrified.*

Padstow, Bedruthan & Mawgan Light Railway. *Not yet constructed.* Consulting engineer, W. R. Galbraith; engineers, H. H. Dalrymple-Hay & C. H. Gadsby.

Paignton, Devon. *E.L. order revoked.*

Paisley Corporation. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*; T. *c.*, 550 *v.*, 2-wire distribution, 3000 *K.W.* J. Lawrie, engineer; W. Sutcliffe, electrician; C. F. Parkinson, M.I.E.E., A.M.I.M.E., borough engineer. *Current supplied to Paisley District Tramways Co.*

Paisley District Tramways Co., Paisley, N.B. *Current supplied by Corp.* *c.*, 550 *v.* Engineer & general manager, Fred Coutts.

Partick Town Council. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 480 *v.*, 1450 *K.W.* Engineer, H. B. Maxwell, M.I.E.E.

Electricity Works—*continued.*

Pemberton Urban District Council. L. P. *c.*, 3-wire, 230 *v.*, 230 & 460 *v.* for motors, 1000 *K.W.* Engineer, J. B. Robb. *Tenders let for* T. *plant.*

Pembroke District Council, Pembroke, co. Dublin, Ireland. *c.*, 3-wire; L., inc., 220 *v.*, series arc & P. 440 *v.*, 300 *K.W.* Engr., S. L. R. Price.

Penarth Electric Lighting Co., Ltd., Penarth. *c.* L., 230 *v.*; P., 230 & 460 *v.*, 210 *K.W.* 330 *K.W. being installed.* Engr., H. Cameron.

Penge. *See* South Metropolitan Electric Light & Power Co., Ltd.

Penmaenmawr, Carnarvon. *An electric lighting order has been granted to the U.D.C.*

Penrith, Cumberland. *The U.D.C. have asked the B. of T. to defer revocation of E.L. order.* Consulting engineer, Mr. Speight.

Penzance & District Electric Supply Co., Ltd., Penzance, Cornwall. Engineer, F. J. Fippard. *Works not yet commenced.*

Perth, N.B., Corporation. *c.*, 3-wire; L., inc. 230 *v.*, arc 460 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 1195 *K.W.* Engineer, J. Lambert, A.M.I.E.E.

Peterborough Corporation. *c.*, 3-wire; L. arc & inc., 200 *v.*; P., 200 or 400 *v.*; T., 500–550 *v.*, 840 *K.W.* *Power supplied to Peterborough Elec. Traction Co.* Engineer, J. C. Gill.

Peterborough Electric Traction Co., Ltd., Donington House, Norfolk-st., London, W.C.; & Car Depôt, Lincoln-rd., Peterborough. Manager, F. P. Comber. *Power supplied by Corp.*

Pickering. *Provisional order granted to Northern Counties Electricity Supply Co.*

Pitlochry, N.B. *A private Co. is to be formed for the electric lighting scheme, & the motive power for generation of energy is to be derived from the Falls of Tummel.*

Plumstead, London. Woolwich Borough Council, proprietors. *c.* L., inc. 230 *v.*, arc 460 *v.*; P. 230 & 460 *v.*; T. 460–550 *v.*, 650 *K.W.*; & L. P. *a.*, 3-*ph.*, 50 *py.*, 6600–420 *v.* L., 350 & 220 *v.* P., 1250 *K.W.* Chief engr., T. W. Ellis; sta. engr., F. H. Edwards. *Supply given to Eltham.*

Plymouth Corporation. *a.* L., single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*; P., 200 *v.*; T. *c.*, 530 *v.*, 2382 *K.W.* E. G. Okell, M.I.E.E., engineer.

Plymouth, Stonehouse & Devonport Tramways. *Current supplied by Plymouth & Devonport Corporations, q.v.* John Glenn, consulting engineer.

Pollokshaws. *E.L. order to be transferred to the Corporation.*

Pontypool Electric Light & Power Co., Club-chbrs., Pontypool, Mon. L. *c.*, 2-wire, 103 *v.*, 210 *K.W.* Engr., W. T. Maybery.

Pontypridd. South Wales Electrical Power Distribution Co., proprietors. P. *a.*, 3-*ph.*, 25 *py.*, 11,000–440 *v.* (any voltage is given or *c.* current by arrangement), 5400 *K.W.* Engr., W. A. Chamen; res. engr., H. N. Holland.

Pontypridd Urban District Council, Pontypridd, Glam. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500 *v.*, 1100 *K.W.* Engr., J. E. Teasdel, A.M.I.E.E.

Electricity Works—*continued.*

Poole & Branksome. *See* Bournemouth & Poole Electricity Supply Co.

Poole & District Light Railway. *Acquired by Bournemouth Corp.* 500 *v.* Tramways engr., F. W. Lacey.

Poplar Borough Council, Bromley-by-Bow, E. L. *c.*, 3-wire, inc. 230 *v.*, arc 230 & 460 *v.*; P. *a.*, 3-*ph.*, 50 *py.*, primary 6000 *v.*, *c.* 460 *v.*, 3400 *K.W.* Engineer, J. H. Bowden, A.M.I.E.E.

Port Dinowic, Carnarvon. *An electric lighting order has been granted to Mr. G. W. Duff Assheton Smith.*

Port Glasgow. *Negotiations between the T.C. & Greenock Corp. for supply of electricity.*

Portmadoc, Beddgelert & Snowdon Railway. North Wales Electric Power & Traction Co., Ltd., props., Llanberis, R.S.O., Carnarvonshire. *a.* L. P. T., 3-*ph.*, 50 *py.*, 10,000–500 *v.* P., 600 *v.* T., 6000 *K.W.* Chief engr., A. W. Beuttell; sta. supt., H. T. Hincks, A.M.I.C.E.

Portmadoc & Criccieth. North Wales Power & Traction Co., Ltd., props. *Works not yet erected.*

Portpatrick Electric Supply Co., Ltd., Dunskey Estates Office, Portpatrick, N.B. L. *c.*, 3-wire, 200 & 400 *v.*, 50 *K.W.*

Portrush. *E.L. works to be erected by Curran Bros.*

Portsdown & Horndean Light Railway, Cosham, Hants. The Provincial Tramways Co., Ltd., proprietors. T. *a.*, 3-*ph.*, 25 *py.*, primary 5500 *v.*, converted to *c.*, 500 *v.*, 400 *K.W.* *Power supplied by Portsmouth Corporation.* Consulting engineer, John Glenn, C.E.; resident engineer & manager, J. Fereday Glenn.

Portsmouth Corporation Electric Tramways. *c.*, 500 *v.*, 1100 *K.W.* *Two* 200 *K.W. motor generator sets for supplying current to Portsdown & Horndean Light Railway at* 3-*ph.*, 25 *py.*, primary 5000 *v.* Engr., V. G. Lironi, M.I.M.E., A.M.I.E.E.

Portsmouth Corporation Electricity Supply. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 *v.*, 3336 *K.W.* W. S. Foale, engr.

Potteries Electric Traction Co., Ltd. T. *c.*, 500 *v.*, 1300 *K.W.* J. J. Walklate, engineer.

Prescot; Huyton; & Whiston. British Insulated & Helsby Cables, Ltd., proprietors. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*; & *c.* L. inc., 100 & 125 *v.*; P., 250 *v.*; T., 500 *v.*, 1400 *K.W.* Consulting engineer, G. H. Nisbett; resident engineer, R. P. Nash.

Preston. *Lighting scheme supplied from T. station is under consideration by the T.C.*

Preston. National Electric Supply Co., Ltd., proprietors. L. P., 2-wire, *a.*, single-*ph.*, 50 *py.*; *c.*, 3-wire distribution, 220 *v.*, 2869 *K.W.* J. H. Tonge, M.I.E.E., A.M.I.C.E., engineer.

Preston Corporation Tramways. *c.*, 500–550 *v.*, 600 *K.W.* Engr., J. F. Simpson, M.I.E.E.

Prestwich, Lancs. *Electric lighting order granted to the District Council has been taken over by the Salford Corporation.* Engineer, W. Nuttall

Priestman Power Co., Ltd. *See* Blaydon.

Provincial Tramways Co., Ltd. *See* Gt. Grimsby; & Portsdown.

Electricity Works—*continued.*

Pudsey Corporation, Pudsey, Yorks. *The Yorkshire Electric Power Co. supply electricity in bulk.* *c.* L., 230 *v.*; P., 460 *v.* Res. engr., E. Denton.

Pwllheli, Carnarvon. *An electric lighting order has been granted to the Corp.* Engineer, T. Cunningham.

Quarry Bank. *See* Midland Electric Corporation for Power Distribution.

Queenborough. *Scheme of the Sheerness & District Electric Power & Traction Co., Ltd., approved.*

Queensbury Tramways. *Part worked by the Bradford Corporation & part by the Halifax Corporation, q.v.*

Queenstown. Cork Electric Tramways & Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*, 115 *K.W.* W. H. Joyce, engineer.

Radcliffe. Lancashire Electric Power Co., proprietors. *a.*, 3-*ph.*, 50 *py.*, 10,000 *v.*, 6000 *K.W.* Engineer, C. D. Taite.

Radcliffe Urban District Council. L. *a.*, 3-*ph.* 50 *py.*, 10,000 *v.*; *transformed to c.*, 3-wire, 220 or 440 *v.*, 240 *K.W.* *Supplies current to tramways, which are leased to Salford Corp.* Engineer, H. Wilkinson.

Railway Lighting, Ltd., 78, King-st., Manchester; Marylebone; Leicester; & Nottingham. L. P. *c.*

Ramsbottom District Council, Lancs. *Lighting & traction scheme.* Consulting engineer, A. B. Chatwood.

Ramsgate & District Electric Supply Co., Ltd., Ramsgate, Kent. *c.* L., 240 *v.*; P., 240 & 480 *v.*, 290 *K.W.* Engineer, M. Farrer.

Randolph-rd. *See* Metropolitan Electric Supply Co.

Rathmines & Rathgar Urban District Council. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 450 *K.W.* G. F. Pilditch, A.M.I.E.E., engr.

Ravensthorpe, Yorks. Consulting engineer, A. B. Mountain. *The Yorkshire Electric Power Co. will probably supply electricity in bulk.*

Rawtenstall, Lancs. *An electric lighting order has been granted to the Corporation.* Consulting engineers, Lacey, Sillar & Leigh.

Reading Corporation Tramways. *c.*, 500 *v.*, 400 *K.W.* Engineer, W. Binns.

Reading Electric Supply Co., Ltd. L. P.; for central area, *c.*, 200 & 400 *v.*; & for outlying districts, *a.*, single-*ph.*, 200 *v.*, 67 *py.*, 2675 *K.W.* E. R. Hill, A.M.I.E.E., consulting & managing engineer.

Redcar, Yorks. *An electric lighting order has been granted to the U.D.C. Negotiations proceeding with the Cleveland & Durham County Electrical Power Distribution Co. for supply in bulk.*

Redditch Urban District Council. L. P. *a.*, 1-*ph.*, 66 *py.*, primary 2000 *v.*, secondary 200 *v.*, 540 *K.W.* W. J. Ferguson, engineer.

Redruth. *See* Camborne.

Regent's Park. *See* St. Pancras Borough Council.

Reigate Corporation. L. *a.*, single-*ph.*, 50 *py.*, primary 2500 *v.*, secondary 200 *v.*, 460 *K.W.* Engineer, W. S. Ross.

Electricity Works—*continued.*

Renfrew. *Electricity supplied by Clyde Valley Electrical Power Co.*

Retford. *E.L. order revoked.*

Rhyl Urban District Council, Rhyl, Flintshire. *c.*, 3-wire; L. inc. & arc, 230 *v.*; P., 230 & 460 *v.*, 495 *K.W.* Engineer, E. H. Wright, A.M.I.E.E.

Richmond Electric Light & Power Co., Ltd., Richmond, Surrey. L. P. *c.*, 3-wire, 110 & 220 *v.*, 1150 *K.W.* Engr., L. C. B. Trimnell.

Ripon & District Light Railway. *Order granted to Power & Traction, Ltd.* Engr., R. A. Smith.

Ripon, Yorks. *Electric lighting order granted to the Corporation has been revoked.*

Rishton, Gt. Harwood & Clayton-le-Moors. *Provisional order revoked.*

Rochdale Corporation. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 3000–220 *v.* L., 220 & 440 *v.* P.; & *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220, 440 & 500 *v.*; T., 500 *v.*, 1976 *K.W.* Engineer, C. Claremont Atchison, M.I.E.E.

Rochester Tramways. *Worked by Chatham & District Light Railways Co., q.v.*

Romford, Essex. L. & T. *under consideration.* Consulting engineers, Hawtayne & Zeden.

Ross Electric Light & Power Co., Ltd., Bank Offices, Ross, Hereford. L. arc & inc. P. *c.*, 2-wire, 230 *v.*, 100 *K.W.* Engr., C. E. Gray.

Rostrevor, co. Down. *E.L. under consideration.*

Rotherham Corporation. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 2120 *K.W.* Engineer, E. Cross; chief asst., Jno. Williams.

Rothesay Burgh, Scotland. L. *c.*, 230 & 460 *v.*, 34 *K.W.* E. B. Stiven, engineer.

Rothesay Tramways Co., Ltd., Rothesay, Scotland. T. *c.*, 500 *v.*, 350 *K.W.* Engr., A. Wilkes.

Rottingdean, Sussex. New Rottingdean Electricity Co., Ltd. L. P. *c.*, 2-wire, 100 *v.*, 60 *K.W.* Engineer, A. Jupp.

Roundhay & District Electric Lighting Co., Ltd., nr. Leeds. L. *c.*, 3-wire, 230 *v.*, 160 *K.W.* Consulting engineers, Shepherd & Watney; resident engineer, H. Love.

Rowley Regis. *An act has been obtained by the U.D.C., who have contracted with a tramway company to make & work a tramway, & who procure & supply their own current.*

Rugby School Electric Lighting Co. L. *a.*, 1-*ph.*, 100 *py.*, 100 *v.*, 85 *K.W.* A. E. Lee, engineer.

Rugby Urban District Council. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 210 *K.W.* Resident engineer, T. S. Shenton.

Runcorn (Cheshire). *The U.D.C. have an electric lighting order.*

Rutherglen, Scotland. *The Council have approved an agreement with the Clyde Valley Electrical Power Co.*

Ryde, Isle of Wight. Isle of Wight Electric Light & Power Co., Ltd., proprietors. *c.*, 3-wire; L., 240 *v.*; P., 240 & 480 *v.*; outlying districts, *a.*, 1-*ph.*, 50 *py.*, 2500 480 & 240 *v.*, 295 *K.W.* Chief engr., A. E. Mayes; res. engr., F. T. Crowe.

Electricity Works—*continued.*

Ryde Pier Electric Railway. 20 *K.W.* Manager, W. D. Stanney.

Saddleworth, Yorks. *An electric lighting order has been granted to the Urban District Council.* Consulting engineers, Baker & Appleby.

Saffron Walden. 1904 *E.L. order to be revoked & a new order to be applied for.*

St. Alban's Corporation. *E.L. order transferred to the St. Albans & District Electric Supply Co., Ltd.* Engr., E. T. Ruthven Murray.

St. Andrews, N.B. The Electric Supply Corporation, Ltd., proprietors. *c.* L., 3-wire, 225 *v.*; P., 225 & 450 *v.*, 300 *K.W.* Engineer, B. G. Drummond.

St. Anne's-on-the-Sea Urban District Council. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*; T., supply to a company 500 *v.* at sub-station, 760 *K.W.* Engineer, J. H. Clothier, A.M.I.E.E.

St. Austell & District Electric Lighting & Power Co., Ltd., Menacuddle-st., St. Austell, Cornwall. *c.* L. arc & inc., P., 110 & 220 *v.*, 100 *K.W.* Engineer & manager, A. B. Child.

St. George's-in-the-East, London. *See* Stepney.

St. Helen's Corporation, St. Helen's, Lancs. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 1840 *K.W.* Engineer, E. M. Hollingsworth.

St. Helen's, Isle of Wight. *a.* L., 1-*ph.*, 50 *py.*, 2500-480 & 240 *v.*; & *c.* L. P., 240 & 480 *v.*, 200 *K.W.* *Current supplied in bulk from Ryde to the St. Helen's Electric Lighting Co.* Engineer & manager, A. E. Mayes, A.M.I.E.E.

St. James' & Pall Mall Electric Light Co., Ltd., Carnaby-st., Golden-sq., W.; & Mason's-yard, Duke-st., St. James's, S.W. *a.* L., 3-*ph.*, 50 *py.*, primary 6000 *v.*, secondary 250 *v.*, generating plant; *c.* L. P., 214 *v.*, 7300 *K.W.* S. T. Dobson, M.I.C.E., engineer; W. E. Rowland, elecn.

St. Marylebone Borough Council. *c.* L., 240 *v.*; P., 240 & 480 *v.*, 10,000 *K.W.* Electrical engineer & manager, F. A. Wilkinson, M.I.E.E.

St. Pancras Borough Council, 57, Pratt-st., St. Pancras, N.W. L. *c.*, 3-wire, 220 *v.*; P., 440 *v.*, 6390 *K.W.* Chief engr., S. W. Baynes, M.I.E.E.; resident engineer, J. T. Baron. *See also* King's-rd. Station & Regent's Park Station.

St. Peters, Kent. *See* Isle of Thanet Electric Tramways & Light Co., Ltd.

Sale, Chester. Sale Urban District Council & the Trafford Power & Light Co., Ltd., proprietors. L. *c.* arc & inc., 230 *v.*; P., 230 & 460 *v.*, 100 *K.W.* Resident engineer, C. J. Wood.

Salford Corporation. L. P. T. *a.*, single-*ph.*, 75 *py.*, primary 3100 *v.*, secondary 200 *v.*; & *c.* L., inc., arc & P., 220 & 440 *v.*; T., 550 *v.*, 6520 *K.W.*

Salisbury Electric Light & Supply Co., Ltd. L. arc & inc. *c.*, 3-wire, 210 *v.*; P., 210 & 420 *v.*, 600 *K.W.* A. B. Randall, M.I.E.E., engineer.

Saltburn-by-Sea, Yorks. Cleveland Trust, Ltd., proprietors. L. P. *c.*, 2-wire, 220 *v.*, 173 *K.W.* Engr., W. Miriam; elecn., A. Raine.

Sandgate, Kent. *Lighting supply from the Folkestone Electricity Supply Co.'s works at Shorncliffe.*

Electricity Works—*continued.*

Sandown. *See* Shanklin.

Sandwich, Deal, Walmer & District. *Provisional order granted to Kent Electric Power Co.*

Scarborough Electric Supply Co., Ltd. L. P. *a.*, single-*ph.*, 80 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.*, 1345 *K.W.*; *c.* P., 500 *v.*; T., 550 *v.*, 600 *K.W.* Resident engineer, F. G. Holden.

Scarborough Tramways Co., Scarborough. *Power supplied by Scarborough Electric Supply Co., Ltd.*

Scottish Central Elec. Power Co., 34, N. Bridge-st., Edinburgh. *See* Bonnybridge.

Scunthorpe, Lincs. *An electric lighting order granted to the U.D.C. has lapsed. Extension applied for.*

Seaford. Newhaven & Seaford Electric Lighting Co., Ltd.

Seaforth & Great Crosby. *See* Liverpool Overhead Railway Co.

Sevenoaks, Kent. Kent Electric Power Co. *Under construction.*

Shanklin, Sandown & Lake. Isle of Wight Electric Light & Power Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 425 *K.W.* Engineer, A. E. Mayes, A.M.I.E.E.; assistant engineer, L. Gillitt.

Shannon Water & Electric Power Co., 36, College Green, Dublin. *Station to be erected at Cloonlara.* Consulting engineer, S. G. Frazer.

Sheerness & District Electric Power & Traction Co., Ltd., Sheerness, Kent. L. inc. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*; T., 520 *v.*, 400 *K.W.* Managing engineer, A. A. Watkins, A.M.I.E.E.

Sheffield Corporation, Sheaf-st.; & Neepsend, Sheffield. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*; & *c.* L., 200 *v.*, 7500 *K.W.* S. E. Fedden, M.I.C.E., M.I.MECH.E., manager & engr.; J. W. Beauchamp, deputy manager.

Sheffield Corporation Tramways. P. T. *c.*, 500 *v.*, 3675 *K.W.* Chief engr., H. E. Yerbury, M.I.M.E.

Sheppey. *See* the Sheerness & District Electric Power & Traction Co., Ltd.

Shildon, Durham. The Northern Counties Electricity Supply Co., Ltd., proprietors. *c.*, 3-wire; L., 230 *v.*; P., 460 *v.*, 240 *K.W.* Engineer, T. Heron; electrician, S. Jago.

Shipley Urban District Council, Shipley, Yorks. *c.*, 3-wire; L. P., 230 *v.*; T., 550 *v.*, 1170 *K.W.* Engr., S. D. Schofield, M.I.E.E., A.M.I.M.E.

Shipton. *Provisional order obtained.*

Shoreditch Borough Council, Coronet-st., Pitfield-st., N. *c.* L., 240 *v.*; P., 240 & 480 *v.*, 3055 *K.W.* C. Newton Russell, A.M.I.C.E., resident engineer.

Shrewsbury Corporation. L. *c.* inc., 210 *v.*; arc & P. 210 & 420 *v.*, 780 *K.W.* C. M. Johnston, M.I.E.E., M.I.MECH.E., engineer.

Shropshire & Worcestershire Electric Power Co. *Proposed stations at* Hadley & Upper Milton.

Sidmouth, Devon. *E.L. order granted to the U.D.C. The Electric Supply Corp. will erect works.*

Sittingbourne & Milton. *Provisional order granted to Kent Electric Power Syndicate, Ltd.*

Electricity Works—*continued.*

Skelton & Brotten. *The Cleveland & Durham Co. Electric Power Co. are to submit an E.L. scheme.*

Skipton, Yorks. *An electric lighting order has been granted to the U.D.C.*

Sleaford Urban District Council. L. arc & inc. P. *c.*, 2-wire, 220 *v.*, 180 *K.W.* Engineer, W. H. Wilson.

Slough; Datchet; & Chalney. Slough & Datchet Electric Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 220 *v.*, 580 *K.W.* Engineer, A. E. Farrow, A.M.I.E.E.

Smethwick, Staffs. Birmingham & Midland Tramways, Ltd. L. P. T. *a.*, 3-*ph.*, 25 *py.*, 5500–110 *v.* L., 400 *v.* P.; & *c.*, L. 250 *v.*, P. T. 500 *v.*, 2530 *K.W.* Engineering manager, G. Conaty, M.I.MECH.E.; resident engineer, S. A. Mahood, A.M.I.E.E.

Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., London, E.C. L. arc & inc. *c.*, 3-wire, 200 & 100 *v.*; P., 200 *v.*, 965 *K.W.* Engineer, E. Dowling.

Snaefell Mountain Railway. Manx Electric Railway Co., proprietors. *a.*, 3-*ph.*, 25 *py.*, primary 7000 *v.*, secondary 330 *v.*, converted to *c.*, 500–550 *v.*, 390 *K.W.* Engineer, F. Edmondson, A.M.I.E.E.

Somerset & District Electric Power Co. Secretary, A. J. Fippard, Broad Sanctuary-chbrs., Westminster. *Proposed stations at* Radstock & Hanham.

South Bank in Normanby, Yorks. *An electric lighting order has been granted to the U.D.C., who are considering three schemes.*

South London Electric Supply Corporation, Ltd. *See* Lambeth.

South Metropolitan Electric Light & Power Co., Ltd., late The Blackheath & Greenwich District Electric Light Co., Ltd., River-ter., East Greenwich; & Wells-rd., Upper Sydenham, S.E. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 200 *v.*; 3600 *K.W.* Resident engr., John A. Constable (generating dept.); W. J. Allbright (distribution dept.).

South Metropolitan Electric Tramways & Lighting Co., Ltd. *See* Sutton.

South Shields Corporation. L. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 110 & 220 *v.*; & *c.*, P. T., 500 *v.*, 2700 *K.W.* Chief engineer, J. H. Cawthra, M.I.E.E., A.M.I.M.E.

South Staffordshire Tramways (Lessee) Co., Ltd., James Bridge, South Staffs. T. *c.*, 300 *v.*, 273 *K.W.* Electrician, F. J. Smith.

South Wales Electrical Power Distribution Co. *See* Bridgend, Cwmbran, Neath & Pontypprid.

Southall, Norwood. *Works not yet started.*

Southampton Corporation. *c.* L., 3-wire, 200 *v.*; P. 200 & 400 *v.*, T. 500 *v.*, 2300 *K.W.* H. F. Street, engineer.

Southend Corporation Pier Electric Railway. L. T. *c.*, 230 *v.* for L. & P., 500 *v.* for T. Engineer, C. R. Norton.

Electricity Works—*continued.*

Southend-on-Sea Corp. *c.*, 3-wire; L. 230 & 460 *v.*, P. 460 *v.*, T. 500–550 *v.*, 1975 *K.W.* Engr., R. Birkett, A.I.E.E.; chief asst., John Milton.

Southgate. North Metropolitan Electric Supply Co., proprietors. *For current in bulk only.*

Southgate, Stroud, Nailsworth & Dursley. *Provisional order granted to Gloucestershire Electric Power Co.*

Southport Corporation. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 100 & 210 *v.*; & *c.* P. T., 500 *v.*, 2350 *K.W.* R. S. Downe, M.I.E.E., engineer.

Southport & Birkdale Tramways Co. *Current supplied by Southport & Birkdale Corporations.* Tramways manager, J. Lloyd.

Southport Pier Co., Southport. *Energy supplied by the Corp.*

Southwark Borough Council, Penrose-st., Walworth, S.E. L. *c.*, 3-wire, 220 *v.*; P., 220 & 440 *v.*, 1218 *K.W.* Engineer, D. M. Kinghorn.

Southwold Electricity Supply, Southwold, Suffolk. Coast Development Corp., Ltd., props. L. inc., P. *c.*, 200 *v.*, 110 *K.W.* F. R. Hunter, engr.

Sowerby Bridge, Yorks. *Proposed scheme: c.*, 3-wire, 480 & 240 *v.* Engr., A. W. Bissell.

Spalding, Lincolnshire. *An electric lighting order has been granted to the U.D.C.*

Spen Valley & Morley Tramways. Yorkshire (Woollen District) Electric Tramways, Ltd., proprietors.

Spennymoor. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*, 400 *K.W.* Engineer, C. W. Fairweather; resident engineer, E. Manthorpe.

Springhead, Yorks. *An electric lighting order has been granted to the Urban District Council.* Consulting engineers, Baker & Appleby.

Stafford Corporation. L. *c.*, 3-wire, 210 *v.*; P., 210 & 420 *v.*, 548 *K.W.* Resident engineer, H. Pooley, A.M.I.C.E.; electrician, R. E. Meade.

Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board, Stalybridge. *a.*, 3-*ph.*, 40 *py.*, primary 6000 *v.*, converted to *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 460 *v.*; T., 500 *v.*, 1650 *K.W.* Elec. engr., R. Blackmore. *See also* Dukinfield.

Stamford. Urban Electric Supply Co., Ltd., proprietors. L. inc. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 400 *K.W.* Engr., J. E. Edmundson.

Standish, Lancs. *Electricity in bulk to be supplied by Wigan Corp.*

Stanley, Durham. *Northern Counties Electricity Supply Co., Ltd., will take supply in bulk from the Cleveland & Durham County Electric Power Co.*

Stanley, Yorks. *E.L. order granted to U.D.C.*

Stepney Borough Council, 27, Osborn-st., Whitechapel, London, E. *c.*, 3-wire; L. inc. 240 *v.*, arc & P. 480 *v.*, 3720 *K.W.* W. C. P. Tapper, A.M.I.E.E., engineer & manager.

Stevenage, Herts. *The Urban District Council have entered into an agreement with the Electric Supply Corp. to erect & maintain works.*

Electricity Works—*continued.*

Stirling Corporation. *c.*, 3-wire; L. P., 230 & 460 *v.*, 638 *K.W.* Engineer, A. C. Hanson, A.M.I.E.E.

Stockport Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 2050 *K.W.* Electrical engineer, R. Lomax.

Stockton, Durham. *An electric lighting order has been granted to the Rural District Council.*

Stockton-on-Tees Corporation. L. *c.*, 3-wire, arc & inc., 230 *v.*; P., 230 & 490 *v.*, 1050 *K.W.* J. J. Smith, A.M.I.E.E., engineer.

Stoke Newington Metropolitan Borough Council, Edwards-lane, Stoke Newington, London, N. *Supply in bulk from North Metropolitan Electric Power Supply Co., a.*, 3-*ph.*, 50 *py.*, 10,000 *v.*, *transformed & converted to c.*, L. 240 *v.*, P. 240 & 480 *v.*, 159 *K.W.* Electrician, S. Hann.

Stoke-upon-Trent Corporation. L. P. *c.*, 3-wire, 240 & 480 *v.*, 300 *K.W.* P. J. S. Tiddeman, M.I.E.E., engineer.

Stourbridge, Worcestershire. *The provisional order to be transferred to the Shropshire, Worcestershire & Staffordshire Electric Power Co.*

Stowmarket. Suffolk Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 2-wire, 100 *v.* N. Prentice, engineer.

Stratford-on-Avon Electricity Co., Ltd., Stratford-on-Avon. *c.* L. arc & inc., 220 *v.*; P., 440 *v.*, 100 *K.W.* Engr., C. D. Falcke.

Stratton & Bude. *E.L. under consideration.*

Stretford Urban District Council. *c.*, 3-wire; L. inc. 220 *v.*, arc 440 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 1000 *K.W.* Consulting engineer, T. L. Miller; resident engineer, R. Rowland, A.M.I.E.E.

Strood & Dartford. *Provisional order obtained.* Kent Electric Power Syndicate.

Stroud. *An electric lighting order has been granted to the Urban District Council.*

Sudbury, Suffolk. *Order revoked.*

Suffolk Electricity Supply Co., Ltd. *See* Diss, & Stowmarket.

Sunbury. *See* Hampton Wick.

Sunderland Corporation. *a.*, 3-*ph.*, 50 *py.*, primary 5500 *v.*, secondary 220 *v.*, converted to *c.*, 2-wire; L. arc & inc. & P., 220 *v.*; T., 500 *v.*, 5530 *K.W.* A. S. Blackburn, M.I.E.E., chief engr.; E. White, A.M.I.E.E., station supt. engr.; J. F. Moore, A.M.I.M.E., distributing engr.

Sunderland District Tramways Co. *See* Houghton-le-Spring.

Surbiton Urban District Council. *c.* L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 380 *K.W.* Engineer, H. MacDonald Gill.

Sutton-in-Ashfield, Notts. *An electric lighting order has been granted to the U.D.C.*

Sutton, Carshalton, Cheam & Wallington, Surrey. South Metropolitan Electric Tramways & Lighting Co., Ltd., proprietors. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1100 *K.W.* Engineer, C. W. Durnford.

Sutton Coldfield Corporation. *c.*, 3-wire; L. inc., 230 *v.*; P., 460 *v.*, 625 *K.W.* T. Duesbury, A.M.I.E.E., engineer.

Electricity Works—*continued.*

Sutton & Howth Electric Tramway, Dublin. Gt. N. Rly. Co. of Ireland, proprietors. T. *c.*, 550 *v.* A. W. Whieldon, M.I.E.E., engineer.

Swadlincote. *A provisional order has been granted to the U.D.C. A supply is given from the Earl of Carnarvon's installation. Complete installation to be put down shortly.*

Swanage. *E.L. scheme promoted by Bournemouth & Poole Electric Supply Co. has been approved by the U.D.C.*

Swansea Corp. *c.*, 3-wire; L., inc. 220 *v.*; arc & P., 220 & 440 *v.*; T., 550 *v.*; & *a.*, 2-*ph.*, 50 *py.*, 3000–220 *v.* L., 220 & 440 *v.* P., 1725 *K.W.* C. A. L. Prusmann, M.I.E.E., A.M.I.M.E., engineer.

Swansea Electric Tramways. Swansea Improvements & Tramways Co., proprietors. T. *c.*, 550 *v.*, 750 *K.W.* Electrical engineer, A. Johnston.

Swindon Corporation. *c.* L. arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 900 *K.W.* R. W. Grubb, engineer *pro tem.*

Swinton, Yorks. *The National Electric Construction Co. have submitted terms to the U.D.C. for E.L.*

Swinton & Pendlebury Urban District Council, Lancs. *The Lancashire Electric Power Co. will supply current in bulk.* Consulting engineers, T. L. Miller & Wilson.

Sydenham. *See* South Metropolitan Electric Light & Power Co., Ltd.

Tadcaster Electricity Co., Tadcaster, Yorks. L. *c.*, 3-wire, 230 & 460 *v.*, 158 *K.W.* Consulting engineers, Christy Bros. & Middleton.

Tamworth, Warwickshire. *An E.L. order granted to the Corporation will be transferred to the Shropshire, Worcestershire & Staffordshire Electric Power Co.*

Taplow, Cookham & Bray. *See* Maidenhead.

Taunton Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, 2200–100 & 200 *v.*; T. *c.*, 550 *v.*, 1100 *K.W.* E. J. B. Thornhill, A.M.I.E.E., engineer.

Taunton Electric Traction Co., Ltd., Tramway Depôt, Taunton. Manager, W. Smith. *c.*, 500 *v.* *Current supplied by Corporation.*

Tavistock & District Electric Supply Co., Ltd., 11, Carteret-st., Westminster, S.W. *c.*, 3-wire, 230 & 460 *v.* *Works not yet constructed.*

Tayside Electric & Gas Light Co., Ltd. *See* Wormit.

Teddington, Middlesex. *See* Twickenham

Teignmouth Urban District Council. *c.*, 3-wire, 225 & 450 *v.*, 100 *K.W.* *Works under construction by Electric Supply Corporation.*

Tewkesbury. *Provisional order granted to the Town Council.*

Thames Ditton. *Supplied from Twickenham & Teddington Co.'s Works.*

Thames Valley Electric Supply. *Lighting order abandoned.*

Thirsk & Sowerby, Yorks. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 230 *v.*, 35 *K.W.* Engineer, C. W. Fairweather.

Electricity Works—*continued.*

Thornaby-on-Tees, Yorks. *The electric lighting order is to be transferred to the Cleveland & Durham County Electric Power Co.*

Thornaby-on-Tees. Cleveland & Durham County Electric Power Co., proprietors. L. *c.*, 250 *v.* Manager, E. E. Soden.

Thornhill. The Yorkshire Electric Power Co., proprietors. L. *a.*, 1-*ph.*, 50 *py.*, 2000–230 *v.*; P. T. *a.*, 3-*ph.*, 50 *py.*, 10,000–400 *v.* P., *transmission to sub-station, converted to c.* L., 220 *v.*; P. T., 500 *v.*, 8000 *K.W.* Engineer, W. B. Woodhouse, A.M.I.M.E., A.M.I.E.E.; station supt., H. A. Fleet.

Tipton. *See* Ocker Hill.

Tiverton, Devon. *E. L. order revoked.*

Todmorden Corporation, Todmorden, Yorks. *c.*, 3-wire; L. inc., 230 *v.*; P., 230 & 460 *v.*, 250 *K.W.* Engineer, H. Talbot.

Tonbridge Urban District Council, Tonbridge, Kent. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*, 120 *K.W.* Engineer, J. A. B. Horsley, A.M.I.E.E.; assistant, C. J. Wood.

Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 138, High-st., Ton-yr-efail. L. *a.*, 1-*ph.*, 50 *py.*, 2200–220 *v.*, 75 *K.W.* Engr., A. J. Arthur.

Topsham Electricity Supply Co., Ltd., Topsham, Devon. L. *c.*, 100 *v.*, 25 *K.W.* Engineer, H. C. Gould.

Torquay Corporation. *a.* L. P., single-*ph.*, 50 *py.*, primary 2100 *v.*, secondary 200 *v.*; *c.* T., 500–550 *v.*, 1265 *K.W.* P. Storey, M.I.M.E., A.M.I.E.E., engineer.

Totnes Electricity Co., Ltd. *c.*, 3-wire, 225 *v.*, 66 *K.W.* Chf. engr., K. A. Scott Moncrieff.

Tottenham, Middlesex. *The electric lighting order granted to the U.D.C. is about to be transferred to the North Metropolitan Electric Power Supply Co.*

Tottington, Lancs. *An electric lighting order has been granted to the Lancashire Electric Power Co.*

Tower-st. *See* Metropolitan Electric Supply Co.

Trafford Park Estates, Ltd., Trafford Park, Manchester. *Current supplied by Trafford Power & Light Supply, Ltd. c.* L., 250 & 500 *v.*; T., 500–525 *v.*, 150 *K.W.* Elec. engr., Chas. Gould.

Trafford Power & Light Supply (1902), Ltd. *See* Manchester & Sale.

Treeton Parish Council. L. *c.*, 1250 *v.*, 13 *K.W.* W. H. Barwell, M.I.MIN.E., engineer.

Trowbridge, Wilts. *An electric lighting order granted to the Western Electric Distributing Corp., Ltd.*

Truro. *E.L. under consideration.*

Tunbridge Wells Corporation. L. P. *a.*, 67·5 *py.*, single-*ph.*, primary 2100 *v.*, secondary 220 *v.*, 1200 *K.W.* H. L. P. Boot, M.I.E.E., engineer.

Tunstall, Staffs. *Electric current is now supplied by Burslem Council.*

Twickenham. Twickenham & Teddington Electric Supply Co., Ltd., proprietors. L. P. *c.*, 3-wire, 240 & 480 *v.*, 816 *K.W.* Resident engineer, C. E. Hume.

Electricity Works—*continued.*

Tyldesley-with-Shakerley, Lancs. *An electric lighting order has been granted to the Urban District Council.* Consulting engineer, T. L. Miller.

Tynemouth, Borough of, Corporation Electricity Works, Tanners Bank, North Shields. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*; T., 550 *v.*, 1070 *K.W.* Engineer, C. Turnbull, A.M.I.E.E.

Tynemouth & Whitley Tramways. Tramways Depôt: Cullercoats. Tynemouth & District Electric Traction Co., proprietors. *Power supplied by Tynemouth Corporation.* Engineer & gen. manager, R. Simpson.

Tyneside Tramways. Tyneside Tramways & Tramroads Co., proprietors. *Power supplied by Newcastle Electric Supply Co., Ltd., & Tynemouth Corp.* Engineer, F. H. Briggs; resident manager, J. G. Little.

Underground Electric Railways Co. of London, Ltd., Lots-rd., Chelsea, S.W. *a.*, 3-*ph.*, 33⅓ *py.*, 11,000 *v.*, 55,000 *K.W.* Resident engineer, J. W. Towle, M.I.E.E., M.I.C.E.I.

Uphall. Linlithgow C.C., props. *Works under construction.* Consulting engineer, A. Lindsay.

Upholland. *The U.D.C. are considering obtaining supply of energy in bulk from Wigan T.C. & the Lancashire Electric Power Co.*

Urban Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, London, S.W. *See* Berwick-on-Tweed; Caterham; Camborne; Dartmouth; Glossop; Godalming; Grantham; Hawick; Newbury; Newton Abbot; Stamford; Twickenham; & Weybridge.

Uxbridge & District Electric Supply Co., Ltd., Waterloo-rd., Uxbridge. L. P. *a.*, single-*ph.*, 50 *py.*, primary 3000 & 6000 *v.*, secondary 200 *v.*, 1040 *K.W.* Engr., A. Randall Bell, A.M.I.E.E.

Ventnor & Bonchurch, I.W. Isle of Wight Electric Light & Power Co., Ltd. L. *c.*, 3-wire, 210 *v.*; P., 210 & 420 *v.*, 500 *K.W.* Engineer & manager, A. E. Mayes, A.M.I.E.E.

Volk's Electric Railway, Brighton. *c.*, 230–460 *v.*, 30 *K.W.* *Current purchased from Corp. at* 460 *v.* Engineer, M. H. Volk.

Wakefield Corporation. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1562 *K.W.* Engineer, H. A. Nevill.

Wakefield & District Light Railways Co., Belle Isle, Wakefield. T. *a.*, 3-*ph.*, 25 *py.*, 6600 *v.*; & *c.*, L. 105 *v.*, P. 500 *v.*, T. 550 *v.*, 1200 *K.W.* Engineer, C. E. Davies.

Walker Sub-station, Northumberland. Newcastle-on-Tyne Electricity Supply Co., Ltd., proprietors. L. *c.*, 240 & 480 *v.*, 600 *K.W.*

Walker & Wallsend. Walker & Wallsend Union Gas Co. *The undertaking of this company has been transferred to the Newcastle-on-Tyne Electric Supply Co., Ltd.*

Wallasey Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, 2100–100 & 200 *v.*; & T. *c.*, 500 *v.*, 2050 *K.W.*, *extending to* 2550 *K.W.* J. A. Crowther, engineer.

Electricity Works—*continued.*

Wallington, Durham. *Provisional order granted to the County of Durham Electrical Power Distribution Co.*

Wallington, Surrey. *See* Sutton.

Wallsend. Newcastle-on-Tyne Electricity Supply Co., Ltd., proprietors, Neptune Bank, Wallsend. L. P. *a.*, 3-*ph.*, 40 *py.*, primary 5500 *v.*, secondary L. 240 *v.*, P. 440 *v.*; & *c.*, 3-wire; L. 240 *v.*, P. 480 *v.*, 4930 *K.W.* Engineer, C. H. Merz. *See also* Carville.

Walmer, Kent. *An electric lighting order granted to the U.D.C. will probably be transferred.*

Walsall Corporation. *c.* L. arc & inc. P., 105 & 210 *v.*; T., 500 *v.*, 1650 *K.W.* Engineer, Alex. Wyllie.

Walthamstow District Council, Priory-ave., Walthamstow, Essex. *c.*, 3-wire; L. inc., 230 *v.*; arc & P., 230 & 460 *v.*; T., 500 *v.*, 1800 *K.W.* Engineer, G. R. Spurr, A.M.I.E.E., A.M.I.MECH.E.

Walton-le-Dale, Lancs. *An electric lighting order has been granted to the U.D.C.*

Walton-on-Naze. Coast Development Corp., proprietors. L. P. T. *c.*, 230 *v.*, 50 *K.W.* Engineer, E. A. Lambert.

Walton-on-Naze Pier Electric Railway. Coast Development Corporation, Ltd., props. L. P. T. *c.*, 250 *v.*, 50 *K.W.* Engineer, E. A. Lambert.

Walton-on-Thames. *Transmitted from the Urban Electric Supply Co.'s works at Weybridge at* 2500 *v., & transformed down to* 240 *v.* L., 240 *&* 480 *v.* P., 105 *K.W.*

Wandsworth. County of London Electric Supply Co., Ltd., proprietors. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 6000–2000 *v.*, secondary 205 *v.*; *c.* from sub-station, 410 *v.*, 2900 *K.W.* C. P. Sparks, chief engineer; A. A. Whitlock, resident engineer.

Ware, Herts. *An electric lighting order has been granted to the Urban District Council, who have sealed an agreement with the North Metropolitan Electrical Power Distribution Co., Ltd., for supply of energy.*

Warmley, Glos. *Provisional order obtained by R.D.C.* Cons. engrs., Pressland & Fippard.

Warrington Corporation. *c.* L., 3-wire, inc. 230 *v.*, arc 460 *v.*; P., 230 & 460 *v.*; T., 500 *v.*; & 3-*ph.*, 6000 *v.*, 2150 *K.W.* Engineer, F. V. L. Mathias, A.M.I.E.E.

Warwick. Leamington & Warwick Electrical Co., props. *c.* L., 230 *v.*; P., 460 *v.* *Supply to Leamington* T., 550 *v.*, 630 *K.W.* Engineer, F. J. Smith; asst. engr., C. J. Todd.

Waterford. *An electric lighting order has been granted to the Corp.*

Waterloo & City Railway, Waterloo Station, S.E. L. arc. & inc. P. T. *c.*, 500 *v.*, 1350 *K.W.* Engineer, Herbert Jones.

Watford Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1130 *K.W.* Chief engineer, J. R. Weston.

Wath-upon-Dearne, Yorks. *The U.D.C. is negotiating with the Yorkshire Electric Power Co. for supply of energy.*

Electricity Works—*continued.*

Weardale. *E.L. under consideration.*

Wednesbury, Staffs. *The Corporation take power in bulk from Midland Electric Corporation for Power Distribution, Ltd.* 2-*ph.*, 50 *py.*, 7000 *v.* transformed to 200 *v.*, converted to *c.* 230 *v.* 150 *K.W.* Engineer & manager, W. Fennell.

Wednesbury & West Bromwich Tramways. *Current supplied by West Bromwich Corporation, q.v.*

Wellingborough. County of Northampton Electric Power & Traction Co., Ltd., proprietors. L. *c.* arc & inc., 230 *v.*; P., 460 *v.*, 275 *K.W.* Resident engineer, G. W. Bunting; electricians, F. Breese, W. L. Webb & W. G. Whiteford.

Wellington, Salop. *The electric lighting order will probably be transferred to the Shropshire, Worcestershire & Staffordshire Electric Power Co.* Consulting engineer, T. L. Miller.

Wembley D.C. *intend to apply for provisional E.L. order.*

Wemyss & District Tramways Co., Ltd., Aberhill, Methil, Fife. 500–550 *v.* Resident elec. engr., L. C. Knocker.

West Bromwich Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500–580 *v.*, 1200 *K.W.* 400 *K.W. extensions in hand.* Engineer, W. A. Jackson.

West Cumberland Electric Tramways. Stations at Cleator Moor, Maryport, Whitehaven & Workington. *Works not yet commenced.* Consulting engineer, Sir D. Fox.

West Ham Corporation, Romford-rd., Stratford, E. Power station: Canning Town, London, E. L. P. *a.*, 1- & 2-*ph.*, 50 *py.*, primary 2000–6000 *v.*, secondary 100 & 200 *v.*; P. T. *c.*, 550 *v.*, 5700 *K.W.* Engr., A. H. Seabrook, A.M.I.E.E.; deputy engr., J. Eustace.

West Hartlepool Corporation. *c.*, 3-wire; L., inc. 230 *v.*, arc & P. 230 & 460 *v.*, 950 *K.W.* H. F. Friederichs, M.I.C.E., engineer.

West Hartlepool Tramways. *See* Hartlepool. *Power supplied by the General Electric Tramways Co., Ltd.*

West Houghton, Lancs. *Energy in bulk will probably be supplied by Lancashire Electric Power Co.*

Westgate & Birchington. *Electric lighting order granted to Isle of Thanet Electric Tramway & Lighting Co., Ltd.*

Westhoughton. *The U.D.C. is in negotiation with companies for a supply in bulk.*

Westminster Electric Supply Corporation, Ltd., Eccleston-pl., Belgravia, S.W. *c.*, 3-wire; L. arc & inc. P., 200 & 400 *v.*, 13,725 *K.W.* Chief engineer, Sir A. B. W. Kennedy, LL.D., F.R.S., M.I.C.E.; assistant engineer-in-chief, C. O. Grimshaw, M.I.C.E. *Also* Davies-st. & Millbank-st. Stations.

Weston-super-Mare & District Electric Supply Co., Ltd., Donington House, Norfolk-st., London, W.C.; & Weston-super-Mare. *c.*, 3-wire; L., 280 *v.*; P., 460 *v.*; T., 500 *v.*, 800 *K.W.* Engineer, M. Nash.

Electricity Works—*continued.*

Weybridge. Urban Electric Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 380 *K.W.* Resident engineer, H. W. Watts, A.M.I.E.E.; assistant engineer, Selby B. Howard.

Weymouth & Melcombe Regis Corporation, Weymouth, Dorset. L. P. *c.*, 3-wire, 230 & 460 *v.*, 394 *K.W.* Engineer, R. G. Simpson.

Whickham. *The Urban District Council will probably transfer their electric lighting order to the County of Durham Electrical Power Distribution Co., Ltd.*

Whiston. *See* Prescot.

Whitby Urban District Council. L. P. *c.*, 3-wire, 230 & 460 *v.*, 400 *K.W.* Engineer, L. H. King.

Whitchurch & Pangbourne Electric Supply Co., Ltd, Whitchurch, Oxon. L. *c.*, 3-wire, 240 *v.*; P., 480 *v.*, 72 *K.W.* Resident engineer, D. H. Coombs.

Whitechapel. *See* Stepney.

Whitefield U.D.C., Whitefield, Lancs. *E.L. & T. order obtained.*

Whitehaven Corporation. *c.*, 3-wire; L. arc & inc, 210 *v.*; P., 210 & 420 *v.*, 386 *K.W.* Elec. engr., B. Sankey, A.M.I.E.E., A.M.I.MECH.E.

Whitehead. *Arrangements have been completed with the National Electric Construction Co. for lighting.*

Whitley & Monkseaton, Northumberland. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 230 *v.* Consulting engineer, C. W. Fairweather. *Under construction.*

Whitwood, Yorks. *An electric lighting has been granted to the U.D.C.*

Whitworth. *Provisional order has been granted to the U.D.C.* Consulting engineers, J. & J. S. Enright. *Negotiations pending for supply in bulk.*

Wickwar, Glos. Arnold, Perrett & Co., Ltd., proprietors. L. P. *c.*, 2-wire, 200 *v.* Engineer, F. G. Ansell, F.C.S.

Widnes, Lancs. Consulting engrs., T. L. Miller & Wilson.

Wigan Corporation. L. *c.*, 3-wire, 230 & 460 *v.*; P., 460 *v.*; T., 500–550 *v.*, 1960 *K.W.* Jas. Slevin, engineer.

Willesden District Council, Salusbury-rd., Willesden, N.W. *Current supplied in bulk by North Metropolitan Electric Power Supply Co. to sub-station, a.*, 3-*ph.*, 50 *py.*, primary 2700–3000 *v.*; & *c.* L. inc. arc P., 240 & 480 *v.*, 900 *K.W.* Engineer, J. G. Bruce.

Willesden, N.W. *Bulk supply from* North Metropolitan Electric Power Supply Co., proprietors. *a.*, 3-*ph.*, 50 *py.*, 2850 *v.*, to sub-station at Salusbury-rd., Kilburn, *converted to c.*, 3-wire, 240 *v.* & 480 *v.* All consumers supplied at 240 or 480 *v.*, *c.*, 3-wire.

Wilmslow. Alderley & Wilmslow Electric Supply Co., Ltd., proprietors.

Electricity Works—*continued.*

Wimbledon Borough Council. L. P. T. *a.*, 2-wire, 1-*ph.*, 50 *py.*, primary 2250 *v.*, secondary 220 *v.*, 1685 *K.W.* H. Tomlinson-Lee, M.I.E.E., engr.

Winchester Electric Light & Power Co., Ltd. L. P. *c.*, 3-wire, 210 & 420 *v.*, 900 *K.W.* Engr., H. N. Warburton; assistant, H. W. Nutley.

Windermere & District Electricity Supply Co., Ltd. L. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 225 *K.W.* Manager & secretary, Chris. Walker; elecn., T. R. Burrell. *See also* Ambleside.

Windermere. Keswick Electric Light Co., Ltd., proprietors. *a.*, 1-*ph.*, 83 *py.*, 2000–100 *v.*, 110 *K.W.* Manager, Chris. Walker; elecn., W. Jackson.

Windsor Electrical Installation Co., Ltd. L. *c.*, 3-wire, 110 *v.*; P., 220 *v.*, 820 *K.W.* A. E. Farrow, A.M.I.E.E, engineer.

Wisbech Corporation. *E.L. order to be transferred to the National Electric Construction Co.* Consulting engineers, R. Hammond & Son.

Wishaw, N.B. *Current in bulk is supplied by the Clyde Valley Electric Power Co. to the Burgh.* L. P. *c.*, 240 & 480 *v.*, 200 *K.W.* Engr., E. F. Cox.

Withington, Lancs. Electricity supplied by Manchester Corporation, *q.v.*

Witney Electric Supply Co., Ltd., Gloucester-pl., Witney. L. P. *c.*, 2-wire, 220 *v.*, 87 *K.W.* Engineer, F. G. Curel.

Woking Electric Supply Co., Ltd., Woking, Surrey. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1175 *K.W.* J. G. McLean, M.I.E.E., engineer.

Wolverhampton Corporation. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 2380 *K.W.* C. E. C. Shawfield, A.M.I.E.E., M.I.MECH.E., engineer.

Wolverhampton District Electric Tramways. T. *c.*, 500 *v.* *Power obtained from Dudley Corporation & Midland Electric Corporation.* Engrs., G. Conaty & H. Hartley.

Wood Green Urban District Council, Wood Green, Middlesex. (Teleph. No. 13, Tottenham.) *Proposed system:* 3-wire, *c.*, 460 & 230 *v.*, 600 *K.W.* Consulting engineers, Hawtayne & Zeden.

Woodhall Spa. *E.L. scheme to be submitted to the U.D.C. by Berry, Skinner & Co.*

Woolwich Borough Council, Globe-lane, Woolwich. *c.*, 3-wire; L., inc. 210 *v.*, arc 420 *v.*; P., 210 & 420 *v.*, 1460 *K.W.* Chief engr., T. W. Ellis; sta. engr., F. H. Edwards, A.M.I.E.E. *See also* Plumstead.

Worcester Corporation. L. P. T. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 or 200 *v.*; & *c.*, 3-wire & 2-wire; L., inc. 100 or 200 *v.*, arc 500 *v.*; P., 230 or 460 *v.*; T., 500–550 *v.*, 1725 *K.W.* C. M. Shaw, A.M.I.E.E., engineer.

Worcester Electric Traction Co., Ltd. *Power supplied by Corporation.*

Electricity Works—*continued.*

Workington, Cumberland. *An electric lighting order has been granted to the Corporation.* Resident engineer, W. L. Englesfield.

Worksop Urban District Council. *c.*, 3-wire; L., inc. 220 *v.*, arc 440 *v.*; P., 220 & 440 *v.*, 500 *K.W.* Engineer, J. P. Crowther.

Wormit. Tayside Electric & Gas Light Co., proprietors. L. *c.*, 2-wire, 230 *v.*, 27 *K.W.* Consulting engineers, Lowdon Bros. & Co.

Worsley, Lancs. *An electric lighting order has been granted to the Urban District Council. Negotiations proceeding with Lancashire Electric Power Co. for supply of electricity in bulk or for taking transfer of order.*

Worthing Corporation. *c.*, 3-wire; L., inc. 230 *v.*, arc & P. 230 & 460 *v.*, 588 *K.W.* Engineer, G. Porter, A.M.I.C.E.

Wrexham Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 550 *v.*, 790 *K.W.* W. Sillery, A.M.I.E.E., engineer.

Wrexham & District Electric Tramways, Ltd. *Power supplied by Corporation.*

Wycombe (Borough) Electric Light & Power Co., Ltd., High Wycombe. *c.*, 3-wire; L., 210 *v.*; P., 210 & 420 *v.*, 950 *K.W.* W. E. Brandreth, engineer.

Yale Electric Power Co., Ltd. *See* Blaenau Festiniog.

Yardley, Worcestershire. *An electric lighting order has been granted to the R.D.C. No works yet erected.*

Yarmouth Corporation, Great Yarmouth. L. P. *a.*, single-*ph.*, 83.5 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*; & *c.* L., arc 1500 *v.*, inc. 100 & 200 *v.*; P. T., 500 *v.*, 1035 *K.W.* Gordon Bryant, A.M.I.E.E., engineer.

Yarmouth & Gorleston Tramways. Yarmouth Corp., props. *c.*, 500 *v.* Engineer, J. W. Corkill, M.I.C.E.; electrician, Gordon Bryant, A.M.I.E.E.

Yeovil, Somerset. *An electric lighting order has been granted to the Urban District Council.* Consulting engineer, T. Ekin.

Yoker. Clyde Valley Electrical Power Co., proprietors. L. *a.*, 1-*ph.*, 50 *py.*, 3000–230 *v.*; P., 3-*ph.*, 25 *py.*, 11,000–440 *v.*, 12,000 *K.W.* Engineer & general manager, D. A. Starr.

York Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*, 1920 *K.W.* Resident engineer, J. W. Hame.

Yorkshire Electric Power Co. *See* Thornhill. *Stations to be erected at Bingley, Methley & Wath.*

Yorkshire (Woollen District) Electric Tramways, Ltd. 500 *v. c. Current supplied by Batley & Dewsbury Corporations & Cleckheaton & Heckmondwike Urban District Councils.* Engineer, R. C. Goldston.

Electricity Works—Contractors for the Construction & Maintenance of.

F.—Usines élec.—Entrepreneurs de construction.
G.—Elektricitäts Centrale—Unternehmer zur Ereichtung u. Aufrechterhaltung von.

Bailie, J. D., Messrs. C. A. Parsons & Co., Peacock's-bldgs., Park-row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.

BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Tel. Nos. 766 & 767, Westminster.)

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

Cox-Walkers, Ltd., Darlington. *See advt., page* 29.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Contractors to H.M. Office of Works, the Admiralty, &c. *See advt. inside front cover.*

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt.* OPPOSITE.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TEL. NO. 1253, LONDON WALL.) *See advt., page* 415.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhine.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

The Electrical Co. Ltd.

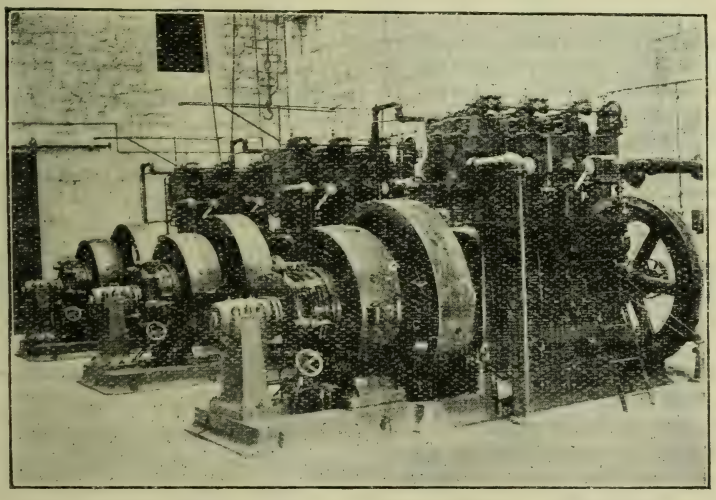
121-125, CHARING CROSS ROAD, LONDON, W.C.

Telephone Nos.: 4311, 4312, 4313, and 4314 Gerrard.

Contractors to H.M. Government.

Telegraphic Address: "GALVANOSCOPE, LONDON."

Electric Power Engineers.



COMPLETE ELECTRIC GENERATING STATIONS.

BRANCHES:

CARDIFF, GLASGOW, EDINBURGH, MANCHESTER, NEWCASTLE-ON-TYNE, SHEFFIELD.

Electricity Works—Contractors for the Construction & Maintenance of—*continued.*

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E.; Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 393.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

LAHMEYER ELECTRICAL CO., LTD., 109-111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 715.

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire (Telegrams: "Electricity, Dursley." Telephone No. 6, Nat.); London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.

Martin & McFie, 8, Wellington-st., Glasgow.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 631.

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. Ayrton & Mather's Patent Electrostatic & Permanent Magnet Voltmeters. *See* ALPHABETICAL. *See* INSTRUMENT MANUFACTURERS—ELECTRICAL.

SIEMENS BROS. DYNAMO WORKS, LTD., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Electricity Works—Contractors for the Construction & Maintenance of—*continued.*

THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD. (Electrical Department), Canning Town, E. (Telegrams: "Thames, London." Telephone No. 526, Eastern.)

WHITE, J. G., & CO., LTD., 9, Cloak-lane, Cannon-st., London, E.C. New York correspondents: J. G. White & Co., 43-49, Exchange-pl.

Electro-Galvanizing Plants.

CLARKE, CHAPMAN, & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Electro-Magnetic Separators.

Adamson, G. L., maker of electro-magnetic separators, Ohm Works, 116, Yorkshire-st., Rochdale.

Electro-Magnets.

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Electro-Medical Apparatus.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row, Cannon-st., London, E.C. West End establishment: 28, York-pl., Baker-st., W.

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

Electro-Platers' & Electrotypers' Plant & Material Manufacturers.

F.—Galvanoplastic—Electrotypie—Fournitures pour.

G.—Galvanoplastik, &c.—Materialien für.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers, 133-137, Gt. Hampton-st.; 5 & 6, Gt. Hampton-row; 1 & 2, Kenyon-st., & 88, Snow Hill, Birmingham.

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Walrus Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic address: "HIDES, MANCHESTER." Tel. No. 1544.)

Electro-Platers' & Electrotypers' Plant & Material Manufacturers—*continued.*

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, London, N.W. *See advt., page* 642.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Electro-Platers' Supply Factors.

F.—Galvanisation—Commissionaires de fournitures pour la.

G.—Elektro. Versilberer Materialen—Lieferanten.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers, 133–137, Gt. Hampton-st.; 5 & 6, Gt. Hampton-row; 1 & 2, Kenyon-st., & 88, Snow Hill, Birmingham.

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, London, N.W. *See advt., page* 642.

Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.

Smith, T., & Co., 10, Percival-street, Clerkenwell, London, E.C.

Electro-Plating & Depositing Machine Manufacturers.

F.—Machine pour dorure, argenture et galvanoplastie—fab. de.

G.—Maschinen für Galvanoplastik.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers, 133–137, Gt. Hampton-st.; 5 & 6, Gt. Hampton-row; 1 & 2, Kenyon-st., & 88, Snow Hill, Birmingham.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Walrus Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic address: "Hides, Manchester." Tel. No. 1544.)

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Electro-Plating & Depositing Machine Manufacturers—*continued.*

Hartley, J. E., & Son, St. Paul's-sq., Birmingham.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire (Telegrams: "Electricity, Dursley." Telephone No. 6, Nat.); & London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* Alphabetical Section.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, N.W. *See advt., page* 642.

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Electro-Silver & Nickel Platers & Gilders.

F.—Doreurs et argenteurs.

G.—Versilberer.

Ashberry, P., & Sons, Ltd., 21, Bowling Green-st., Sheffield.

Beck & Moss, Ltd., Faraday Works, Cannon-st., Hanley, Staffs.

Bonney, G. E., 5, Ravensbourne-terrace, Mordenhill, Lewisham, S.E.

Cupper, Tom, 17, Cross-st., Hatton Garden, London, E.C.

Greenock & Glasgow Electro Co., 14, Charles-st., Greenock.

Leefe, F. E., 364, Goswell-rd., London, E.C. (Telegrams: "Leefregel, London." Telephone No. 1926, Central.)

Electro-Silver & Nickel Platers & Gilders—*continued.*

London Electro Plating & Refining Co., 23, St. John's-lane, Clerkenwell, London, E.C.

Lovelace, H. G., 7, Gerrard-st., Soho, London, W.

McGeoch, William, & Co., Ltd., 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch, Glasgow." Teleph. Nos.: Nat., 2181 (4 lines), Royal; Corp., 101 & 2.) Sole agents for the U.K. for Elkington & Co.'s electro-plated ship fittings.

Meredith & Co., Dynamo Works, Woodcock-st., Birmingham.

Nickel Plating Co., 13, Greek-street, Soho, W.

PARTRIDGE, C. B., & SONS, 113-115, Northwood-st., Birmingham. Nickel & Silver-Plating, Gilding, Oxydizing, &c., &c. (Nat. Teleph. No. 2272.)

Plating Co., Ltd., 10, Kirby-st., Hatton Garden, London, E.C.

Practical Electro-Plating & Enamelling Co., Ltd., Fleet Works, Fleet-st., Coventry.

Sheffield Nickel & Silver Plating Co. (E. G. Draper & Co.), Globe Works, Penistone-road, Sheffield.

Sturtevant & Co., Ltd., St. John's Works, 90 & 92, Clerkenwell-rd., London, E.C. (removing March 31, 1907, to 105–111, Euston-st., N.W.). *See advt., page* 29.

Tasker, W. A., & Sons, 4, Dean-st., Portland-sq., Bristol.

Wainwright, G. A., Grape-st., Leicester.

Woodward, H., & Co., Ltd., Atlas Works, Paradise-st., Birmingham.

Electroliers, Brackets & Pendants.

F.—Lustres et appliques.
G.—Candelaber, Konsole u. Hängelampen.

Albion Lamp Co., Ltd. (Rippingille's), Aston-rd. North, Birmingham.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Berry, Z. D., & Sons, 16, Regency-st., London, S.W.

Best & Lloyd, Ltd., Cambray Works, Handsworth, Birmingham. Show-rooms: London, 11, Bartlett's-bldgs., Holborn Circus, E.C.; Paris, 23, rue d'Hauteville.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Brawn, Thos., & Co., Art Metal Works, 64, Clement-st., Birmingham.

Buchan, H., 50, Oswald-st., Glasgow.

Burt, N., & Co., Ltd., 195, Wardour-st., London, W.

Cooke, J., & Son, Midland Davy Lamp Works, 203, Lawley-st., Birmingham.

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

Electroliers, Brackets & Pendants—*contd.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Drummond Co., Ltd., 17, South-st., Finsbury London, E.C.

DUGDILL, JOHN, & CO. (Movable), Failsworth, nr. Manchester.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

Evered & Co., Ltd., 27–35, Drury-lane, London, W.C.; Surrey Works, Smethwick; Barnet Works, Devonshire-st., Birmingham; & 33, Ann-st., Glasgow.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Halls, Charles Ellis, 74, St. George-st., London, E.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) Show-rooms: 30, Snow Hill, London, E.C. Works: Birmingham. *See advt., page* 386.

Hawksworth, Eyre & Co., Ltd., Rockingham-st., Sheffield; & 49, Holborn Viaduct, E.C.

Hinks, J., & Son, Ltd., Gt. Hampton-st., Birmingham.

JOYNER, CHARLES, & CO., LTD., Icknield-sq., Monument-rd., Birmingham. London office & show-room: 44, Farringdon-st., E.C.; Glasgow: 130, West Regent-st.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegrams: "Supports, Birmingham." Telephone No. 83, Handsworth.)

Laws & Son, 155–159, Rosebery-ave., E.C.

Lea, Son & Co., Pengwerne Works, Shrewsbury (Telegrams: "Lea Son, Shrewsbury." Telephone No. 60); & St. Mary's Walk, Stafford. (Telegrams: "Lea Son, Stafford." Telephone No. 93.)

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat., 3402 & 3403; Corp., 101 & 102.)

Marsh, Son & Co., Ltd., 15, Gerrard-st., London W. (Telegrams: "Voltmeters, London." Telephone No. 2414, Gerrard.) *See advt., page* 388.

Messenger & Sons, 19, Broad-st., Birmingham.

Electroliers, Brackets & Pendants—*contd.*

Oppenheim, William, 43, Farringdon-st., London, E.C.

OSLER, F. & C., LTD., 230, Broad-st., Birmingham; & 100, Oxford-st., London, W.

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless steel conduits. *See advt., page* 447.

Pontifex, S., & Co., 22, Coleman-st., London, E.C.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See advts., pages* 445 *&* 446.

Swanser & Lloyd, 52, Gt. Queen-st., London, W.C.

Taylor Bros., Cooksey-rd., Small Heath, Birmingham.

Thonet Brothers (bent wood), 68, Oxford-st., London, W.

Thursfield, C. J., & Co., 42, Clement-st. Parade, Birmingham; & 21A, Berners-st., Oxford-st., London, W. (Telegs.: "Electrolier, Birmingham;" "Thursfield, London." Teleph. Nos.: 05067, Birmingham; & 5409, Gerrard.)

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* Alphabetical Section.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* Alphabetical.

Electrolytic Carbons.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")

Electrolytic Meters.

Chamberlain & Hookham, Ltd., New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") *See advt., page* 490.

Electrotypers.

F.—Electrotypie.
G.—Galvaniseure.

Badoureau & Jones, Ltd., Poppins-ct., Fleet-st., E.C.

Brinkworth, W. H., Caledonian Works, Bell Barn-road, Birmingham.

Dellagana, B., & Co., Ltd., 11, Shoe-lane, E.C.

Dellagana, James, & Co., Turnagain-lane, Farringdon-st., E.C.

Leefe, F. E., 364, Goswell-rd., London, E.C. (Telegrams: "Leefregel, London." Telephone No. 1926, Central.)

Manning & Son, 26 & 28, Old-st., London, E.C.

Richardson, Koolman & Isger, St. Bride-st., E.C.

Sheldon, Melloy & Co., 280, High Holborn, W.C.

Sturtevant & Co., Ltd., St. John's Works, 90 & 92, Clerkenwell-rd., London, E.C. (removing March 31, 1907, to 105–111, Euston-st., N.W.). *See advt., page* 29.

Swain, John, & Son, Ltd., 57 & 58, Farringdon-st., E.C.; & 163A, Strand, W.C.

Watts, C. F., & Co., 8 & 9, Hosier-lane, E.C.; & 62, Neal-st., Long Acre, W.C.

Elevating & Conveying Machinery.

GIBBONS BROS., LTD., Dibdale Works, Dudley, Worcs. (Telegrams: "Gibbons, Lower Gornal." Telephone No. 10A); & 142 & 143, Palace-chbrs., Westminster, S.W. *See also* Alphabetical Entry. *See advt.* below.

Graham, Morton & Co. Head office: Carlton-chbrs., Albion-st., Leeds. Works: Hunslet, Leeds.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Emery, Emery Cloth, & Glass Paper Manufacturers.

F.—Emeri, toiles eméri et papiers de verre—Fab.
G.—Schmirgel, Schmirgelzeug u. Glaspapier—Fab.

Burton, C. W., Griffiths & Co., 1, 2 & 3, Ludgate-sq., Ludgate Hill, London, E.C.

Fordham, W. B., & Sons, Ltd., St. Pancras Works, 36–40, York-rd., King's Cross, N.

Goldsworthy, T., & Sons, Britannia Emery Mills, Hulme, Manchester.

Oakey, J., & Sons, Ltd., Wellington Mills, Westminster Bridge-rd., London, S.E.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., E.C.

ELEVATING & CONVEYING PLANT.

GIBBONS BROS., LTD.,

DUDLEY, WORCS.; & 142 & 143, PALACE CHAMBERS, WESTMINSTER, LONDON, S.W.

Emery Wheel & Machinery Makers.

F.—Roues et machines à emeri—Fab. de.
G.—Schmirgel Räder und Maschinen.

Canning, W., & Co., polishing lathes, leather & felt bobs, calico mops, rouge, tripoli & crocus composition, 133 to 137, Great Hampton-st.; 5 & 6, Great Hampton-row; 1 & 2, Kenyon-st., & 88, Snow Hill, Birmingham.

CHURCHILL, CHAS., & CO., LTD., 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 2, Charlotte-st., Mosley-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow.

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Walrus Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic address: "HIDES, MANCHESTER." Tel. No. 1544.)

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-street, Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Luke & Spencer, Ltd., Broadheath, nr. Manchester.

Mitchell's Emery Wheel Company, Mill-street, Bradford, Manchester.

Moser, West & Bateman, Ltd., 98, Leadenhall-st., London, E.C.; & East Greenwich.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., & Lambeth-hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 628.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Enamel for Insulating Purposes—Makers of.

F.—Vernis et compositions pour isoler—Fabr. de.
G.—Emaille für Isolir Zwecke—Fabrik von.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegrams: "Bolyanson, London." A.B.C. Code. Telephone Nos. 1 & 209, Battersea.)

Enamel for Insulating Purposes—Makers of—*continued.*

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

GRIFFITHS BROS. & CO., Mack's-rd., Bermondsey, London, S.E. Flat; Eggshell Flat; & highly glossy finishing enamels: "Vitros" for great heat. Sole makers of "Anti-Sulphuric" Enamel for acid-resisting, "Armacell" high insulating varnish; & "Ohmaline" Insulating Varnish. India Rubber Varnish: Flexible Shellac Insulating Varnish, &c. *See advt., page* 18.

Macpherson, Donald & Co., Ltd., makers of insulating enamel; all colours, dries in five minutes, Knott Mill, Manchester.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. (Telegrams: "Windsail, London." Telephone No. 5063, Central.)

Neville, Williams & Co., 11 & 13, Southwark-st., London, S.E.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C.

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Enamel & Paint Manufacturers.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegrams: "Bolyanson, London." A.B.C. Code. Telephone Nos. 1 & 209, Battersea.)

GRIFFITHS BROS. & CO., Macks-rd., Bermondsey, London, S.E. Sole makers of "Anti-Sulphuric" Enamel for coating wires, cables, &c., "Armour" fireproofing paint for cotton covering. "Driorol" Finishing Coat dries rapidly over greasy surfaces. *See advt., page* 18.

Enamelled Slate Manufacturers.

F.—Ardoise emaillé—Fab.
G.—Emaillirte Schiefer Fab.

Braby, E. & C., Bangor-wharf, Belvedere-rd., Lambeth, S.E. (Telegrams: "Marble, London." Telephone No. 825, Hop.)

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. No. 2475.) *See advt., page* 682.

Enamelled Slate Manufacturers—*contd.*

Hare, H., & Co., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 683.

JONES, INIGO, & CO., Tudor Slate Works, Groeslon, R.S.O., North Wales. *See advt., page* 682.

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt., page* 683.

Enamelled Tablets for Switchboards, &c.

Garnier & Co., 86, Farringdon-st., Ludgate Circus, London, E.C. (Telegrams: "Enduring, London." P.O. Telephone No. 547, Central.)

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Jordan, Frank, & Co., 15, George-st., Mansion House, London, E.C.

Scott & Hodgson, Ltd., Guide-bridge Ironworks, Guide Bridge, nr. Manchester.

Engine Makers—Automatic.

F.—Machines automatiques—Fabr. de.
G.—Automatische Maschinen.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Engine Makers—Compressed Air.

F.—Machines—Fabr. de—Air comprimé.
G.—Maschinenbauer—Comprimirte Luft.

BELLISS & MORCOM, LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Telephone Nos. 4480 & 4481.) *See advt., page* 529.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.

Schram & Co., Cannon-st. House, Cannon-st., E.C

Engine Makers—Gas.

F.—Moteurs à gaz—Fab. de.
G.—Maschinen—Fab. von—Gas.

Allison, H. Works: Sheepfolds, Sunderland.

Armstrong, Sir W. G., Whitworth & Co., Ltd., Elswick Works, Newcastle-on-Tyne. London office: 8, Great George-st., S.W.

Avens, F., & Co., Trusty Engine Works, Stroud, Glos.

Bilbie, Hobson & Co., 80, Queen Victoria-st., London, E.C.; & Deverell-st., Gt. Dover-st., S.E.

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Campbell Gas Engine Co., Ltd., 114, Tooley-st., London, S.E. (Telegrams: "Enginery, London." Telephone No. 2666, Hop.); & Kingston, Halifax. (Telegrams: "Camgas, Halifax." Telephone No. 92.)

Capel & Co., "Engine" Works, 168, Dalston-lane, London, N.E.

Crossley Bros., Ltd., Openshaw, Manchester.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" & "Paxman, London." Telephone No. 52, Colchester.) *See advt, page* 527.

Dudbridge Iron Works, Ltd., Stroud, Glos.

Ehrhardt & Sehmer, agents for United Kingdom, Key Engineering Co., Ltd., 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester.

Fielding & Platt, Ltd., Atlas Iron Works, Gloucester; & 118, Queen Victoria-st., London, E.C.

Furnival & Co., Ltd., Reddish Iron Works, Stockport.

Glover, W., & Sons, Ltd., 142, Moor-st., Birmingham.

Griffin Engineering Co., Kingston Iron Works, Oldfield Park, Bath.

Hornsby, R., & Sons, Ltd., Spittlegate Iron Works, Grantham & London.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

National Gas Engine Co., Ltd., 21, Bridge-st., Deansgate, Manchester; & Ashton-under-Lyne.

NEVILLE BROS., 7 & 9, James-st., Liverpool. (Telegs.: "Neville, Liverpool." Tel. No. 7159.)

Payne & Bates, Ltd., Great Heath, Foleshill, nr. Coventry.

Piercy & Co., 53-54, Broad-st., Birmingham.

Pollock, S., & Sons, Williamsburgh, Paisley.

Pollock, Whyte & Waddell, Johnstone, N.B.

"Premier" Gas Engine Co., Ltd., Sandiacre, nr. Nottingham.

Robson, John (the "Shipley"), Ives-st., Shipley.

Syrinx Gas Engine Co., Ltd., Stevenage, Herts.

Wolstenholme, John, Albert Works, Radcliffe, near Manchester.

Engine Makers—Hot Air.

F.—Machines—Fab. de—Air chaud.

G.—Maschinenbauer—Heisse Luft.

Norris & Henty, 87, Queen Victoria-st., London, E.C.

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F.—Machines—Fab. de—Petrole.

G.—Maschinenbauer—Petroleum.

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Capel & Co., "Engine Works," 168, Dalston-lane, London, N.E.

Cundall, Sons & Co., Ltd., Shipley.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" & "Paxman, London." Telephone No. 52, Colchester.) *See advt.* OPPOSITE.

Davies, G., & Co., Abergavenny.

Diesel Engine Co., Ltd., 179, Queen Victoria-st., E.C.

Farrow, Jas., & Sons, York-rd., King's Cross, London, N.

Hornsby, R., & Sons, Ltd., Spittlegate Iron Works, Grantham.

Mirrlees Watson Co., Ltd. (Diesel Oil Engine). Head offices & works: Scotland-st., Glasgow. London office: 158, Gresham House, Old Broad-st., E.C.

Neville Bros., 7 & 9, James-st., Liverpool. (Telegs.: "Neville, Liverpool." Teleph. No. 7159.)

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Soutar, G., Greyfriars Foundry, Elgin.

Stephenson, R., & Co., Ltd., Newcastle-on-Tyne.

STRAUS, G., & CO., LTD., 211, Upper Thames-st., London, E.C. (Telegrams: "Merriness, London." Telephone No. 5645, Bank.) Agents for "Fafnir" Engines.

Engine Makers (Steam)—Electrical Purposes.

(*See also* MOTORS.)

F.—Machines à Vapeur—Fab. de.

G.—Dampf-Maschinen—Fabr. für Elektr. Zwecke.

Adamson, Daniel, & Co., Engineering Works, Dukinfield, near Manchester.

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Barclay, Andrew, Sons & Co., Ltd., Caledonia Works, Kilmarnock.

Beardmore, Wm., & Co., Ltd., Naval Construction Works, Dalmuir, N.B.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 529.

Browett, Lindley & Co., Ltd., Sandon Engine Works, Patricroft, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Central Marine Engine Works, West Hartlepool.

Charlesworth, S., & Co., Oldham, Lancs. (Telegrams: "Charlesworth, engineers, Oldham." Telephone No. 63.)

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Clayton & Shuttleworth, Ltd., Stamp End Iron Works, Lincoln.

Cole, Marchent & Morley, Ltd., Prospect Foundry, Bradford.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt.* OPPOSITE.

Davy Bros., Ltd., Park Iron Works, Sheffield.

Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.

Fowler, J., & Co. (Leeds), Ltd., 6, Lombard-st., London, E.C.; & Hunslet, Leeds.

Fullerton, Hodgart & Barclay, Ltd., Paisley.

Galloways, Ltd., Knott Mill Iron Works; & Branch Iron Works, Ardwick, Manchester. London office: 17, Philpot-lane, E.C.

GREENWOOD & BATLEY, LIMITED, Albion Works, Leeds; & 16, Great George-st., Westminster, London, S.W. (Telegs.: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Heenan & Froude, Newton Heath Iron Works, Manchester.

Hick, Hargreaves & Co., Ltd., Soho Iron Works, Bolton, Lancashire.

Howard, J. & F., Britannia Iron Works, Bedford.

McLaren, J. & H., Midland Engine Works, Leeds.

Mather, G. R., & Son, Wellingborough.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

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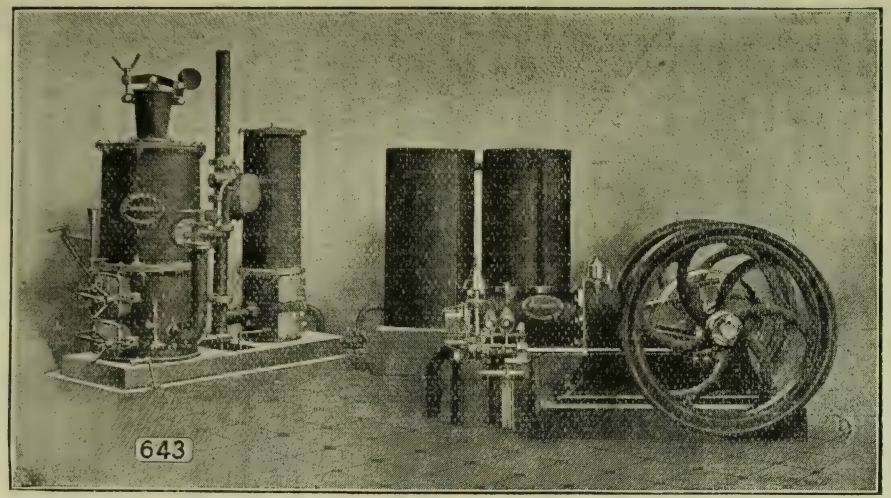

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SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.
Shanks, Alexander, & Son, Ltd., Bush-lane House, Bush-lane, Cannon-st., London, E.C.
Simpson, Strickland & Co., Ltd., Dartmouth & Teddington.
SISSON, W., & CO., LTD., Gloucester. (Telegs.: "Sisson, Gloucester." Teleph. No. 57.)
Stewart, D., & Co. (1902), Ltd., London-rd. Iron Works, Glasgow.
Thwaites Bros., Ltd., Vulcan Iron Works, Bradford.
Turner, S., Shiplake, Henley.
Turner, E. R. & F., Ltd., Ipswich.
Vernon & Guest, Alma Works, Soho, near Birmingham.
Wallis & Steevens, Ltd., Basingstoke, Hants.
Watford Engineering Works, Watford.
Whitaker, C., & Co., Canal-rd., Bradford.
Wood, J. & E., Victoria Foundry, Bolton.
Woodhouse & Mitchell, Ltd., Brighouse, Yorks.

Engine Makers (Steam)—High Speed.

F.—Machines à grand vitesse—Fabr. de.
G.—Dampfmaschinen—Fab.—Grosse Schnelligkeit.

Alley & MacLellan, Ltd., Sentinel Works, Polmadie-rd., Glasgow.
Anderston Foundry Co., Ltd., 100, Cheapside, Glasgow.
Ashworth & Parker, Bury, Lancs.
Bailie, J. D., Messrs. C. A. Parsons & Co., Peacocks-bldgs., Park-row, Leeds. (Telegrams: "Turbo, Leeds." Telephone No. 1194.)
BELLISS & MORCOM, LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Telephone Nos. 4480 & 4481.) *See advt.* OPPOSITE.
Brotherhood, Peter, 15 & 17, Belvedere-rd., London, S.E.
BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.
Buckley & Taylor, Ltd., Castle Ironworks, Oldham.
Bumsted & Chandler, Cannock Chase Engine Works, Hednesford.
Chapman & Furneaux, Gateshead-on-Tyne.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.
Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.

Engine Makers (Steam)—High Speed—*continued.*

Gwynnes, Ltd., 81, Cannon-st., London, E.C.
Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)
Howden, Jas., & Co., Scotland-st., Glasgow.
Marshall, Sons, & Co., Ltd., Britannia Iron Works, Gainsborough.
Muir, R. W., 97, St. James's-road, Glasgow.
Murray, Angus, & Sons, Craigton Engineering Works, Glasgow.
Prest, S. F., 2, Suffolk-lane, London, E.C.
Ransomes, Sims & Jeffries, Ltd., Orwell Works, Ipswich; & 9, Gracechurch-st., London, E.C.
Ruston, Proctor & Co., Ltd., Sheaf Iron Works, Lincoln; & 46, Queen Victoria-st., London, E.C.
SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.
SISSON, W., & CO., LTD., Gloucester. (Telegrams: "Sisson, Gloucester." Telephone No. 57.)
Willans & Robinson, Ltd., Victoria Works, Rugby; & Queensferry, Chester.

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Atkinson, Llewelyn B., A.M.I.C.E., M.I.E.E., 30, Veronica-rd., Upper Tooting, London, S.W.
Barclay, J., M.I.C.E., District Council, Town Hall, Chiswick, London, W.
Bigley, T. M., 19, Castle-st., Liverpool.
Blundell, H., Cheshire Lines Railway, Central Station, Liverpool.
Brodie, J. A., WH.SC., M.I.C.E., M.I.M.E., Liverpool.
Capper, D. S., M.A., M.I.C.E., M.I.M.E., M.I.E.E., King's College, Strand, London, W.C.; & 17, Victoria-st., S.W.
Collet, C., 51, South John-st., Liverpool.
Cort, R., & Son, 21, Lower Bland-st., Great Dover-st., S.E.
Crosland, J. F. L., M.I.C.E., M.I.M.E., M.I.E.E., Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester.
Dickinson, Alfred, & Co., Central House, New-st., Birmingham.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
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Ford-Moore & Sutton, 28, Warwick-rd., Ealing.
Goad, Chas. E., jun., A.I.E.E., 53, New Broad-st., London, E.C.
Hall, J., M.I.C.E., Cheltenham.
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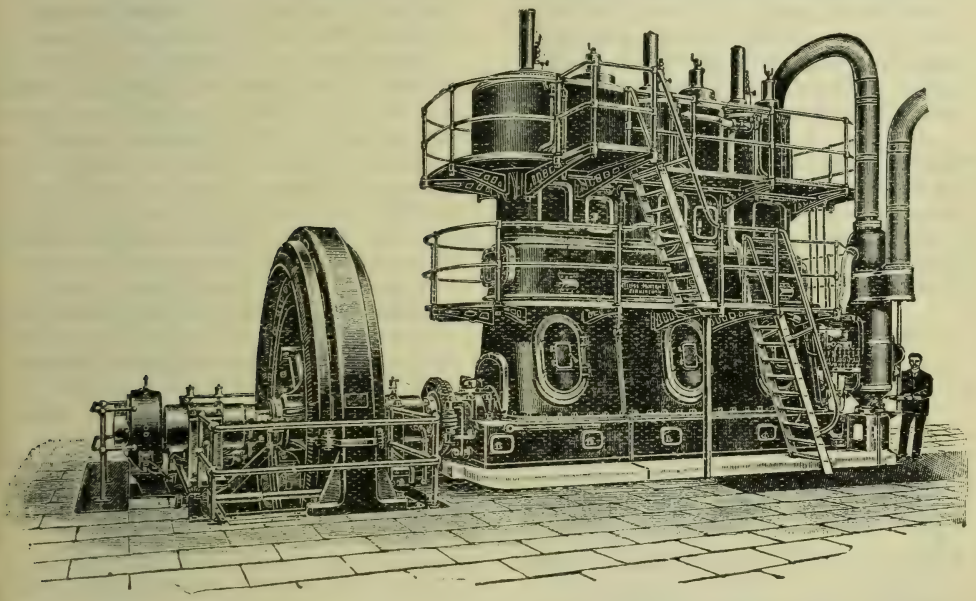

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Lea, Henry, & Son, 38, Bennett's Hill, Birmingham. (Telegrams: "Engineer, Birmingham." Telephone No. 113.)
Lobley, Joseph, M.I.C.E., Hanley.
Macnee & Co., 3, Victoria-st., London, S.W.
Mason, W. F., Ltd., Mona Works, Levenshulme, Manchester.
Matthews, Thomas, M.I.C.E., Trinity House, London, E.C.
Meares, J. L. D., C.E., Bessbrook & Newry Tramway Co., Bessbrook, co. Armagh.
Mott, Basil, A.R.S.M., M.I.C.E., Central London Railway, 2, Queen-sq.-pl., Queen Anne's Mansions, London, S.W.
Reade, Jackson & Parry, 26, Bedford-row, W.C.
Shepherd & Watney, Greek-st.-chbrs., Leeds.
Siddalls, J., Town Hall, Tiverton.
Stanger, R. H. Harry, Testing Works & Chemical Laboratories, 2, Broadway, Westminster, S.W.
Thwaite, B. H., A.M.I.C.E., 29, Great George-st., S.W.
Vickers, T., C.E., 10, Montgomery Mount, Nether Edge, Sheffield.
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Addie, R., Norfolk House, Laurence Pountney Hill, E.C.
Aldridge & Ranken, 9, Victoria-st., Westminster, S.W.
Allan, G., & Co., 2, Broad-st.-pl., London, E.C.
Allpress, Vincent S., M.I.C.E., M.I.E.E., 25, Queen Anne's-gate, Westminster.
Atkinson, C. W., 2, Queen Anne's-gate, S.W.
Aubert, Wm., jun., 16 & 18, Harp-alley, St. Bride's-st., London, E.C.
Ault, E., 47, Victoria-st., S.W.
Baker, Sir B., K.C.B., K.C.M.G., F.R.S., M.I.E.E., 2, Queen-sq.-pl, Westminster, S.W.
Baker & Shelford, 35A, Great George-st., London, S.W.
Barr, Archibald, D.SC., M.I.C.E., The University, Glasgow. Office: Caxton-st., Anniesland, Glasgow.
Baughan, A. H., A.M.I.E.E., 8–10, London-st., Reading.
Beaumont, W. Worby, M.I.C.E., M.I.E.E., Outer Temple, 222, Strand, London, W.C.
Beck, W. H., & Co., 115, Cannon-st., London, E.C. (Teleph. No. 1519, Central.)
Beechey & Keizer, 30, South Castle-st., Liverpool.
Belsham, Maurice (Price & Belsham), 52, Queen Victoria-st., London, E.C.
Belshaw, T. O., 53, Victoria-st., Westminster, London, S.W.
Benton, W. J., A.M.I.E.E., 1, Chestnut-ave., Hyde Park, Leeds.
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Blundstone, S. R., 3, Ludgate Circus-bldgs., London, E.C.
Bourne, F., M.AM.I.E.E., 62, London Wall, E.C.
Bowker, Wm. R., 19, Huxley-ave., Cheetham, Manchester.
Bowles, E. Wingfield, 28, Victoria-st., London, S.W.
Boyle, Robert, & Son, 64, Holborn Viaduct, London, E.C.
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Brewster, E. H. G., A.M.I.C.E., M.I.M.E., 12, Dartmouth-st., Queen Anne's-gate, Westminster, London, S.W.
Brookes, Wm., & Son, 55 & 56, Chancery-lane, London, W.C.
Brown, J., jun., Mercantile-chbrs., Quayside, Newcastle.
Bruce, Duff, & Co., 17, Victoria-st., London, S.W.
Burstall & Monkhouse, 14, Old Queen-st., London, S.W.
Button, F. S., Inglewood, Scott Park, Burnley, Lancs.
Caiger, H. J., 51, Lime-street, London, E.C.
Camps, H. E. J., & Co., 6, Crosby-sq., London, E.C.
Capper, D. S., M.A., M.I.C.E., M.I.M.E., M.I.E.E. King's College, Strand, London, W.C.; & 17, Victoria-st., S.W.
Carter, W. C., M.I.N.A., A.M.I.C.E., 23, Great St. Helens, London, E.C.
Causer, W., M.I.M.E., 48, St. Paul's-sq., Birmingham.
Cawley, G., 25, Victoria-st., Westminster, London, S.W.
Charlesworth, S., Werneth, Oldham.
Chatwood, A. B., B.SC., A.M.I.C.E., M.I.E.E., M.I.MECH.E., 12, Exchange-st., Manchester; & Prudential-bldgs., Bolton.
Clerk, D., 18, Southampton-bldgs., Strand, London, W.C.
Cole, Henry A. B., 50, Lime-st., London, E.C.
Coode, Son & Matthews, 9, Victoria-street, London, S.W.
Cozens-Hardy, E. H., M.I.E.E., A.M.I.M.E., c/o O'Gorman & Cozens-Hardy, 82, Victoria-st., S.W.
Dashwood, E. S., Eden Cottage, Whitcabbey, Belfast.

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Ballington & Clarke, 48, South Mall, Cork.
Bamford, G., 266, Wellington-rd. S., Stockport.
Banks, O. T., & Co., 49, Mortimer-st., Cavendish-sq., W.
Bannister, W. W., & Co., Crawley, Sussex.
Barber, A. E., A.M.I.E.E., Illston, Bisterne-ave., Walthamstow.
Barber, H. S., 41, Bridge-st., Hereford.
Barber, J. G., Royce, Ltd., 9, Shirley-rd., Acock's Green, Birmingham.
Barber, J. W., G.P.O., Market-pl., Hull.
Barclay, W. J., & Co., 26, Museum-st., Ipswich.
Barfield, E. P., A.M.I.E.E., "Strathallan," Clarence-rd., Wood Green, N.
Barker, R. C., C.I.E., M.I.E.E., c/o Lieut.-Col. S. Moores, 8, Redcliffe-gdns., Clarendon-rd., Southsea.
Barker, W., Derby-st., Preston.
Barker, John, & Co., Ltd., 52, 54, 56, 58 & 60, Kensington High-st., W.
Barlow, H. B., Caxton Hall, Chapel-st., Salford, Manchester.
Barlow, H. D., 237, Shaftesbury-ave., W.C.
Barlow Bros. & Co., 237, Shaftesbury-ave., W.C.
Barlow & Young, 8, London-st., E.C.
Barnaby, Wm. F., 16, Lindum-ter., Doncaster-rd., Rotherham.
Barnes, D. J., A.M.I.E.E., 17, Wolstenbury-rd., Hove, Sussex.
Barnes, John S., A.M.I.E.E., 9, North-ter., Ferry Hill, nr. Durham.
Barnes, S. E., A.I.E.E., Great Grimsby Tramways Co., Pelham-rd., Cleethorpes.
Barnes, F., & Son, 81½, Gt. Hampton-row, Birmingham.
Barnet & Soans, Station-st., Burton-on-Trent.
Barnett, H. T., M.I.E.E., 7, Teddington Park-rd., Teddington.
Barnsley Boiler & Eng. Co., Ltd., Summer-lane Works, Barnsley.
Baron, W. H., 4, Wesley-ave., Plymouth.
Barr, M., M.I.E.E., Temple Bar House, Fleet-st., E.C.
Bartlett, Wm., 211, Prescot-rd., Fairfield, Liverpool.
Barton, W. E., Corporation Electricity Works, Aylestone, Leicester.
Bastian, C. Orme, M.I.E.E., Bartholomew Works, Kentish Town, N.W.
Bastick, J., 40, Chestnut-st., Southport, Lancs.
Bate, Douglas C., A.M.I.C.E., "Elvaston," Wylde Green, nr. Birmingham.
Bates, Darwin, M.I.E.E., British Insulated & Helsby Cables, Ltd., Prescot, Lancashire.
Batstone, S. C., 24, Holborn, E.C.
Baxter, A. H., 37, Millicent-rd., West Bridgeford, Nottingham.
Baxter, W. A., 54, Dudley-st., Birmingham.
Baxter & Impey, 54, Dudley-st., Birmingham.
Bayley, J., Carville Power Station, Wallsend-on-Tyne.

Engineers—Electrical—*continued.*

Beadle, A. A., A.I.E.E., F.C.S., "Greenheys," Barnet.
Beale, B. R., M.I.E.E., 82, Victoria-st., London, S.W.
Beales, M., Bruce Peebles & Co., Ltd., 1, London Wall-bldgs., E.C.
Beam Co., 55, Barbican, E.C.
Beard, H., & Co., Duke-st., Richmond.
Beaumont, F. J., M.R.I., A.I.E.E., 21, Albany-rd., Stroud Green, London, N.
Beaven & Sons, Ltd., County-bldgs., Westgate-st., Gloucester.
Bedell, B. H., "G. B." Surface Contact Co., Hamilton House, Bishopsgate-st. Without, E.C.
Bedford & Co., 41, St. Mary-st., Cardiff.
Bedford, W. H., & Sons, 28, St. George's-rd., Brighton.
Beeton, S., M.I.E.E., 58, Gloucester-ter., Hyde Park, W.
Beevor, S. F., A.I.E.E., 93, Westbourne-ter., W.
Beith, A., Electrical Department, Buckingham Palace, London, S.W.
Bell, R. G., 27, Mosley-st., Newcastle-on-Tyne.
Bell, Stuart, A.M.I.E.E. (Siemens Bros. & Co., Ltd.), 163, Hope-st., Glasgow.
Bell, S., 15, Linden-st., Andover.
Bellamy, Alfred R., c/o J. E. H. Andrew & Co., Ltd., Reddish, Stockport.
BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.
Belshaw & Co., 53, Victoria-st., S.W. Works: Chapel-pl., S.W. Stores: 20, Horace-st., Edgware-rd., W.
Benham & Sons, Ltd., Wigmore Engineering Works, 66, Wigmore-st., London, W.
Bennett, A. R., M.I.E.E., Queen Anne's-chbrs., Broadway, Westminster, S.W.
Bennett, F. F., 2, Chatham-grove, Withington, Manchester.
Bennett, M. H., A.M.I.E.E., T. L. Scott & Co., 3, London Wall-bldgs., E.C.
Bennett, P. M., c/o Callender's Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C.
Bentham, John, New Sharlston Collieries, nr. Normanton, Yorks.
Benton, Arthur, Shaftesbury-road, Romford.
Benton, L. C., A.I.E.E., 578, Chester-rd., Old Trafford, Manchester.
Berend, O., 132, Wool Exchange, E.C.
Bergtheil, A., M.I.E.E., 12, Camomile-st., Bishopsgate, E.C.
Bergtheil & Young, Ltd., 12, Camomile-st., Bishopsgate-st., E.C.
Berry, J., Woodcock's-ct., Fishergate, Preston.
Bertgues, L., 5, Waterford-rd., Fulham, S.W.
Bertin, Ph., A.M.I.E.E., 23 & 25, North-st., King's Cross, N.
Best, W., I. R., G. P. & Telegraph Works Co., Ltd., Silvertown, London, E.; 2 & 4, Royal Exchange-sq., Glasgow; & Greenock.

Engineers—Electrical—*continued.*

Bevis, H., M.I.E.E., 71, Queen Victoria-st., E.C.
Bhone, G. W., 10, Temple-st., Brighton.
Bill, S. H., Mersey Docks & Harbour Board, Liverpool.
Birket, F., & Sons, Cleckheaton.
Birmingham Installation Co., Coleshill-st. Electrical Works, Birmingham.
Bishop, Howard W., 15, College-rd., Moseley, Birmingham.
Bist, Alfred, & Co., Ltd., 18, Tib-st., Manchester.
Black, J. W., M.I.E.E., 108A, West Regent-st., Glasgow.
Blackburn, A. A., A.M.I.E.E., City Tramways, Sandy-row, Belfast.
Blackburn, G. R., A.M.I.C.E., A.M.I.E.E., Tramways Department, Manchester.
Blackett, J. F., Walker Gate Brass Works, Newcastle-on-Tyne.
Blackpool Engineering Works, Ltd., New-rd., Blackpool.
BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)
Blake, F. C., Motor Works, Station-ave., Kew Gardens, S.W.
Blake, H. E., 40, Streatham-pl., Streatham Hill, S.W.
Blake, H. N., 28, High-st., Birmingham.
Blenheim, W., & Co., Egham, Surrey.
Blenkarn, W., 11, Queen Victoria-st., E.C.
Blight, John, jun., 1, Frobisher-ter., Falmouth.
Blomfield & Co., St. Botolph's-corner, Colchester.
Bock, J. K., A.M.I.E.E., Finsbury Pavement House, Finsbury Pavement, E.C.
Bolton, E., 8, Alan-rd., Withington, Manchester.
Bond, Walter G. A., A.I.E.E., British Electric Traction Co., Donington House, Norfolk-st., Strand, London, W.C.
Booth, G. C., 28, Silver-st., Whitby.
Booth, Robert, 110, Cannon-st., London, E.C.
Boothroyd, H. T., Hyslop & Co., Akenside-st., Bootle, Lancs.
Bostel Bros., 18 & 19, Duke-st., Brighton.
Botham, A., 47, Romilly-road, Finsbury-park, N.
Botley, C. F., A.M.I.C.E., Hastings.
Botting, C., West-st., Maidenhead.
Bottone & Son, Wallington, Surrey.
Bowden, H. W., M.I.E.E., M.I.C.E., 3, Amersham-rd., Putney Hill, S.W.
Bowden, J. R. J., Hackney Borough Council Electricity Works, Millfields-rd., Clapton, N.E.
BOWDEN, G. HARLAND, & CO., Royal London-bldgs., 196, Deansgate, Manchester; Baltic-chbrs., 50, Wellington-st., Glasgow; 2, Laurence Pountney Hill, Cannon-st., London, E.C.; & at Dundee & Cardiff.
Bowell, G. B., 5, Palmer-st., Westminster, S.W.
Bowen, T. W., Mill-st., Kidderminster.
Bowen, W. F., "Stonwall," Blackburn-rd., Bolton.
Bowers & Barr, Regent-st., Great Yarmouth.

Engineers—Electrical—*continued.*

Bowlan, H. H., Corporation Mains Department, Junction Stores, Eastbourne.
Bowthorpe, H., 51, Wolfington-rd., West Norwood, S.E.
Boxell, F., 82, Gloucester-rd., Brighton.
Boyle, B. P., British Thomson-Houston Co., Ltd., 9, Donegall-sq., Belfast.
Boyle, R. Vicars, C.S.I., M.I.C.E., M.I.E.E., 3, Stanhope-ter., Hyde Park, W.
Braby, Ivon, M.I.E.E., Helena, Alan-rd., Wimbledon.
Bradburne, E. S., Avenham College-rd., Buxton.
Bradbury Bros., 108, High-st., Croydon.
Braddon, C. D., A.M.I.E.E., Ryecraft House, Cheetham Hill, Manchester.
Bradford, F., A.M.I.E.E., Kingsholm, Wolveleighter., Gosforth, Newcastle-on-Tyne.
Brain, Frank, A.M.I.C.E., Trafalgar House, Drybrook, Gloucester.
Brantingham Bros., 3, Toward-rd., Sunderland.
Brash, J., A.I.E.E., 93, Hope-st., Glasgow.
Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.
Brecknell, Munro & Rogers, Ltd., Thrissell-st., & Jacob-st., Bristol.
Breese, A., 75, Aldermanbury, London, E.C.
Bremner, D. A., M.I.E.E., Crown-bldgs., Crown-ct., Old Broad-st., E.C.
Brereton, C. A., 21, Delahay-st., London, S.W.
Brewer, P. J., 20, Queen Anne-st., Cavendish-sq., W.
Brewer & Brunt, Hoylake, Cheshire.
Bridgwater, F., & Co., 78 & 80, York-rd., & Crinan-st., York-rd., King's Cross, N.
Bridlington Electrical Engineering Co., Ltd., 30, Chapel-st., Bridlington.
Brigg, H. M., B.A., A.M.I.E.E., Bodalaw, Llandudno.
Bright, Charles, F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., 21, Old Queen-st., Westminster, S.W.
Bright, C., M.I.E.E., 11, Queen Victoria-st., London, E.C.
Bright, Stanley, M.I.E.E., Tilbury Dock, Essex.
Brind, Gillingham & Co., Ltd., Abingdon, Berks.
Briscoe, C. T., Simmons-st., Blackburn.
Bristow, E. J., M.I.E.E., 1, Copthall-bldgs., E.C.
British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central) *See advt., page* 648.
British Electric & Telephone Co., Queen Anne's-chbrs., Westminster, S.W.
British Electric Transformer Co., Ltd. Works & offices: Hayes, Middlesex.
BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Engineers—Electrical—*continued.*

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

Brittle, J. R., M.I.C.E., F.R.S.E., Farad Villa, Vanbrugh Hill, Blackheath, London, S.E.

Broadbent, Denis Ripley, A.M.I.E.E., A.M.I.MIN.E., A.M.I.MAR.E., Royal Societies Club, 63, St. James-st., S.W.

Broadbent, J. E., Col. R.E., C.B., M.I.E.E., Fynesbury, Reading.

Broadbent, T. W., East-parade, Huddersfield.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Broekman, L., Standard-bldgs., City-sq., Leeds.

Bromley, Batstone & Kirk, 6, Churchfield-rd., Acton, W.

Brook, A. B., A.M.I.E.E., Carlton Range, Hyde-rd., Gorton.

Brook, E., Ltd., Colne-rd., Huddersfield.

Brooking, A. J., 69, Longbrook-st., Exeter.

Broom, G. H., A.I.E.E., The Technical College, Huddersfield.

Browett, Thos., M.I.MECH.E., M.I.E.E., Diesel Engine Co., Ltd., 179, Queen Victoria-st., London, E.C.

Brown, A. G., 23, King-st. West, Manchester.

Brown, E. Eugene, c/o J. H. Holmes & Co., Portland-rd., Newcastle-upon-Tyne.

Brown, F., M.I.E.E., Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall.

Brown, F. G., 42, North-st., Rushden R.S.O., Northants.

Brown, H. G., 75, The Avenue, Ealing.

Brown, H. W., 9, Seaview-ter., Plymouth.

Brown, Wm., 29, Whetstone Park, Lincoln's Inn Fields, London, W.C.

Brown, W. Calder, electrical engineer, 7, Ebury-st., Grosvenor-gdns., Westminster, S.W.

Brown, Boveri & Co., Ltd., Caxton House, Westminster, S.W.

Brown Bros. & Co., Ltd., Rosebank Iron Works, Edinburgh.

Brown & Green, Windsor-st., Luton.

Brown & Parsons, 63, Parade, Leamington.

Brown & Ward, 34, Hockley-st., Birmingham.

Browning, J. J. McI., 8, Harold-st., Camberwell.

Brunton, S. L., A.M.I.C.E., M.I.E.E., British Westinghouse Co., Ltd., Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Bryant, E. G., Delphi-chbrs., Old Christchurch-rd., Bournemouth.

Bryant & Sons, 58, Regent-st., Weston-super-Mare.

Engineers—Electrical—*continued.*

Buchanan & Curwen, 64, Victoria-st., S.W.

Buck, Morton W., Newcastle-upon-Tyne Electric Supply Co., Ltd., Royal Exchange-bldgs., Newcastle-on-Tyne.

Buckland, W. A., 63, Westover-st., Wandsworth Common, S.W.

Bucknall, W. G., 121, Mount Pleasant, Liverpool.

Budd, F., c/o Messrs. Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate, London, S.W.

Bulloch, W. M., 20, Calton-ter., Farsley, nr. Leeds.

Bulmer, A. E., 42, Cavendish-pl., Newcastle-on-Tyne.

Bumpus, B. E., Dick, Kerr & Co., Ltd., Abchurch Yard, Cannon-st., E.C.

Bunny & Osborn, 4–6, York-rd., Welford-rd., Leicester.

Burdett, H. J., Electra House, Regent-st., Rugby.

Burroughes, W. J., & Sons, 143, Queen Victoria-st., E.C.

Burthem, H., 163, Liverpool-rd., Warrington.

Burton, A., 6, Beach-rd., Penarth.

Butler, J. B., A.I.E.E., c/o J. Butler, Alexandra Mill, Bolton.

Butler Bros., Normanton-rd., Derby.

Byng, Gustav, M.I.E.E., 71, Queen Victoria-st., London, E.C.

Byng, Max, M.I.E.E., 71, Queen Victoria-st., E.C.

Bytheway, P. C., Engineering Dept., General Post Office, Glasgow.

Cairns & Co., 91, Queen Victoria-st., E.C.

Calder, Lindsay & Co., 84, Newington Causeway, S.E.

Calisch, L., 12, Pembridge-gdns., Bayswater, W.

Callender, R. W., Western Telephone Exchange, London, S.W.

Callender, T. O., M.I.E.E., Hamilton House, Victoria Embankment, E.C.

Callow, D. J., A.M.I.E.E., 51, North John-st., Liverpool.

Calvert & Heald, 13, Market-st., Lancaster.

Campbell, Archd., A.M.I.E.E., 27, Chancery-lane, London, W.C.

Campbell, J., Fountain House, Pitlochry, N.B.

Campbell, R. M., M.I.M.E., A.M.I.E.E., 19, Kleaave., Clapham Common, S.W.

Campbell & Isherwood, Raleigh-st., Bootle, Liverpool.

Candler, Geo., & Son, 258A, Brixton Hill, London, S.W.

Cannell, Charles, 83, Mill Hill-rd., Norwich.

Cant, B. C. C., Wayland Electric Works, 154, Sandringham-rd, Dalston, London, N.E.

Cardew, Philip, Major, R.E., 8, Queen Anne's-gate, Westminster, S.W.

Carey, M. F., Auckland Electric Tramways Co., Ltd., Donington House, Norfolk-st., London, W.C.

Carey, R. B., 27, Charles-st., Cardiff.

Carling, Gill & Carling, Ltd., 59 & 60, High-st., Guildford.

Carlyle Bros. & Gumbrell, 52, Corporation-st., Manchester.

Engineers—Electrical—*continued.*

Carnegie, A. Q., 31, Manor House-rd., Newcastle-on-Tyne.
Carpenter & Mayfield, Ilkeston.
Carr, G. E., 46, Goldspink-lane, Newcastle-on-Tyne.
Carr, O., Headingley, Leeds.
Carr, W. T., engineer to the Crystal Palace Co., Sydenham, London, S.E.
Carter, Wm. G., A.I.E.E., 9, Warwick-st., South Belgrave, S.W.
Cash, H. J., & Co., Ltd., Caxton House, Tothill-st., Westminster, S.W.
Casperd, H. A., & Co., 18, Selsdon-rd., Croydon.
Casson, S. H., c/o Royce, Ltd., Glasgow.
Casson, Wm., A.M.I.E.E., Underground Electric Railways Co., Lots-rd., Chelsea, S.W.
Cathcart, C. H., & Co., 3, Dorset-bldgs., Salisbury-square, Fleet-st., E.C. (Telegs.: "Coefficient, London." Tel. No. 5081, Holborn.)
Central Electrical Co., Ltd., Victoria-st., Great Grimsby.
Chambers, G. K., British Westinghouse Co., Central House, New-st., Birmingham.
Champion, A., London County Council's Electrical Dept., 42, Cranbourne-st., Leicester-sq., W.
Champness, T., 63 & 63A, Cannon-st., London, E.C.
Chancellor & Peterkin, 30, Frederick-st., Edinburgh.
Channon, A. S., Corp. Elec. Works, Grimsby.
Channon, H. C., M.I.E.E., Greystead, Grove Hill, Woodford, Essex.
Chapman, A. B., Corder-rd., Ipswich.
Chapman, H., Thos. A. Ashton, Ltd., 36, Norfolk-st., Sheffield.
Chapman, J. R., 25, Hamilton House, Victoria Embankment, E.C.
Chapman, J. W., 13, Woodside Park, Gap-rd., Wimbledon, S.W.
Chapple, T., St. Leonards-rd., Southend.
Chard & Co., 8, Gt. Portland-st., Oxford-st., W.
Charrington, Edmund, A.M.I.C.E., 63, Queen Victoria-st., E.C.
Charters, J., 261, West George-st., Glasgow.
Cheeld & Co., Chesham, Bucks.
Cheetham, G., M.I.E.E., Northern District Postal Telegraphs, Belfast.
Chester, J. E., Central Secondary School, Sheffield.
Chesters, T., & Son, Ltd., 17, Dean-st., Waterloo, Lancs.
Chew, William, M.I.E.E., Trafalgar House, Lytham-rd., Blackpool.
Chisholm, G. S., Siemens Bros. Dynamo Works, Ltd., Manchester.
Chorley, I. J., & Co., Cardiff.
Christie, Reginald, Woodside, Tynemouth.
CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegrams: "Engineering, Chelmsford." Telephone No. 8.)
Churchill, Arthur, British Thomson-Houston Co., Ltd., Rugby.
City Electrical Co., 5, Tottenham-st., W.

Engineers—Electrical—*continued.*

Claremont, E. A., M.I.E.E., man. dir. W. T. Glover & Co., Ltd., Manchester.
Clark, C., 2, Moorgate, Retford.
Clark & Co., 22, Cheapside, Spennymoor, co. Durham.
Clark, R., & Co., 22, Cheapside, Spennymoor.
Clarke, T. J., Havelock Works, Leicester.
Clarke, W. E., *Daily News*, Bouverie-st., E.C.
Clarke, A., & Co., 274, Cooksey-rd., Birmingham.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
Clarke, J. F., & Sons, 49, Moorgate-st., London, E.C.
Clarke, T., & Co., 129, Sloane-st., London, S.W.
Clarkson Bros., Ltd., 8 & 12, Little Hamilton-st., Glasgow.
Clatworthy, W. A., c/o J. H. Holmes & Co., Newcastle-on-Tyne.
Clay, C. B., M.I.E.E., Salisbury House, London Wall, E.C.
Clay, R. C., A.I.E.E., c/o E. Wingfield Bowles, 28, Victoria-st., London, S.W.
Clay Bros. & Co., Western Mail-chbrs., Cardiff.
Clayton, F., & Co., 53, Old Dover-rd., Blackheath, S.E.
Clifford, A., A.M.I.E.E., Electricity Department, Nottingham.
Clift, E. Hollocoombe, 51, Sinclair-rd., West Kensington, London, W.
Clinker, R. C., 257, Clifton-rd., Rugby.
Clirehugh, S. V., M.I.C.E., M.I.E.E., Mansion House-bldgs., 4, Queen Victoria-st., E.C.
Clive & Co., Mill-st., Sutton Coldfield.
Close, A. F., Ushers Quay, Dublin.
Clough, F. H., A.I.E.E., A.M.I.C.E., British Thomson-Houston Co., Ltd., Rugby.
Coates, H. J., A.M.I.E.E., c/o General Electric Co., Ltd., Peel Works, Adelphi, Salford, Manchester.
Coates, J. F., 18, Hebrew-rd., Burnley.
Coates, Wm., & Son, Ltd., Fountain-st., Belfast; & 5, Leinster-st., Dublin.
Cockburn, A. C., M.I.E.E., F.C.S., The Grange, Otley, nr. Ipswich; & 156, Willesden-lane, N.W.
Cockburn, G. E., 35, Great Pulteney-st., W.
Cocks, J. M., 231, Elgin-ave., Maida Vale, W.
Cole, F. G., M.I.E.E., 28, Tivoli-rd., Crouch End, N.
Coleman, A., M.I.E.E., National Telephone Co., Ltd., Telephone-bldgs., 19, Newhall-st., Birmingham.
Coleman, Arthur C., Clifton House, Forest Hall, Northumberland.
Coles Bros., High-st., Margate.
Collard, F. B., c/o Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C.
Collier, J., & Co., King-st. West, Manchester.
Collings, W. A., Siemens Bros., York Mansions, Westminster, S.W.
Collins Bros., 35, Montpelier Vale, Blackheath, S.E.

Engineers—Electrical—*continued.*

Collins & Co., 31, Whittall-st., Birmingham.
Collins & Price, 28, Market-st., Hoylake, Liverpool.
Collinson Bros., 3, Millergate, Bradford.
Collis, A. B., West Quay Ironworks, Southampton.
Collis, F. J., Accumulator Industries, Ltd., Woking.
Collis, W. H., M.I.E.E., Corporation Electric Supply Department, Liverpool.
Collis & Co., West Quay Ironworks, Southampton.
Colton, C. S., c/o British Westinghouse Co., Norfolk-st., W.C.
Concentric & General Contract Co., 52, Queen Victoria-st., E.C.
Connett, A. N., M.I.C.E., M.I.E.E., J. G. White & Co., 9, Cloak-lane, Cannon-st., E.C.
Connolly, James, M.I.E.E., c/o Connolly Bros., Ltd., Blackley, Manchester.
Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.
Consolidated Accessories Co., Craven House, Kingsway, W.C.
Constantine, C., 90 & 92, Fargate, Sheffield.
Cook, W. G. R., 29, Clarendon-rd., Redhill.
Cooke, C. J., 8, Grange-ter., Station-rd., Wood Green, N.
Cooke, F. W., M.I.E.E., Great Northern Railway, Retford.
Cooke, W., & Co., Queen-st. Arcade, Cardiff.
Coombs, A. M., A.M.I.E.E., 6, Oakhill-rd., Surbiton Hill.
Cooney, F. G., 130, Stephen's Green, Dublin.
Coop, G. H., 298, Stamford-st., Ashton-under-Lyne.
Cooper, J. S. S., M.A., B.SC., c/o British Westinghouse Co., Trafford Park, Manchester.
Cooper, R. G., A.M.I.E.E., 6, Dogo-st., Cardiff.
Cooper, T., A.M.I.C.E., M.I.E.E., &c., Metropolitan Asylums Board, Victoria Embankment, E.C.
Cooper, V. B. D., A.M.I.C.E., M.I.E.E., 22, Buckingham-gate, Westminster, S.W.
Cooper, C., & Co., Albert-rd., Bournemouth.
Cooper & Cunningham, 32, Market-pl., Great Yarmouth.
Cooper, J. K., & Son, Castle Hill, Maidenhead.
Cooper, W. G., & Co., Bourne House, Whyteleafe, Surrey.
Copping, J. L., Blackman Export Co., Ltd., 70, Finsbury Pavement, E.C.
Corbett, F., 6, Baker-st., W.
Corlett, G. S., Corlett Electrical Engineering Co., Ltd., Wigan.
CORLETT ELECTRICAL ENGINEERING CO., LTD., Wigan; & Union-bldgs., St. John-st., Newcastle-on-Tyne.
Cormack, A. C., M.I.E.E., National Boiler & General Insurance Co., 22, St. Anne's-sq., Manchester.
Cornall, T., Haymarket-st., Bury.
Cosens & Co., The Quay, Weymouth.
Cottrell, W. R. T., A.M.I.C.E., Central London Railway Co., Shepherd's Bush, W.

Engineers—Electrical—*continued.*

Coubrough, A. C., A.M.I.E.E., Mather & Platt, Ld., Manchester.
Coulson-Crawford, H., 15, Chorlton-ter., Manchester.
Coulson, W. A., M.I.E.E., 47, Broad-st., Mile End, Glasgow.
Court, J. R. T., 1, Undercliff-rd., Lewisham, S.E.
Coutts & Co., 140, Bath-st., Glasgow.
Couves, H. A., c/o C. H. Merz, Collingwood-bldgs., Newcastle-on-Tyne.
Couzens, George Edwin, 219, 221 & 223, Commercial-rd., Landport, Portsmouth.
Couzens, H. W., M.I.E.E., 39, Victoria-st., S.W.
Coveney, Ed., A.I.E.E., 20, Belle Vue-rd., Ramsgate.
Cowan, John, Gatcacre Nurseries, Gatcacre, Lancs.
Cowper Coles Galvanizing Syndicate, Ltd., Grosvenor-mansions, Victoria-st., Westminster, S.W.
Cox & Brown, 70, Higham-rd., Rushden.
Cox & Sons, 80A, Preston-rd., Brighton.
Coxon, J., High-st., Cheadle, Staffs.
Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.
Coyle, D., M.I.E.E., 17, Addison-rd., Bedford Park, London, W.
Cramer, F. B., A.M.I.E.E., 7, Kensington Court-gdns., W.
Crampton, W. J., M.I.E.E., 73, Queen Victoria-st., E.C.
Crampton & Co., 73, Queen Victoria-st., E.C.
Crawley, G. R. E., A.I.E.E., 89, Upper Richmond-rd., S.W.
Crews, H. C., M.I.E.E., Cromwell-bldgs., Blackfriars, Manchester.
Crews & Handford, 11, Blackfriars, Manchester.
Crocket, G. H., 49, Farlington-rd., Portsmouth.
Croft, E., Street House, Dudley Hill, Bradford.
Crompton, R. E. B., Lt.-Col., C.B., M.I.C.E., M.I.E.E., Salisbury House, London Wall, E.C.; & Thriplands, Kensington Court, W.
CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*
Crookell, W., Water-st. Works, Middleton, nr. Manchester.
Crookes, Henry, A.R.S.M., M.I.E.E., 109, Ladbroke-grove, Notting Hill, London, W.
Cropper, Charlton & Co., Station-st., Nottingham.
Crosbie, J. B. Talbot, Crosbie & Nutter, 134, Renfield-st., Glasgow.
Cross, Wm., 4, St. Nicholas-bldgs., Newcastle-on-Tyne.
Cross & Cross, Union Iron Works, Pleck-rd., Walsall.
Cross, G. & A. J., Ltd., 14, High-st., Tunbridge Wells.
Crossley & Bould, Cloth Hall-st., Huddersfield.
Crown Electric Heating Syndicate, Ltd., 15, Bury-st., St. Mary Axe, E.C.
Crowther, A., A.M.I.E.E., West Riding Asylum Menston, Leeds.
Croxson, E. G., Vulcan Works, Southend.

Engineers—Electrical—*continued.*

Crypto Electrical Co., 155 & 157, Bermondsey-st., London, S.E.
Cullen, W. H., Castner-Kellner Alkali Co., Ltd., Wallsend.
Cummins & Sons, 12, Lower Abbey-st., Dublin.
Cunningham, C. J., A.I.E.E., 22, Goodall-rd., Leyton, E.
Cunnington, J. S., 93, St. Martin's-lane, London, W.C. (Telegs.: "Whardown, London." Teleph. No. 4934, Gerrard.)
Currall, Percy F., Whimple-st., Plymouth.
Curran Bros., 97, Donegall-st., Belfast.
Curtis, J. P., High-st., Weston-super-Mare.
Curwen, Charles, 64, Victoria-st., London, S.W.
Cutler, A. F., 3, Walker-st., E.
Cutting, F., & Co., 70, St. John's-hill, Wandsworth, London, S.W.
Cuttriss, S. W., M.I.E.E., Prudential-bldgs., Park-row, Leeds.
Daniell & Mantle, 39, Victoria-st., S.W.
Danks, Thomas, & Co., Ltd., Thurland-st., Nottingham.
Dargue, W. H., 57, Grey-st., Newcastle-on-Tyne.
Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.
Davenport, F. R., M.I.E.E., c/o Peter Brotherhood's, Belvedere-rd., S.W.
Davenport, Sparrow & Co., Blackfriars-st., Manchester.
Davey, W. H., & Co., 173, Uxbridge-rd., Shepherd's Bush, London, W.
Davie, J. F., c/o Palmer & Co., 7, Great Castle-st., Oxford Circus, W.
Davies, F. W., A.M.I.E.E., Victoria Electrical Works, East Parade, Huddersfield.
Davies, Arthur W., & Co., 38, Fulham Palace-rd., Hammersmith, W.
Davis, T., Oaklands, Hill-lane, Southampton.
Davis, W. H., jun., All Saints' Works, Derby.
DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)
Davis & Son, 120, Bute-st., Cardiff.
Davson, S. F., 203, Maida-vale, London, W.
Dawkins, H. J., 55, Caversham-rd., Kentish Town, N.W.
Dawson, Boyd, A.M.I.E.E., 30, Bridge Avenue Mansions, Hammersmith, W.
Dawson, J. Wm., A.M.I.E.E., Tramways Dept., Bridge-st., Bradford.
Day, Gerald St. John, Mumps Electrical Works, Oldham.
Deacon, M., M.I.C.E., M.I.E.E., Whittington House, nr. Chesterfield.
Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.
Denny, Wm., & Bros., Dumbarton; & 19, St. Helen's-pl., London, E.C.
De Nordwall, C. F., M.I.E.E., 125, Charing Cross-rd., W.C.
Denton, F. M., Beverley, E. Yorks.
Dewey, O., Reason Mfg. Co., Ltd., 14, New-st., Birmingham.

Engineers—Electrical—*continued.*

Dewhurst's Engineering Co., Ltd., 68, Attercliffe-rd., Sheffield.
De Wynter, L. J., A.M.I.E.E., 6, Kemble-st., Prescot, Lancs.
Diamond Coal Cutter Co., Stennard Works, Wakefield.
Dick, J. R., B.SC., M.I.E.E., W. Lucy & Co., Ltd., Oxford.
Dickins-Lewis, A., Shrewsbury.
Dickinson, Alfred, M.I.E.E., Central House, New-st., Birmingham.
Dickinson & Burne, Ltd., Church Acre Works, Guildford.
Dickinson, F. W., Ltd., St. Ann's Works, Hunslet New-rd., Leeds.
Dieppe, R. C., A.M.I.E.E., Lansdowne Lodge, Dartmouth-rd., Forest Hill, S.E.
Digby, Thomas J., 32, Shaftesbury-ave., W.
Diggle, Jas., Co-operative Society, Bolton.
Dix, H. W. W., 44, Waterloo-st., Birmingham.
Dixon, E. (Blundell, Spence & Co., Ltd., Hull).
Dixon, W., M.I.E.E., 30, Kelvinside-gdns., Glasgow.
Dobbie, J. Thos., 58, Pollok-street, Glasgow.
Dobbie, R. S., M.I.E.E., Wood Cot, St. Brianels, nr. Coleford, Glos.
Dobson, R. & H., 39, Dean-rd., Salford.
Dolby, D. J., Victoria-st., Great Grimsby.
Donaldson, J. M., A.I.E.E., 80, Wellesley-rd., Croydon.
Donner, Wm. H., M.I.E.E., Ingleside, 31, Lyndhurst-rd., Hampstead, N.W.
Donovan, G. O., M.I.E.E., 126, Chester-rd., Erdington, Birmingham.
Donovan, H. C., M.I.E.E., 51, Coleraine-rd., Westcombe-park, London, S.E.
Dorman, C. M., M.I.E.E., c/o Dorman & Smith, Ordsal Electrical Works, Salford, Manchester.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.
Doughty, F. J., 9, Queen-st., Margate.
Douglas, William, Ltd., 11, Picardy-pl., Edinburgh.
Douglas, Wm., & Sons, Ltd., Douglas Wharf, Putney, London, S.W.
Douglass, W. T., M.I.E.E., M.I.C.E., 15, Victoria-st., S.W.
Dove, W. E., & Co., Ltd., Bondgate, Darlington.
Dowling, F. N., Swan-bldgs., Edmund-st., Birmingham.
Dowling, J., & Co., 5, Upper Queen-st., Belfast.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Downham, J., Fleet-st., Bury, Lancs.

Engineers—Electrical—*continued.*

Dowsing, H. J., M.I.E.E., 24, Budge-row, Cannon-st., London, E.C.
Drabble, W. T., Providence Works, Leeds.
Drake & Dauncey, 45, Newhall-st., Birmingham; & 94, Market-st., Manchester.
DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.
Driscoll, P. J., 12, Soho-st., London, W.
Driver, G. W. S., A.I.E.E., Twickenham & Teddington Elec. Supply Co., The Green, Twickenham.
Duckitt, John Brentnall, 179, Great Norbury-st., Hyde, Cheshire.
Duckitt, Talbot, Hawthorndale Cottage, Paton-st., Alloa, N.B.
Duddell, W., M.I.E.E., 47, Hans-pl., Chelsea, S.W.
Dufty, N. E., c/o Lahmeyer Electrical Co., Ltd., 109 & 111, New Oxford-st., W.C.
Dugdill, E. J., & Co., Failsworth, nr. Manchester.
Duke, A. M., A.M.I.E.E., 69, Lansdowne-rd., Old Charlton, S.E.
Duncan, W. E. D., A.M.I.E.E., Tyler & Freeman, 20, New Bridge-st., E.C.
Duncan, W. J. V., Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 *&* 633.
Dunton, E. W., British Accumulator Co., Ltd., Parliament Mansions, Victoria-st., S.W.
Durell & Co., 58, Fenchurch-st., E.C.
Durrant, F., 28, Windsor-rd., Bexhill.
Du Verge, L. de R., Newport, Mon.
Dymond, J. D., Foote & Milne, Ltd., 66, Victoria-st., S.W.
Dyson, J. D., A.M.I.E.E., c/o Hubert Davies & Spain, 586, Salisbury House, London Wall, E.C.
Dyson, J. E., Shambles-lane, Huddersfield.
E. C. L. Syndicate, Ltd., 21, Bride-lane, London, E.C.
Eadie, Norman (J. T. Donald & Co., Ltd.), 35, McAlpine-st., Glasgow.
Earle, Hardman A., M.I.C.E., M.I.E.E., Knightsbridge Mansions, Brompton-rd., S.W.
Eastlakes, Ltd., 1, Carteret-st., Westminster, S.W.
Easton, J. J., Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate, S.W.
Easton & Anderson, Broad Sanctuary-chbrs., S.W.; & 9, Gracechurch-st., E.C.
Easton, Courtney & Darbishire, 25, Victoria-st., S.W.
Eastwood & Co., Railway Works, & Kirkgate, Wakefield.
Eborall, A. C., M.I.E.E., Caxton House, Westminster, London, S.W.
Eckstein, A., M.I.E.E., 5, Chapel Walks, Cross-st., Manchester.
Eden, A., M.I.E.E., General Post Office, Edinburgh.
Edgcumbe, Kenelm, A.M.I.C.E., M.I.E.E. (Everett, Edgcumbe & Co., Ltd.), Collindale Works, Hendon, N.W.

Engineers—Electrical—*continued.*

Edler, A., & Co., 19 & 20, Appold-st., Finsbury, E.C.
Edmonds, J. F., A.I.E.E., St. Margarets, Duncombe Hill, Honor Oak Park, S.E.
Edmundson, J. W., Sunbeam Lamp Co., Ltd., Gateshead-on-Tyne.
Edmundsons, Ltd., Barnstaple.
Edwards, J. Herbert, 2, Fernbank-rd., Bristol.
Edwards, S. Burton, 5, Cromford-ct., Market-st., Manchester.
Edwards, W. R., A.M.I.E.E., "Glanworth," Weybridge.
Edwards, W. V., Hastings & District Electric Tramway Co., Ltd., Hastings.
Edwards & Armstrong, 53, Queen-st., Cardiff; Bristol; Hereford; Merthyr; & Exmouth.
Edwards, H., & Co., 39, Lombard-st., London, E.C.
Edwards, S. J., & Son, 129, Claughton-rd., Birkenhead.
Efficient Lighting & Heating Co., 15, Hill-st., Park-rd., Regent's Park, London, N.W.
Egan & Tatlow, 20, Fleet-st., & 4, Prices-lane, Dublin.
Ekin, Tom, M.I.C.E., M.I.M.E., 21, Old Queen-st., Westminster, London, S.W.
Ekins & Co., "Old Cross," Hertford.
Electrical Contracting Co., 491–93, Fulham Palace-rd., Fulham, S.W. (Teleph. No. 68, Putney); & at Wimbledon.
Electrical Engineering Co. of London, Ltd., 63, Queen Victoria-st., London, E.C.
ELECTRICAL ENGINEERING & MAINTENANCE CO., 49, Lime-st., London, E.C.
ELECTRICAL POWER STORAGE CO., LTD. SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TELEPHONE NO. 1253, LONDON WALL.) *See advt., page* 415.
Electrical Trades Supply, Ltd., Britannia Works, Great Charles-st., Birmingham.
Electrofons Co., 26, Corporation-st., Manchester.
Elliot, Chas. H., Kirk Braddon, Croydon-rd., Beckenham.
Elliott, C., A.M.I.E.E., 2, St. George's Villas, Bowes-rd., Palmers Green, N.
Elliott & Mansell, 12, Soho-st., Soho-sq., W.
Ellis, G. A., Electric Lighting, Launch & Motor Car Charging Station, Goring-on-Thames.
Ellis, C. H., & Co., 29, Chivalry-rd., New Wandsworth, S.W.
Ellis & Ward, 75, Edmund-st., Birmingham.
Elmhirst, R. J., A.M.I.E.E., Peninsular & Oriental Steam Navigation Co., P. & O. Factory, Royal Albert Docks, London, E.
Elphinstone, G. K. B., M.I.E.E., Century Works, Lewisham.
Elsden Manufacturing Co., Gloucester Works, Old Ford, London, E.

Engineers—Electrical—*continued.*

Elyard-Brown, D., c/o C. A. Vandervell & Co., Warple Way, Acton Vale, London, W.
Emley & Sons, Ltd., 42, Westgate-rd., Newcastle-on-Tyne.
Engel, L., & Co., 46, Fore-st., London, E.C.
English, S. W., 81, Haydons Park-rd., Wimbledon, S.W.
Entwisle & Gass, Ltd., Atlas Foundry, Nelson-st., Bolton.
Espie, James, 173A, St. Vincent-st., Glasgow.
Esson, C., 102, Fetter-lane, E.C.
ESSON, W. B., M.I.C.E., M.I.E.E., 1, Victoria-st., S.W.
Eurich, H. O., A.M.I.E.E., 58, Trinity-rd., Bootle, Liverpool.
Evans, F. J., M.I.E.E., Barry Railway Co., Barry, Glamorgan.
Evans Bros., Ltd., Woodfield-st., Morriston, Glam.
Evans, E. M., & Son, 18B, Fountain-st., Manchester.
Evans, T. A., & Co., Heathfield-st., Swansea.
Everest, A. R., M.AM.I.E.E., British Thomson-Houston Co., Rugby.
Everitt, A. E., 5, Free School-lane, Cambridge.
Everitt, M., 5, Free School-lane, Cambridge.
Ewart & Son, Ltd., 346 & 350, Euston-rd., N.W.
Ewing, J. L., & Co., 156, St. Vincent-st., Glasgow.
Eyears, A. E., A.M.I.E.E., 4, Linkenholt Mansions, Hammersmith, W.
Eynon, George L., A.M.I.E.E., 3, Adelaide-st., Strand, W.C.
Fabbro & Co., 158, Falcon-rd., & 41, St. John's-rd., Clapham Junction, London, S.W.
Fairchild, H. E., 4, Violet Hill, St. John's Wood, N.W.
Fairfax, J. S., & Co., Ltd., Kew Bridge Engineering Works, Chiswick, W. (Telegs.: "Speeduple, London." Teleph. No. 535, Chiswick.)
Fairhurst, W. V. F., Darwen, Lancs.
Falcke, C. D., Birmingham Installation Co., Coleshill-st. Electrical Works, Birmingham.
Falconar, O. L., A.M.I.E.E., 16, Lisle-st., Newcastle-on-Tyne.
Falconar, Cross & Co., 16, Lisle-st., Newcastle-on-Tyne.
Falkenstein, C. K., jun., A.M.I.E.E., Northstead-rd., Tulse Hill Park, London, S.W.
Falshaw, Reginald, Albert-chbrs., 17, Princes-st., Harrogate.
Farmer, Henry, A.M.I.E.E., 76, King's Wall-rd., Beckenham, Kent.
Farr, J., Sherwood-st., Nottingham.
Farrar, Sidney H., M.I.C.E., 4, London Hall-bldgs., London, E.C.
Farrell, H. O., Sewerby Street Electric Works, Moss Side, Manchester.
Fawcett, D. L., 32, Sholebroke Mount, Leeds.
Fawcett, E. M., 4, Sydney-ter., New-st., Paignton, Devon.
Fawcus, Geo. H., 38, Deansgate, Manchester.
Fawcus, W. P. James, M.I.C.E., M.I.E.E., 38, Deansgate, Manchester.
Fazakerley, J., Victoria Station, Manchester.
Felgate, A. E., 10, Queen Victoria-st., Reading.

Engineers—Electrical—*continued.*

Fell, A. W., 22, Pennington-st., Rugby.
Feltham, J. B., A.M.I.E.E., Electricity Works, Gloucester.
Ferguson & Co., 10, South Anne-st., Dublin.
Ferranti, S. Z. de, M.I.E.E., Grindleford Bridge, Sheffield.
Field, A. M. C., Consett Iron Co., Ltd., Consett, Co. Durham.
Field, F., Corporation Electricity Works, Blackpool.
Field, Howard, A.I.E.E., 2, St. Dunstan's Hill, London, E.C.
Field, M. B., M.I.E.E., Ferranti Ltd., Hollinwood, nr. Manchester.
Fielden, S. H., Rhodes Electrical Manufacturing Co., Ltd., Riverside Works, Doncaster.
Fielding, J. W., & Co., 31, Birley-st., Blackpool.
Fildes & Barlow, Howard-st., Stockport.
Fileman, M., 99, Queen's-rd., Brighton.
Finlay, Wm., & Co., 16, N. St. Andrew-st., Edinburgh.
Fish & Co., Park-rd., Wellingborough.
Fisher, Chas. V., 4, Nether Hall-rd., Doncaster; & 1, West-st., Mexborough.
Fithian, A. W., A.M.I.E.E., Hunston, Harehills-ave., Leeds.
Fitzsimons, H., 9, Stanley-st., Govan, N.B.
Flather & Co., Ltd., Park Electrical Works, Marshall-st., Holbeck, Leeds.
Fleming, T. J., M.I.E.E., c/o British Thomson-Houston Co., Ltd., 83, Cannon-st., E.C.
Fletcher, J. W., A.M.I.C.E., M.I.E.E., Homestead, Stockport.
Fletcher, J. Y., A.I.E.E., Grosvenor Lodge, Rathgar, Dublin.
Fletcher Bros., 130, Great Clowes-st., Broughton, Manchester.
Flower, J. W., A.M.I.E.E., Brush Electrical Engineering Co., Ltd., Belvedere-rd., S.E.
Foote, Henry, 66, Victoria-st., London, S.W.
Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)
Forbes, F. E., 16, Chestnut-st., Southport.
Ford-Lloyd, A., & Co., 63-65, Cavendish-st., Brighton.
Forrest, J. H., Metropolitan Amalgamated Railway Carriage & Wagon Co., Ltd., Lancaster.
Forrest, T., & Sons, 29, S. Clerk-st., Edinburgh.
Forrester, E., & Co., 8 & 10, Moorfields, Liverpool.
Fort & Bean, Market-pl., Colne.
Foster, H. Llewellyn T., A.M.I.C.E., M.I.E.E., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Foster, Herbert S., 41, Mather-st., Newcastle-upon-Tyne.
Foster, J., City Meat Market, Birmingham.
Fox, F. W., 39, Bank-street, Ashford.
Fox, H., M.I.E.E., Troy Works, Stanningley, nr. Leeds.
Foyster, A. H., M.I.E.E., Corporation Electricity Works, Edinburgh.

Engineers—Electrical—*continued.*

Frampton & Paine, 29, Old Queen-st., Westminster, S.W.
Franklin & Isaacson, Ltd., 40, Great Wilson-st., Leeds.
Frazer, T., A.M.I.C.E., 114, Broadway, Plaistow, Essex.
Freeman, John George, A.M.I.E.E., London Electric Supply Corporation, 25A, Cockspur-st., S.W.
French, J. L., & Co., 36, Devonshire-rd., Bexhill.
Freund, Edwin, A.M.I.E.E., 39, Victoria-st., Westminster, S.W.
Fricker, Guy C., M.I.E.E., "Nevin," Avenue-rd., Southfields, S.W.
Frith, Julius, M.SC., A.M.I.E.E., The Homestead, Victoria Park, Manchester.
Frizell Bros. & Louis, 79, Denmark Hill, S.E.
Fuller, E. E., A.M.I.E.E., c/o British Thomson-Houston Co., 83, Cannon-st., E.C.
Fuller, George, M.I.E.E., Woodland Works, Wicklane, Old Ford-rd., Bow, London, E.
Fulton, T. Crichton, A.I.E.E. (consulting), 44, West George-st., Glasgow.
Furniss, W. M., Electric Construction Co., Ltd., Wolverhampton.
Fylde Electrical Engineering Co., Back Clifton-st., Blackpool.
Fynn, V. A., M.I.E.E., 18, Blessington-rd., Blackheath, S.E.
Gaine, W. E. L., M.I.E.E., National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.
Galbraith, Wm., J. Finlay & Co., Ltd., 18, Renfield-st., Glasgow.
Gallinagh, Jas. P., Corporation, Limerick.
Galsworthy, S. S., A.M.I.E.E., London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., London, N.W.
Gant, L. W., c/o C. J. Hall, 10, East Parade, Leeds.
Gardner & Co., Brewer-st., Maidstone.
Gardner, L., & Sons, Ltd., Barton Hall Engine Works, Patricroft, Manchester.
Gardonyi, M., 115, Salusbury-rd., N.W.
Garstang, H., 69, Darwen-st., Blackburn.
Gaumont, L., & Co., 22, 23, 25 & 27, Cecil-ct., Charing Cross-rd., W.C.
Gavey, A., c/o J. Gavey, Engineer-in-Chief's Office, G.P.O., E.C.
Gee, L., 102, Albert-rd., Sheffield.
Gee, J. H., & Co., 5, Nun-st., Newcastle-on-Tyne.
Geen, H., A.M.I.C.E., A.I.E.E., Sim-bldgs., Clare-st., Bristol.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.
Gerland, R. P., & Co., Electric Works, Dale-st., Accrington.
Gerrard, A., A.M.I.E.E., 5, Leslie-st., Pollokshields, Glasgow.

Engineers—Electrical—*continued.*

Gibbard, T., & Sons, 37, High-st., Wimbledon, S.W.
Gibbons, A. C., M.A., A.M.I.E.E., Christian & Phipps, Ltd., Hampton Wick.
Gibson, G. H., A.M.I.E.E., 246, Bath-st., Glasgow.
Gideon, Edgar T., A.I.E.E., 17, Sussex-st., London, W.
Gifkins, A. V., & Co., 68, Victoria-st., London, S.W.
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Godfrey & Clowes, 92, High-st., Saffron Walden, Essex.
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Goodchild, Walter C., M.I.E.E., Electrical Department, Midland Railway, Derby.
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Gooding & Taylor, 43, Upper Russell-st., Brighton.
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Grace & Sutcliffe, Cavendish-st., Keighley.
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Greenhalgh, C. E. D., Corporation Electricity Works, Wakefield.
Greenhalgh, William, 57, Beauvale-rd., Nottingham.
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Grey, L., 6, Percy Circus, King's Cross-rd., W.C.
Gridley, H. J., A.I.E.E., Hampton Wick, Kingston-on-Thames.
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Griffiths & Brakell, 79A, Grange-rd., Birkenhead.
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Groves & Co., 96, Churchfield-rd., Acton, W.; & Archer Street Works, Piccadilly Circus, W.
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Grundy & Coombs, High-st., Walton-on-Thames.
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Guy, G., 29, Orchard-st., London, W.
Haddow, W. M., M.I.E.E., 9, North Claremont-st., Glasgow.

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Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)
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Hamilton, C. K., Trafford Villa, Wilberforce-rd., Southsea, Hants.
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Hamilton, Claud (Aberdeen), Ltd., 254A, Union-st., Aberdeen.
Hamilton, Claud, Ltd., 247, St. Vincent-st., Glasgow.
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Hankinson, E. E., 1, Arundel-st., Strand, W.C.
Hanna, J. W., 14, Peel-pl., Kensington, London, W.
Hanna & Son, 14, Peel-pl., Kensington, W.
Hanson, C. J. Whistler, A.I.E.E., Precision Engineering Co., Ltd., 5, Clerkenwell Green, E.C.
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Harris, P. S., 15, Hilbert-rd., Lea Bridge-rd., Leyton, E.
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Harris, Lee & Co., Ltd., 165, Queen Victoria-st., London, E.C. Head office: Johannesburg.
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Harrison, Hugh Erat, B.SC., A.M.I.C.E., M.I.E.E., Electrical Standardizing, Testing & Training Institution, Southampton-row, London, W.C.
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Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.
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Harwood & Co., London-rd., Derby.
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Haslam & Schontheil, Western Mail-chbrs., Cardiff.
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Hatton, R. J., M.I.E.E., Llanberis Lodge, Carnarvon-rd., Stratford, E.
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Hawes, J. W. H., A.M.I.E.E., 25, Sackville-st., London, W.
Hawker, H., 37, Gloucester-rd., Brighton.
Hawkes & Walton, 10, Castle-sq., Brighton.
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Hawkins, T., M.I.E.E., Upleadon, Upton-rd., Watford, Herts.
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Hermes, L., & Co., 205, High-st., Acton, W.
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Hodgson, Frederick, & Co., 24, Queen Victoria-st., London, E.C.
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Hunns & Co., Stopford-rd., Plaistow, London, E.
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Jacomb-Hood, J. W., M.I.E.E., Engineers' Office, Waterloo Station, S.E.
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James & Gurney, 44, Park-st., Camden Town, N.W.
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Jenkins, H. B., A.M.I.E.E., chief asst., Corporation, Bedford.
Jenkins, T. A., Heolgerrig, Merthyr-Tydfil.
Jennings, T., 180, London-rd., East Grinstead.
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Johnston, Park & Co., 15, Oswald-st., Glasgow.
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Jones, T., & Co., 1, Central-chbrs., South Castle-st., Liverpool.
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Joseph, F. B., Queen Anne's-chbrs., Westminster.
Jubb, C., & Co., Bradford-rd., Dewsbury.
Kahn, Dr. Max, 120, Park-rd., Loughborough.
Kamm, Leo, 27, Powell-st., Goswell-rd., E.C.; & 68, Cromwell-ave., Highgate, N.
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Offen, G. C., 363, Seven Sisters-rd., S. Tottenham, N.
Offord & Co., 97 & 98, Woodcock-st., Birmingham. (Telegrams: "Offord, Woodcock-st., Birmingham." Nat. Telephone No. 2229.)
Ogilvie, Alex., Leith Electric Works, Leith.
Ogilvie, William, 19, Woodbine-rd., Gosforth, Newcastle-upon-Tyne.
O'Hara, F., National Electric Construction Co., Torquay.
O'Hara, P. G., A.M.I.E.E., 103, Upper Dorset-st., Dublin.
Okell, Geo. H., & Co., Ltd., 31 & 33, Blackfriars-st., Manchester.
Oliver, Charles, A.I.E.E., Cambridge-pl., Burrage-rd., Woolwich.
Olsson, M. C., A.M.I.E.E., Seamore, Pollard-rd., Mitcham.
Orchard & Co., Market House, St. Mary-st., Weymouth.
Ord, Godfrey C., The Esplanade, Sunderland.

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Owens, Felix J. A., A.M.I.E.E., 68 & 70, Wood-st., Liverpool.
Owensmith, W., 15, Davies-st., W.
Page, F. W., A.M.I.C.E., A.I.E.E., Clarendon-chbrs., St. Ann's-sq., Manchester.
Page, H. (Messrs. Smeeton & Page), 63, Queen Victoria-st., London, E.C. (Telegs.: "Iolanthe, London." Teleph. No. 5848, Bank); & "Glenholme," Marlborough-rd., Gunnersbury, W. (Teleph. No. 123, Chiswick.)
Page & Miles, Ltd., 60, Western-rd., Brighton; 79, Western-rd., Hove; & 42, South-st., Worthing.
Paine, E., 15, St. George's-rd., Westcombe Park, Blackheath, S.E.
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Palairet, C. R., Siemens Bros., York Mansions, York-st., S.W.
Palmer, C., Cheam-rd., Sutton, Surrey.
Palmer, W. D., & Co., Ltd., 50, Wellington-st., Glasgow.
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Palmer & Taylor, Baltic-chbrs., 50, Wellington st., Glasgow.
Pank, A., & Son, Bedford-st., Norwich.
Parfitt, G. J. T., A.M.I.E.E., M.S.A., Keynsham, Bristol.
Pargeter, B. J., A.I.E.E., Grove Lodge, Crescent Grove, Clapham Common, S.W.
Park Bros., 2, Spring Bridge-rd., Broadway, Ealing, W.
Parkes, P., & Co., 50, Bow-lane, E.C.
Parkinson, John B., A.I.E.E., York-st., Manchester.
Parkinson & Son, Southampton-row, W.C.; & 11, Gloucester-rd., W., London.
Parlett, G. B., A.M.I.C.E., M.I.E.E., 17, Burlington-chbrs., New-st., Birmingham.
Parr, S. C., County of London & Brush Provincial Electric Lighting Co., Ltd., Vine-yard, Marshalsea-rd., S.E.
Parry, S. Taylor, Princess-st., Chester.
Parsons, H. C., Hercules Works, Church-lane, Battersea, S.W.
Parsons, I. Hardy, Gent & Co., Faraday Works, Leicester.
Parsons, R. A., A.I.E.E., Eastgate-st., Gloucester.
Parsons Bros., 16, Eastgate, Gloucester.
Partridge, W., Central Electric Supply Co., Ltd., 3, Lodge-pl., St. John's Wood, N.W.
Paterson, Bell & Co., Ltd., 47, Waterloo-st., Glasgow.
Patey, A. P., A.M.I.E.E., A.M.I.MECH.E., Houses of Parliament, Westminster, S.W.
Paton, F., 51, Victoria-st., London, S.W.
Patterson, Alfred Edwin, 65, Galleywall-rd., Rotherhithe, London, S.E.

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Paxton, A., Arcade-chbrs., St. John's-sq., Cardiff.
Payne, H. J., 1, River-view, The Terrace, Barnes, Surrey.
Peacock, F., 59, Station-rd., Colchester.
Pearce, J. E., Broadway, Maidenhead.
Pearson, R. H. & J., Ltd., 102, Terminus-rd., Eastbourne.
Pearston, O., A.M.I.E.E., 4, Ludgate Hill, London, E.C.
Peck, J. S., British Westinghouse Co., Trafford Park, Manchester.
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Penrose, A. W., & Co., Ltd., 109, Farringdon-rd., London, E.C.
Percival, Arthur, Lady's Well Brewery, Cork.
Percival, Gerald, 30, Old George's-st., Cork.
Percy & Co., 13, Hatton Garden, E.C.
Perkins, J. E. S., Queen-st. Iron Works, Peterborough.
Perman, E., 50, Dock-st., Newport, Mon.
Pescatore, A. B., M.I.E.E., 119, Victoria-st., S.W.
Pescatore, P., Tudor Accumulator Co., Ltd., Barnmeadow Works, Dukinfield, nr. Manchester.
Peschek, J., 44, Wellington-rd., Old Charlton, S.E. Works: West-st., Charlton, S.E. (Telephone No. 222, Woolwich.)
Petersen, T., M.I.E.E., "Shiplake," Parkside-gdns., Wimbledon, S.W.
Pettifor, P. G., A.M.I.E.E., British Ericsson Manufacturing Co., Beeston, Notts.
Phelon & Rayner, Valley-rd., Cleckheaton, Yorks.
Phillips, A. F., M.I.C.E., 38, Parliament-st., Westminster, London, S.W.
Phillips, J. A., 55, Esmond-rd., Bedford Park, London, W.
Philpot, E. J., & Son, 34, St. George's-st., Canterbury.
PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.
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Pickstone, M. T., M.I.E.E., Bruce Peebles & Co., Ltd., Edinburgh.
Pierce, H. W., Siemens Bros. Dynamo Works, Ltd., Manchester.
Pierce, J. F., A.M.I.E.E., 45, Broad-st., Oxford.
Pigg, J., A.M.I.E.E., 27, Windermere-st., Coatsworth-rd., Gateshead.
Pilling, F. S., M.I.M.E., M.I.E.E., The Durdans, Kingston-rd., Teddington, Middlesex.
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Pincott, E., & Co., 103, Fore-st., Exeter.
Pinn, W. C., Electricity Works, Derby.

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Plucknett, J., & Co., St. Johns, Warwick.
Pohl, Dr. R., Thornbury Works, Bradford.
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Poole, T. G., c/o Veritys, Ltd., Hardman-st., Deansgate, Manchester.
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Pooley, F., M.I.E.E., 32, Victoria-st., S.W.
Pope, P. C., A.M.I.E.E., Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.
Porcher, H., 19, Clyde-rd., Brighton.
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Porter, C. V., A.I.E.E., 108, Pemberton-rd., Harringay, N.
Porter, H., & Co., 8, Northumberland Alley, Fenchurch-st., E.C.
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Pratt & Keith, 161, Union-st., Aberdeen.
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Preece, Sir W. H., K.C.B., F.R.S., M.I.E.E., 8, Queen Anne's-gate, London, S.W.
Preece, Wm. Llewellyn, M.I.E.E., A.M.I.C.E., 8, Queen Anne's Gate, S.W.
Premier Engineering Co., St. Mary's-rd., Sheffield.
Prescott, G. H., & Co., 25, Whitby-st., West Hartlepool.
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Price, H. B., Brush Electrical Engineering Co., Ltd., Belvedere-rd., S.E.
Price, W. H., & Co., Leicester-st., Walsall.
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Pritchett, T. W., A.I.E.E., Uplands, Feltham, Middlesex.
Probert, E., A.M.I.E.E., 180, Mitcham-lane, Streatham, S.W.
Proctor, C. Faraday, M.I.E.E., M.I.M.E., Edison & Swan United Electric Light Co., Ltd., Benwell, Newcastle-on-Tyne.
Proctor, F., c/o Foster & Co., Worple-rd., Wimbledon, S.W.
Proger, J. G., & Sons, Trinity-st., Cardiff.
Pudney, C. C., 11, Guildhall-st., Bury St. Edmunds.
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Pynegar, Henry, 5, Dowgate-hill, London, E.C.
Pyper, W. J. S., A.I.E.E., Holywood, St. Lawrence-rd., Clontarf, Dublin.
Quicke, Chas. F., M.I.E.E., 315, Euston-rd., London, N.W.
Radford, F. W. A., 100, Hatton Garden, E.C.
Raine, A. D., Telegraph Works, Silvertown, E.
Ramage, Percy A., A.M.I.E.E., Salford Iron Works, Manchester.
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RASHLEIGH PHIPPS & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 2155, Central.)
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Ray Motor Co., Boulters Island, Maidenhead.
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Record, J. W., A.I.E.E., 100, Great Clowes-st., Lower Broughton, Manchester.
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Rees & Co., Swansea.
Reeves, F. R., M.I.E.E., F.I.S., Salisbury House, London Wall, London, E.C.
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Reid, Edwin J., M.I.E.E., 12, Wharf-rd., London, N.
Reid, W. D., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, E.C.
REID BROS., 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.
Reid, F., Ferens & Co., Orchard-st.-bldgs., Orchard-st., Newcastle-on-Tyne; & Sunderland.
Reilly, W., A.M.I.E.E., Davos, Driffold, Sutton Coldfield, nr. Birmingham.
Reiss, F. E., Swyncombe, Henley-on-Thames.
Remington, Chas., M.I.E.E., National Telephone Co., 14, Astley Gate, Blackburn.
Rentell, Sidney, A.M.I.E.E. (editor of *Electricity*), 36, Maiden-lane, Strand, W.C.; & 15, Woodland-gdns., Muswell Hill, London, N.
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Richards, A. W., & Co., 70-71, Bishopsgate-st. Within, E.C.
Richardson, Chas., A.M.I.E.E., Romily, nr. Stockport.

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Richardson & Carlmark, 402, High-st., West Bromwich.
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Richmond, W. P., A.M.I.E.E., Green Bank, Colne.
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Richmond, Joseph, & Co., Ltd., 30, Kirby-st., Hatton-garden, E.C.; & New Sun Iron Works, 180½, Burdett-rd., Bow, E., London.
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Ridout & Co., 124, Regent-st., London, W.
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Ritchie, R. O., M.I.E.E., Scottish Amicable-bldgs., 86, Cross-st., Manchester.
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Robb, J. McL., M.I.E.E., Engineers' Department, Postal Telegraphs, Belfast.
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Robertson, C. J., M.I.E.E., Brook-green Works, Hammersmith, London.
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Robertson & Co., 55, Back Sneddon-st., Paisley.
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Robson & Coleman, Haymarket-lane, Newcastle-on-Tyne.
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Rogers, H. I., A.M.I.E.E., Thrissell-st., Bristol.
Rogers, David, 2, Jackson-rd., Holloway, N.
Roget, S. R., M.A., A.M.I.C.E., A.M.I.E.E., Falkland House, Cheniston-gdns., Kensington, W.
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Rorke Bros., Royal Opera Arcade, Pall Mall; & Thames Bank Electrical Works, Barnes, S.W.
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Rose, T. A., A.M.I.E.E., Nirvana, Cotswold-rd., Westcliffe-on-Sea; & 30, Cheapside, E.C.
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Rosling, Percy, M.I.E.E., Netherleigh, Rugby.
Ross, C., 19, Bridge-st., Walsall.
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Rossiter, J. T., M.I.E.E., Mobberley, Grove-park-gdns., Chiswick.
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Rouse, F. R. C., 53, St. George's-rd., Regent's Park, N.W.
Rowe, T., A.M.I.E.E., c/o National Telephone Co., Ltd., Liverpool.
Rowlandson, W., 67, Lord-st., Liverpool, W.
Royal-Dawson, W. G., A.M.I.E.E., 40, Creffield-rd., Ealing, W.
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ROYCE, LTD., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)
Rudd, J. A., M.I.E.E., 68, Gordon-st., Glasgow.
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Russell, A., M.A., M.I.E.E., Electrical Standardizing Laboratory, Faraday House, 66–70, Southampton-row, London, W.C.
Russell, Earl, M.I.E.E., Telegraph House, Chichester.
Russell, H., M.I.E.E., Alliance Electrical Co., Ltd., 23, Grafton-st., London, W.
Russell, H. S., M.I.E.E., "Fernbrook," Manor Court-rd., Hanwell.
Russell, Louis, Bexhill-on-Sea.
Russell, S. A., M.I.E.E., Indiarubber Co., Silvertown, London, E.
Russell, S. G. C., M.I.E.E., Phœnix Assurance Co., 19, Lombard-st., E.C.
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Sage, Ernest, 9 & 28, Elnathan-mews, Formosa-st., London, W.
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Salisbury Electrical Engineering Co., Ltd., 143, New Kent-rd., S.E.
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Santler, C., & Co., Malvern.
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Savage, E. A., & Co., 100, High-st., Putney, S.W.
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Sayer, E., A.M.I.E.E., Central Electric Light Station, Hampstead, London, N.W.
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Scott-Moncrieff, K. A., M.I.E.E., Electric Supply Corporation, Salisbury House, London Wall, London, E.C.
Scott-Russell, N., M.I.E.E., 39, Coleman-st., London, E.C.
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Sennett, A. R., M.I.E.E., M.I.M.E., A.M.I.C.E., 15, Heath Mansions, Hampstead, N.W.
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Seymour, W., A.I.E.E., 55, Sloane-sq., S.W.
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Shanahan, H. F., Corporation Electricity Works, Blackpool.
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Shears & Son, East Central Works, Bournemouth.
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Sheppard & Co., 21, North End-rd., W.
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Slatter, F. V., 56, Fann-st., E.C.
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Strong & Williams, St. Thomas-st., Weymouth.
Strudwick, C., Sidmouth, Devon.
Stuart & Moore, Victoria Works, Ealing, London, W.
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Trotter, H. B., & Co., 63, Queen Victoria-st., E.C.
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BECKETT & PARKER, Tenby-st., Birmingham.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, London, W.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., Westminster, S.W. *See advt., page* 392.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MFG. CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Brock, F. W., 287, Shirland-rd., St. Peter's-park, London, W.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Engineers—Electrical Manufacturing— *continued.*

Bryant Trading Syndicate, Ltd., 13, Broad-st.-ave., E.C.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Chamberlain & Hookham, Ltd., New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") *See advt., page* 490.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs. City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Codd Arc Lamp Co., Ltd., Standard Works, Dame Agnes-st., Nottingham.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

Derby Electrical Co., Ltd., St. George's Engineering Works, Wood's-lane, Derby.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Eckstein, Heap & Co., 5, Chapel Walks, Manchester; & Waverley Mills, St. Simon's-st., Salford.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELLIOTT BROS., Century Works, Lewisham, London. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)

Engineering Instruments, Ltd., 272B, Upper-st., Islington, N.

Ferguson, Jas., M.I.E.E., 61, Pollok-st., Pollokshaws, Glasgow.

Ferranti Ltd., Hollinwood, nr. Manchester.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegrams: "Foxship, London.") *See advts., pages* 404 *&* 633.

Generators, Ltd., 79, Corporation-st., Manchester.

Engineers—Electrical Manufacturing— *continued.*

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Gramme, Société, Paris, 174, Gray's Inn-rd., London, W.C.

Gray, E. B., Hythe, Colchester.

Haigh, W. B., & Co., Ltd., Globe Iron Works, Oldham.

Hamer, J., & Co., Broad-st., Halifax.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.) *See advt., page* 386.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HILL, GEO., & CO., Trafford Electric Works, Cornbrook, Manchester. (Nat. Tel. No. 2920.)

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-street, E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.

Jackson, H. A., & Co., Caxton Hall, Chapel-st., Salford, Manchester.

Jackson, P. R., & Co., Ltd., Salford Rolling Mills, Manchester.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegrams: "Lampaient, London." Teleph. No. 5026, Gerrard.) *See advt., page* 589.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; & Nat., 172, Douglas); & 66, Victoria-st., London, S.W. (Telegrams: "Mho, London." Telephone No. 725, Westminster.)

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

LAIDLAW, LAIDLER & CO., Nutsford Vale Works, Longsight, Manchester.

Engineers—Electrical Manufacturing— *continued.*

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 715.

Lea, Son & Co., Pengwerne Works, Shrewsbury (Telegrams: "Lea Son, Shrewsbury." Telephone No. 60); & St. Mary's Walk, Stafford. (Telegrams: "Lea Son, Stafford." Telephone No. 93.)

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire (Telegs.: "Electricity, Dursley." Tel. No. 6, Nat.); London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.

Lumly, C. M., & Co., 6, Castle-st., Kingsland, London, N.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

Lyell, J. C., & Co., Ltd., 55, Victoria-st., London, S.W.

McGeoch, Wm., jun., A.M.I.E.E., 46, Coventry-rd., Birmingham.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 581 & 852, Westminster.)

Maxwell, W., & Co., 204, Goldhawk-rd., W.

Morley Electrical Engineering Co., Ltd., Troy Works, Stanningley, nr. Leeds.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Tel. No. 184, Bury.)

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

Oliver Arc Lamp Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, N.W. *See advt., page* 642.

Engineers—Electrical Manufacturing— *continued.*

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

Parmiter, Hope & Sugden, Hulme Electrical Works, Manchester.

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

Peschek, J., 44, Wellington-rd., Old Charlton, S.E. Works: West-st., Charlton, London, S.E. (Telephone No. 222, Woolwich.)

Phillips, H. F., & Co., Guildford Electric Works, Guildford.

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

Phœnix Electric Heating Co., Ltd., 3, Holborn-pl., High Holborn, London, W.C.

Rawlings Bros., Ltd., 82, Gloucester-rd., South Kensington, S.W.; & 165, Sloane-st., S.W.

Reason Manufacturing Co., Ltd. Offices & works: Lewes-rd., Brighton.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt.* OPPOSITE.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; 8, Howland Mews W., Fitzroy-sq., London, W.; & 61, Pollok-st., Pollokshaws, Glasgow.

Ryman, F., & Co., Cox-st., St. Paul's-sq., Birmingham.

Sanders, W., & Co., Falcon Electrical Works, Wednesbury.

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Scott, Ernest, & Mountain, Ltd., Close Works, Gateshead-on-Tyne; London; & Cardiff.

Seage, A., & Co., Cambridge Works, Cambridge-rd., Hammersmith, W.

Simpkin, Wilkinson & Gibson, 66, Kirkstall-rd., Leeds.

Spence, J. K., High-st., Spilsby, Lincolnshire.

Spencer, Perceval, Ltd., 32, King-st. West, Manchester.

Spurr, Inman & Co., Ltd., Calder Vale Boiler Works, Wakefield.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, London, E. (Telegs.: "Reckenzaun, London.")

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wandsworth Electrical Manufacturing Co., Ltd., 9, St. Paul's, Birmingham.

Webster, W. G. F., Alexandra Wks., Folkestone.

Wilson-Wolf Engineering Co., Ltd., Laycocks Mill, Thornton-rd., Bradford.

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For telegraphic addresses & telephone numbers, see Alphabetical Section.

Engineers—Electrical Manufacturing—*continued.*

Willis & Co., 2, Commercial-st., Knott Mill, Manchester.
Wyatt, T., 11, Neal-st., Long Acre, London, W.C.
Wyatt Bros., Wayland Works, Whitchurch, Salop.
Young & Marten, Ltd., Caledonian Works, Stratford, London, E.

Engineers—Electrical Testing.

F.—Ingénieurs—essai électrique.
G.—Ingenieure für Elektrische Prüfungen.

Apps, A., 433, Strand, London, W.C.
Baily, F. G., M.A., M.I.E.E., Heriot Watt College, Edinburgh.
BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.
Dawe, Philip, A.M.I.C.E., A.M.I.E.E., Dacre House, Westminster, S.W.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Fulton, T. Crichton, A.I.E.E., 44, West George-st., Glasgow.
Martin & McFie, 8, Wellington-st., Glasgow.
Muirhead & Co., Ltd. Laboratory: 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (Telegs.: "Muirheads, London." Teleph. No. 779, Westminster.) *See advt., page* 609.
NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)
O'Gorman & Cozens-Hardy, 82, Victoria-st., Westminster, S.W.
Peto & Radford, Ltd., 100, Hatton Garden, E.C.
Rowland, Wm., 23, Eastcombe-ave., Old Charlton.
Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.
WESTMINSTER ELECTRICAL TESTING LABORATORIES, York Mansion, York-st., Westminster, London, S.W.

Engineers—Electricity Works.

F.—Ingénieurs—Usines électriques.
G.—Ingenieure—Elektricitäts Centrale.

Abraham, A. J., A.M.I.E.E., Cambuslang.
Acland, R. L., A.M.I.E.E., Corporation, Chesterfield.
Alderton, H. L., Guildford.
Allbright, W. J., Southern Area, South Metropolitan Electric Light & Power Co., Ltd., Wells-rd., Upper Sydenham, S.E.
Allen, W. H., Corporation, Loughborough.
Angell, J. A., Urban District Council, Beckenham.
Angus, H. W., Corp., Eccles.
Appelbee, N., M.I.E.E., Corp., Ashton-under-Lyne.
Arthur, A. J., Tonyrefail & Gilfach Goch Electric Light Co., Ltd., Mill-st., Tonyrefail.
Aspinall, A., Corporation, Brighouse, Yorks.

Engineers—Electricity Works—*continued.*

Atchison, C. C., M.I.E.E., Corporation, Rochdale.
Ayton, Frank, Corporation Electric Supply & Tramways Departments, Ipswich.
Bache, W. J., M.I.E.E., Corporation, Cheltenham.
Bacon, A. R., A.M.I.E.E., County of London Electric Supply Co., Ltd., City-rd., London, E.C.
Bailey, Frank, M.I.C.E., M.I.E.E., City of London Electric Lighting Co., Bankside, S.E.
Baker, W. J. R., Urban District Council, Malvern.
Banister, A. N., Norwich Electric Tramways Co., Norwich.
Barker, E. A., A.M.I.E.E., Corporation, Barnsley.
Barker, R. R., Bromley (Kent) Electric Light & Power Co., Ltd., 1, West-st., Bromley.
Baron, J. T., M.I.E.E., St. Pancras Boro' Council, Regent's Park, & King's-rd., N.W.
Barwell, W. H., Parish Council, Treeton.
Bates, Wm., M.I.C.E., A.M.I.E.E., Corporation, Birkenhead.
Batty, F. R., Northallerton Electric Light & Power Co., Ltd., Northallerton.
Baynes, S. W., M.I.E.E., St. Pancras Borough Council.
Beckett, A. J., Corporation, Bridlington.
Bell, A. R., A.M.I.E.E., Uxbridge & District Electric Supply Co., Ltd., Waterloo-rd., Uxbridge.
Bell, G. G., Borough Electricity Works, Hammersmith.
Bell, H., A.M.I.E.E., Corporation, Hull.
Bell, J. A., M.I.E.E., Corporation, Aberdeen.
Bennett, A. H., North Metropolitan Electrical Power Distribution Co., Ltd., Enfield, Middlesex.
Bennett, C. G. M., A.I.E.E., Kensington & Notting Hill Electric Lighting Works, Shepherd's Bush, W. (resident).
Bentham, H., A.M.I.E.E., Birkdale District Electric Supply Co., Ltd., Birkdale.
Bentley, C. W., Alderley Edge; & Market Drayton.
Beuttell, A. W., North Wales Power & Traction Co., Ltd., Llanberis, R.S.O., Carnarvonshire.
Bibby, W. H., Northern Counties Electricity Supply Co., Ltd., Morpeth, Northumberland.
Binns, W., Town Council Tramways, Reading.
Bird, A. G., A.M.I.E.E., Guernsey Electricity Supply Co., Les Amballes, Guernsey.
Birkett, R., Corporation, Southend.
Bishop, H. C., M.I.E.E., Corporation, Newport, Mon.
Blackman, A. S., M.I.E.E., Corporation, Sunderland.
Blair, J. Martin, A.M.I.E.E., Urban District Council, Acton, W.
Blake, A., Urban District Council, Fareham.
Blascheck, C. A., A.M.I.E.E., Corporation, Canterbury.
Bond, F. A., A.M.I.E.E., Borough Council, Battersea, S.W.
Boot, H. L. P., Corporation, Tunbridge Wells.
Bottomley, C. F., Market Drayton Electric Light & Power Co., Ltd., Market Drayton, Salop.
Bowden, J. H., Borough Council, Poplar.

Engineers—Electricity Works—*continued.*

Bowen, T., Urban District Council, Llandilo.
Bowman, J. M., North Metropolitan Electrical Power Distribution Co., Ltd., Hertford.
Boyd, Wm., A.M.I.E.E., A.M.I.M.E., Northwich Electric Supply Co., Ltd., Northwich.
Brandreth, W. E., Wycombe (Borough) Electric Light & Power Co., Ltd., High Wycombe.
Bremner, Ashton, A.M.I.E.E., Corporation, Burslem, Staffs.
Bremner-Smith, E., Oswestry Electric Lighting & Power Co., Ltd., Oswestry.
Briggs, F. H., Tyneside Tramways & Tramroads Co., Neptune Bank, Wallsend-on-Tyne.
Briggs, G. W., Neptune-rd., Wallsend.
Britton, S. E., Chester.
Brown, Jas., A.M.I.E.E., Electricity Works, Kilmacolm, Renfrewshire, N.B.
Bruce, G. A., M.I.E.E., Corporation, Lowestoft.
Bruce, J. G., A.I.E.E., District Council, Willesden.
Bryant, G., Corporation, Great Yarmouth.
Brydges, J. K., A.M.I.C.E., M.I.E.E., Corporation, Eastbourne.
Bulfin, I., A.M.I.E.E., A.M.I.C.E., B.SC., Corporation, Bournemouth.
Bunting, G. W., County of Northampton Electric Power & Traction Co., Ltd., Wellingborough.
Burbidge, A. H., Corporation, Kilmarnock, Scotland.
Burbridge, J., Corporation Tramways, Leeds.
Burnet, C. D., Corporation, Carlisle.
Burnett, H. R., Corporation, Barrow-in-Furness.
Bush, H. W., Urban Electric Supply Co., Ltd., Newbury, Berks.
Butler, C. F., A.M.I.E.E., Lewes & District Electric Supply Co., Lewes.
Caldwell, H. C., A.M.I.E.E., Altrincham Electric Supply, Altrincham, Cheshire.
Calvert, E., A.M.I.E.E., Urban District Council, Finchley, N.
Cameron, H., Penarth Electric Lighting Co., Ltd., Penarth.
Campbell, K. F., Corporation, Huddersfield.
Campion, R. H., A.M.I.E.E., Corporation, Dewsbury.
Carr, R. M., A.M.I.E.E., Urban District Council, Leek, Staffs.
Carter, G. H., A.I.E.E., Urban District Council, Heckmondwike, Yorks.
Cawthra, J. H., M.I.E.E., Corporation, South Shields.
Chalmers, A. D., A.M.I.E.E., A.M.I.MECH.E., Corporation Electricity Works, Gillingham, Kent.
Charlton, A., Kidderminster & District Electric Lighting & Traction Co., Ltd., Kidderminster.
Charlton, G. (resident), Merthyr Electric Traction & Lighting Co., Merthyr Tydfil.
Chattock, R. A., M.I.E.E., Corporation, Birmingham.
Christie, J., Corporation, Brighton.
Clarke, G. E., Corporation, Boston.
Clegg, S., M.I.E.E., Corporation, Lincoln.
Clothier, J. H., Urban District Council, St. Anne's-on-Sea.
Clothier, T. D., Corporation, Bootle.

Engineers—Electricity Works—*continued.*

Clough, A., A.M.I.C.E., Corporation, Liverpool.
Coe, Geo., Harrington Electric Light Co., Ltd., Long Eaton, Derbyshire.
Colson, A., M.I.E.E., Corporation, Leicester.
Colson, T. M., A.M.I.E.E., Electricity Works, Hamilton.
Constable, J. A., Generation Dept., South Metropolitan Electric Light & Power Co., Ltd., 37, Tranquil Vale, Blackheath, S.E.
Cooke, W. H., Corporation, Luton.
Cooksey, D. F., A.M.I.C.E., M.I.E.E., 5, Maitland-rd., Reading.
Coombs, D. H., Whitchurch & Pangbourne Electric Supply Co., Ltd., Whitchurch, Oxon.
Cooper, A. G., A.M.I.E.E., boro', Colne, Lancs.
Cottam, G. H., M.I.E.E., Borough Council, Hampstead.
Coutts, F., Paisley District Tramways, Paisley.
Couzens, H. H., A.M.I.E.E. (deputy), Corporation Electricity Supply, Bristol.
Cramb, Alex. C., A.M.I.E.E., Corporation, Croydon.
Cross, E., A.M.I.E.E., Corporation, Rotherham.
Crowe, F. T., Isle of Wight Electric Light & Power Co., Ryde.
Crowther, J. A., Urban District Council, Wallasey.
Crowther, J. P., Urban District Council, Worksop, Notts.
Darlington, A. E., Chislehurst Electric Supply Co., Ltd., Chislehurst.
Davidson, C. S., Urban District Council, Barnes.
Davis, A. L., Guernsey Electric Railway Co., Ltd., Guernsey.
Day, A. A., A.M.I.C.E., M.I.E.E., Corporation, Bolton,
Day, S. E., Corporation, Bury St. Edmunds.
Dayson, A. R., M.I.E.E., Corporation Tramways, Sunderland.
Denton, E., Town Council, Pudsey.
Denton, H. H., M.I.E.E., Corporation, Crewe.
Dickinson, H., A.M.I.C.E., M.I.E.E., M.I.M.E., Corp. Elec. Lighting Dept., Leeds.
Dixon, H., North of Scotland Electric Light & Power Co., Ltd., Brechin.
Dixon, H. L., Leatherhead & District Electricity Co., Ltd., Leatherhead.
Dobson, S. T., St. James' & Pall Mall Electric Light Co., Duke-st., S.W.; & Carnaby-st., W.; & (joint) Central Electric Supply Co. Ltd.
Donachie, J. A., Coatbridge.
Dowling, E., Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., London, E.C.
Downe, R. S., M.I.E.E., Corporation, Southport.
Duesbury, Trevor, A.M.I.E.E., Corporation, Sutton Coldfield.
Dufton, H. C., Herne Bay Pier Co., Ltd., Herne Bay.
Durnford, C. W., South Metropolitan Electric Tramways & Lighting Co., Ltd., Sutton, Surrey.
Edgcombe, J. E., M.I.M.E., M.I.E.E., Corp., Kingston-on-Thames.
Edmondson, F., A.M.I.E.E., Manx Electric Railway Co., Ltd., 1, Strathallan-cres., Douglas, Isle of Man.

Engineers—Electricity Works—*continued.*

Edmundson, J. E., A.M.I.E.E., Urban Electric Supply Co., Ltd., Grantham; & Stamford.
Edwards, G. T. C., Bristol Tramways & Carriage Co., Ltd., Bristol.
Ellis, A., M.I.M.E., M.I.E.E., Corporation, Cardiff.
Ellis, John E., A.M.I.E.E., Corporation, Morley, nr. Leeds.
Ellis, Thos. W., Woolwich Borough Council, Globe-lane, Woolwich, S.E.
Everett, H. W., Urban District Council, Clacton-on-Sea.
Fairweather, C. W., Northern Counties Electricity Supply Co., Ltd., Alnwick.
Farrer, M., A.M.I.E.E., Ramsgate & District Electric Supply Co., Ltd., Ramsgate.
Farrow, A. E., A.M.I.E.E., Windsor Electrical Installation Co., Ltd., Windsor; & Slough & Datchet Electric Supply Co., Ltd.
Fedden, S. E., M.I.C.E., M.I.MECH.E., Corporation, Sheffield.
Feetham, M., M.I.M.E., M.I.E.E., London Electric Supply Corporation, Ltd., Stowage Wharf, Deptford, S.E.
Fennell, W., A.M.I.E.E., Corporation Electricity Works, Wednesbury.
Fenwick, J. B., Corporation Electricity Works, East Retford, Notts.
Ferguson, J., Corporation Tramways, Glasgow.
Ferguson, Russell F., M.I.E.E., Corporation, Hastings.
Ferguson, W. J., A.I.E.E., Urban District Council, Redditch.
Firth, H. W., G. E. Rly., Norton Folgate, London, N.E.
Fletcher, F. P., A.M.I.MECH.E., A.M.I.E.E., Admiralty Power Station, Chatham Dockyard, Kent.
Foale, W. S., Corporation, Portsmouth.
Foster, H. Fraser, Urban District Council, Bromley Hurst, Charles-st., Epsom.
Foster, R., A.M.I.E.E., Corporation, Aston Manor.
Francis, F. H., A.M.I.E.E., Oxford Electric Co., Ltd., Oxford.
Francis, O. F., A.M.I.E.E., Corporation, Kirkcaldy, N.B.
French, A. H., A.M.I.E.E., Chelmsford Electric Light Co., Ltd., Chelmsford.
Friederichs, H. F., Corporation, West Hartlepool.
Fuller, A. J., Borough Council, Fulham.
Furness, C., A.M.I.E.E., M.I.M.E., Corporation, Blackpool.
Gallinagh, J. P., Corporation, Limerick.
Garnett, Chas., A.M.I.E.E., Corporation, Darwen.
Garside, E., U.D.C. Tramways, Hurst, Lancs.
Garside, F., District Council, Aldershot.
Gay, Albert, M.I.E.E., Islington Borough Council, Eden-grove, Holloway, N.
Gaze, H. P., A.M.I.C.E., A.M.I.E.E., Central Electric Supply Co., Grove-rd., St. John's Wood, London, N.W.
Gibson, S. C., A.M.I.E.E., Urban District Council, Nuneaton.

Engineers—Electricity Works—*continued.*

Gill, H. Macdonald, Urban District Council, Surbiton.
Gill, J. C., A.M.I.C.E., Corporation, Peterborough.
Gillies & Hornidge, Buckingham Electric Light Co., Buckingham.
Glenn, J. F., Portsdown & Horndean Light Railway, Cosham; Gosport & Fareham Tramways, & Gosport & Alverstoke Electric Lighting Co., Ltd., Gosport, Hants.
Glover, G. T., Tynemouth Electric Railway.
Goldston, R. C., Yorkshire (Woollen District) Electric Tramways Co.
Goodman, A. C., Corporation, Carnarvon.
Gray, C. E., Ross, Herefordshire.
Gray, H., A.M.I.E.E., Corporation, Accrington.
Grimshaw, C. O., M.I.C.E., M.I.E.E., Westminster Electric Supply Corp., Eccleston-pl., Belgravia, London, S.W.
Grove, E. P., Central London Railway Co., Shepherd's Bush, W.
Hadfield, J. W., A.M.I.E.E., Electricity Works, Barnstaple, Devon.
Hale, H., A.M.I.M.E., A.M.I.E.E., North of Scotland Electric Light & Power Co., Ltd., Montrose & Brechin, N.B.
Hall, W. H., A.M.I.E.E., Town Council, Morecambe.
Hame, J. W., A.I.E.E., Corporation, York.
Hanning, F. S., A.M.I.E.E., Urban Electric Supply Co., Ltd., Camborne & Redruth, Cornwall.
Hansom, O. G. E., A.M.I.E.E., Fleetwood Electric Light & Power Co., London-st., Fleetwood.
Hanson, A. C., A.M.I.E.E. (burgh), Stirling, N.B.
Harpur, R. C., Corporation, Dover.
Harris, G. M., Aldrington, Hove.
Harrison, H., Dublin & Lucan Electric Railway Co., Fonthill Power Station, Dublin.
Harriss, G. M., M.I.C.E.I., Carlow.
Hartley, H., South Staffordshire Tramway (Lessee) Co., Ltd., Tramways Depôt, Darlaston, Staffs.
Harvey, H. B., A.M.I.E.E., Cambridge Electric Supply Co., Ltd., Cambridge.
Hawkins, A. S., Newquay Electric Light & Power Co., Newquay.
Heenan, W. E. J., M.I.E.E., Bermondsey, S.E.
Helme, D., Corporation, Nelson.
Hesketh, E., A.M.I.E.E., Urban District Council, Cromer.
Hesketh, T., M.I.E.E., Folkestone Electricity Supply Co., Folkestone.
Hewlett, E. F. J. Holcombe, M.I.E.E., M.AM.I.E.E., Corporation, Mansfield.
Highfield, J. S., M.I.C.E., M.I.E.E., Metropolitan Electric Supply Co., Ltd., Amberley-rd., Manchester-sq.; & Sardinia-st., W.
Hill, E. R., Reading Electric Supply Co., Ltd., Reading.
Hoadley, E. E., M.I.E.E., Corporation, Maidstone.
Holden, F. G., B.A., A.M.I.C.E., Scarborough Electric Supply Co.
Holland, H. N. (resident), S. Wales E. P. D. Co., Treforest, nr. Pontypridd.

Engineers—Electricity Works—*continued.*

Holliday, T. B., Hastings & District Tramways Co., Ltd., Hastings.
Hollingsworth, E. M., A.M.I.E.E., Corporation, St. Helen's, Lancs.
Holmes, C. R. (resident), London United Tramways, 74, High-rd., Chiswick, W.
Home, J. Hayward, A.M.I.E.E., Urban Electric Supply Co., Ltd., Berwick-on-Tweed.
Horsfall, W., Ebbw Vale.
Horsfall, W. Miles, M.I.E.E., Liverpool District Lighting Co., Ltd.
Horsley, J. A. B., A.M.I.E.E., Urban District Council, Tonbridge.
Howard, H. L., A.M.I.E.E., District Council, Barking.
Hughes, G., Liverpool, Southport & Crossens Electric Railway (L. & Y. Rly.), Horwich, Lancs.
Hume, C. E., Twickenham.
Humphries, R., A.M.I.E.E., Isle of Thanet Electric Tramways & Lighting Co., Ltd., St. Peter's, Broadstairs, Kent.
Hunter, F. R., Southwold, Suffolk.
Hunter, T., Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh.
Hunter, W. D., M.I.E.E., Newcastle & District Electric Lighting Co., Newcastle-on-Tyne.
Ingram, E. Ll., M.I.E.E., Bournemouth & Poole Electricity Supply Co., Ltd., Verulam House, Yelverton-rd., Bournemouth.
Jackson, G. H., M.I.E.E., M.I.M.E., Northampton Electric Light & Power Co., Ltd., 25, Bridge-st., Northampton.
Jackson, W. A., Corporation, West Bromwich.
Jeckell, J. A., A.I.E.E., Corporation, Coventry.
Jensen, W., Chatham & District Light Railways Co., Chatham.
Jewell, R. F., Gosport & Fareham Tramways Power Station & Sub-station, Hoc-Ford & Gosport, Hants.
Johnson, H., Mexborough, Swinton & Rawmarsh Tramways Co., Ltd., Rawmarsh, Yorks.
Johnson, T. H., South Wales Electrical Power Distribution Co., Cwmbran.
Johnston, C. M., M.I.E.E., M.I.M.E., Corporation, Shrewsbury.
Johnston, L., A.M.I.E.E., Corporation Light Railways, Gloucester.
Jones, Chas., M.I.C.E., M.I.E.E., Metropolitan Railway Co., Neasden, N.W.
Jones, F. W. E., M.I.E.E., Midland Electric Light & Power Co., Leamington.
Jones, H., M.I.E.E., Waterloo & City Railway Co., Waterloo Station, S.E.
Jones, R. H., Colwyn Bay.
Jones, S. Derwen, A.M.I.E.E., Corporation, Batley, Yorks.
Joseph, H., A.I.E.E., Melton Mowbray Electric Light Co., Melton Mowbray.
Joyce, W. H., Cork Electric Tramways & Lighting Co., Ltd., Queenstown, Ireland.
Kemp, J. P., A.M.I.E.E., Corporation Electricity Works, Summer-lane, Birmingham.

Engineers—Electricity Works—*continued.*

Kensit, H. E. M., M.I.E.E., general manager, Kent Electric Power Co., Bank-chbrs., 1, Railway-st., Chatham.
Kerr, W. T., Corporation, Hereford.
Kimmins, P. T., Lynton & Lynmouth Electric Light Co., Lynmouth, Devon.
King, L. H., Urban District Council, Whitby.
Kinghorn, D. M., Borough Council, Southwark, London, S.E.
Kingston, H. W., Charing Cross, West End & City Electric Supply Co., Ltd., 60, St. Martin's-lane, London, W.C.
Knight, J. D., M.I.E.E., Corporation, Ealing.
Knowles, C. E., A.I.E.E., A.M.I.C.E., Urban Electric Supply Co., Ltd., Glossop, Derbyshire.
Lackie, W. W., M.I.C.E., M.I.E.E., Corporation, 75, Waterloo-st., Glasgow.
Lambert, E. A., Walton-on-the-Naze Pier Electric Railway (Coast Development Corp., Ltd.).
Lambert, J., A.M.I.E.E., Corporation, Perth.
Langford, W., Corporation, Longton.
Lawrie, J., Corporation, Paisley.
Leach, R. B., U.D.C., Farnworth.
Lee, A. E., Rugby School Electricity Works, Dunchurch-rd., Rugby.
Lee, Walter, Macroom & District Electric Lighting Syndicate, Ltd., Cork, Ireland.
Leeming, W. J., A.M.I.E.E., Urban District Council, Buxton.
Le Feuvre, W. T., A.M.I.E.E., Corporation, Bexhill.
Leighton, G. A., Keswick Electric Lighting Co., Ltd., Keswick.
Lewis, F. Harman, A.I.E.E., Urban District Council, Leyton.
Lewis, T. E., South Wales Electrical Power Distribution Co., Bridgend; & Neath, Glam.
Lidwell, W. J., Electric Light Co., Rottingdean.
Linney, C. T., A.M.I.E.E., Kent Electric Power Co., Chatham.
Lironi, V. G., M.I.M.E., A.M.I.E.E., Corporation Electric Tramways, Portsmouth.
Lomax, C. J., Urban District Council, Gorton, Lancs.
Lomax, R., Corporation, Stockport.
Long, E. D., A.M.I.E.E., Grays.
Long, F. M., Corporation, Duke-st., Norwich.
Loos, A. E., Derbyshire & Nottinghamshire Electric Power Co., Ilkeston.
Lumb, T. G., A.M.I.C.E., Blackpool, St. Anne's & Lytham Electric Tramway Co., Blackpool.
Lunn, J. R. P., M.I.E.E., Corporation, Darlington.
Lydall, C. H., Cleveland & Durham Co. Electric Power Co., Ltd., Bishop Auckland, Durham.
McCausland, C., Bournemouth & Poole Electricity Supply Co., Ltd., Christchurch, Hants.
McCormick, H. J., Cheltenham & District Tramways, Cheltenham.
McCowen, V. A. H., M.I.E.E., M.I.M.E., Corp., Belfast.
McGown, J. M., Town Council, Bo'ness.
McGregor, J. J., Trafford Power & Light Supply (1902), Ltd.

Engineers—Electricity Works—*continued.*

McInnes, C. F., A.M.I.E.E., Corporation, Gravesend.
McKee, O. St. J., Alexander's Electricity Works, Carlow.
McKenzie, A. E., A.M.I.E.E., Stuart-st. Generating Station, Manchester.
McLean, J. H., M.I.E.E., Midland Electric Corp. for Power Distribution, Ltd., Ocker Hill, Tipton.
McLoughlin, F. H. (resident), Cleveland & Durham Electric Power, Ltd., Consett, Durham.
McMahon, P. V., M.I.C.E., M.I.E.E., M.I.M.E., City & South London Railway Generating Station, 195, Clapham-rd., Stockwell, S.W.
McMillan, John, Falkirk, N.B.
Macrory, R. V., A.I.E.E., Corp., Londonderry, Ireland.
Manthorpe, E., Northern Counties Electricity Supply Co., Ltd., Hebburn, Durham.
Maquay, G. A., A.M.I.E.E., Pontypool Electric Lighting Co., Pontypool.
Marks, A. E. (electrician), Ogmore Valley Electricity Supply Co.
Marsden, H., Urban District Council, Honley.
Marshall, R., A.M.I.E.E., Corporation, Ayr, Scotland.
Mathias, F. V. L., A.M.I.E.E., Corporation, Warrington, Lancs.
Maxwell, H. B., M.I.E.E., Burgh, Partick, Scotland.
Mayes, A. E., A.M.I.E.E., Isle of Wight Electric Light & Power Co., Electricity Works, Ventnor; & Shanklin.
Merritt, F. H., A.M.I.E.E., Frome Electricity Supply, Frome.
Miller, H. W., M.I.C.E., M.I.E.E., Kensington-ct. Station (Kensington & Knightsbridge Electric Lighting Co., Ltd.).
Miriam, W., Cleveland Trust, Ltd., Saltburn-by-the-Sea.
Mittelhousen, Chas., Urban District Council, Bexley, Kent.
Money, A.W., A.M.I.E.E., Chiswick Electric Supply Corporation, Chiswick, W.
Moorhouse, W. H., Barnsley & District Electric Traction Co., Ltd.
Morgan, J. B., Urban District Council, Horsham, Sussex.
Morgan, W. D., Scottish Central Electric Power Co., Larbert, Scotland.
Morton, H., Urban District Council, Llandudno.
Mounsey, C., Minehead Electric Supply Co., Ltd., Minehead, Somerset.
Mountain, A. B., M.I.E.E., Corporation, Huddersfield.
Munro, H. D., M.I.E.E., Corporation, Exeter.
Murdoch, A. D., Corporation, Deptford.
Murray, E. T. Ruthven, M.I.E.E., M.I.MECH.E., North Metropolitan Electric Power Supply Co.; North Metropolitan Electrical Power Distribution Co., Ltd., Spencer House & South-pl., Finsbury-pave., London, E.C.; & St. Albans & District Electric Supply Co., Ltd.

Engineers—Electricity Works—*continued.*

Nalder, H. H., A.I.E.E., Cork Electric Tramways & Lighting Co., Ltd., Cork.
Nash, M., A.M.I.E.E., Weston-super-Mare.
Nash, R. P. (British Insulated & Helsby Cables, Ltd.), Prescot.
Neild, J. F., Corporation Tramways, Ayr.
Nevill, H. A., Corporation, Wakefield.
Newington, Frank A., M.I.E.E., Corporation, Edinburgh.
Newington, S. Wilmott, Corp., Oldham.
Newton, F., G. W. Railway, Cardiff.
Nicholson, L., Milford-on-Sea Electric Supply Co., Milford-on-Sea, Hants.
Nixon, F. A., A.M.I.C.E., A.I.E.E., District Council, Handsworth, Staffs.
Norton, C. R., Corporation Pier, Southend.
Okell, E. G., M.I.E.E., Corporation, Plymouth.
Olver, P., A.M.I.E.E, Harrow Electric Light & Power Co., Ltd., Harrow.
O'Sullivan, P. F., M.I.C.E.I., Dublin United Tramway Co., 9, Upper Sackville-st., Dublin.
Parkinson, C. F., A.M.I.M.E., M.I.E.E., Paisley, Scotland.
Parkinson, G. R. J. (resident), Midland Electric Corporation, Ocker Hill, Tipton.
Parsons, T. C., A.M.I.E.E., Town Council, Govan.
Partridge, G.W., M.I.E.E., London Electric Supply Corporation, Deptford.
Pay, F. C., A.I.E.E., Urban Electric Supply Co., Ltd., Newton Abbot, Devon.
Payne, G., Church Stretton, Salop.
Pearce, S. L., M.I.E.E., Corporation, Manchester.
Pember, J. D., A.M.I.E.E., Urban District Council, Dartford.
Perkins, E. P., Chiswick Electricity Supply Corp., Ltd., Aberystwith.
Perry, James, M.E., M.I.C.E., Galway Electric Co., Galway.
Phillips, R.W. L., A.M.I.E.E., Corporation, Bedford.
Pickersgill, A., Urban District Council, Cleckheaton, Yorks.
Pilditch, G. F., A.M.I.E.E., Urban District Council, Rathmines, co. Dublin.
Pilling, J., M.I.E.E., Corporation, King's Lynn, Norfolk.
Poole, Wm. E., Hexham & District Electric Supply Co., Ltd., Hexham.
Pooley, H., A.M.I.C.E., Corporation Gas & Electricity Department, Stafford.
Porter, G., A.M.I.C.E., Corporation, Worthing.
Pott, Arthur H., A.M.I.C.E., M.I.E.E., A.M.AM.I.E.E., Metropolitan Electric Tramways, Ltd., Spencer House, South-pl., Finsbury Pavement, London, E.C.
Powell, David, Gorseinon Electric Light Co., Gorseinon.
Prentice, J., Kelvinside, Glasgow.
Prentice, Napier, A.I.E.E., Suffolk Electricity Supply Co., Ltd., Stowmarket, Suffolk.
Price, S. L. R., District Council, Pembroke, Dublin.
Pringle, P. J., M.I.E.E., M.I.M.E., Corporation, Burton-on-Trent.

Engineers—Electricity Works—*continued.*

Pritchard, W. E., Electricity Works, Portdinorwic, Carnarvonshire.
Proctor, H. Faraday, A.M.I.C.E., M.I.E.E., Corp., Bristol.
Prusmann, C. A. L., A.M.I.M.E., M.I.E.E., Corporation, Swansea.
Randall, A. B., M.I.E.E., Salisbury Electric Light Co., Town Mill, Salisbury.
Rayner, E. S., A.M.I.E.E., Corporation, Doncaster.
Reader, T., A.M.I.E.E., Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey.
Reed, G. H., Chagford & Devon Electric Light Co., Chagford, Devon.
Reid, Irvine, Fort William Electric Light Co.
Richardson, H., A.M.I.E.E., Town Council, Dundee.
Rider, J. H., M.I.C.E., M.I.E.E., &c., L.C.C. Tramways, 62, Finsbury Pavement, E.C.
Riseley, H. L., A.M.I.E.E., Newcastle-on-Tyne Electric Supply Co., Carville Power Station, Wallsend.
Roberts, R. W., Kensington & Knightsbridge Co., Chapel-pl., Brompton-rd., S.W.
Robertson, J. A., M.I.E.E., Corporation, Greenock.
Robertson, R. S., Urban Electric Supply Co., Ltd., Godalming.
Robinson, L. L., A.M.I.C.E., M.I.E.E., Hackney Electricity Works, Millfields-rd., Clapton.
Robinson, Sir Clifton, A.I.C.E., M.I.E.E., Imperial Tramways Co., Middlesbrough.
Rogers, R. F., Middlesbrough, Stockton & Thornaby Tramways, Middlesbrough.
Rogerson, W. M., A.M.I.E.E., Corporation, Halifax.
Roles, T., A.M.I.E.E., Corporation, Bradford.
Ross, W. S., Corporation, Reigate.
Ross, W. W., Mardy Electric Light Co., Ltd., Mardy, Glam.
Rowland, R., A.M.I.E.E., District Council, Stretford, Lancs.
Ruddle, Mark, M.I.E.E., Corporation, Dublin.
Russell, C. Newton, A.M.I.C.E., M.I.E.E., Borough Council, Shoreditch.
Rutherford, A. P., A.M.I.E.E., Corporation, Leith, Edinburgh.
Ryan, V., A.I.E.E., Electric Light Station, Killarney.
Rycroft, P. E., A.M.I.E.E., Heston & Isleworth Council, Hounslow, W.
Rye, A. N., Urban Electric Supply Co., Ltd., Hawick.
Rylance, H., Kildare, Ireland.
Sale, H. B., North Metropolitan Electrical Power Distribution Co., Ltd., Barnet.
Salter, Glynn, Lymington Electric Light & Power Co., Lymington.
Salter, J. R., M.I.E.E., Lancs. United Tramways, Ltd., Atherton, Lancs.
Sankey, B., A.M.I.E.E., Corporation, Whitehaven.
Savage, C. E., Corporation, Dudley.
Sayer, H. E., Wallasey U.D.C., Liscard.
Schofield, S. D., M.I.E.E., A.M.I.MECH.E., Urban District Council, Shipley.
Schultz, G., A.M.I.E.E., Notting Hill Electric Lighting Co., 140, High-st., Notting Hill, W.

Engineers—Electricity Works—*continued.*

Scott, W. H., Chepstow Electric Light & Power Co., Nelson-st., Chepstow.
Seabrook, A. H., A.M.I.E.E., A.M.I.MECH.E., West Ham Corporation, 84, Romford-rd., Stratford, E.
Senior, J., Urban District Council, Mexborough.
Shaw, A. H., M.I.E.E., Urban District Council, Ilford.
Shaw, Cyril M., A.M.I.E.E., Corporation, Worcester.
Shaw, J., M.I.E.E., Mersey Railway Co., Birkenhead.
Shawfield, C. E. C., A.M.I.E.E., M.I.MECH.E., Corporation, Wolverhampton.
Sheardown, Percy S., M.I.E.E., Dublin United Tramway Co., Ringsend, Dublin.
Shenton, T. S., Urban District Council, Rugby.
Shepherd, J. H., Dundee, Broughty Ferry & District Tramways Co., Ltd., Dundee.
Sillar, A. R., M.I.E.E., Corporation, Colchester.
Sillery, W., A.M.I.E.E., Corporation, Wrexham.
Simpson, F. A., Newmarket Electric Light Co., Ltd., Newmarket.
Simpson, J. F., M.I.E.E., Corporation Tramways, Preston.
Simpson, R., London County Council, Generating Station, Victoria Embankment.
Simpson, R., North Shields, Tynemouth & Whitley Tramways, Tynemouth.
Simpson, R. G., Corporation, Weymouth.
Slevin, Jas., Corporation, Wigan.
Smith, A. T., A.M.I.E.E., Corporation, Leigh, Lancs.
Smith, C. B., M.I.E.E., Hove Electric Lighting Co., Ltd., Hove.
Smith, C. L., Dorking Electricity Supply Co., Dorking, Surrey.
Smith, F. J., Leamington & Warwick Electrical Co., Warwick.
Smith, G. E., Urban Electric Supply Co., Ltd., Dartmouth.
Smith, H. A., Cults, Aberdeen.
Smith, J. J., A.M.I.E.E., Corporation, Stockton.
Smith, L., Dorking Electricity Supply Co., Dorking.
Smith, T. R., A.M.I.E.E., Corporation Tramways, Leicester.
Smyth, J. M., M.I.E.E., Corporation, Keighley, Yorks.
Smyth, M. G., A.M.I.E.E., Larne, co. Antrim.
Sommerville, G., A.M.I.E.E., Corporation, Faversham, Kent.
Sowter, W. J. U., Urban District Council, Bray, Ireland.
Spark, J. W., Corporation, Devonport.
Sparks, C. P., M.I.E.E., M.I.C.E., County of London Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C.
Spencer, F., M.I.E.E., Skircoat Tramway Depôt, Halifax.
Sprunt, H. W., A.M.I.M.E., A.M.I.E.E., S. London Electric Supply Corp., Ltd., Lambeth.
Spurr, G. R., A.M.I.E.E., District Council, Walthamstow.
Staniland, N., A.M.I.E.E., Hornsey.

Engineers—Electricity Works—*continued.*

Starkie, J. E., A.M.I.E.E., Corporation, Burnley.

Starr, D. A., Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow.

Still, Percy, M.I.E.E., A.M.I.C.E., Chelsea Electricity Supply Co., 19, Cadogan-gardens, S.W.

Stiven, E. B., Police Commissioners' Electricity Works, Rothesay.

Storey, P., A.M.I.E.E., Town Council, Torquay.

Stott, J., Corporation, Heywood.

Street, H. F., Corporation, Southampton.

Summerside, J. W., Northern Counties Electricity Supply Co., Ltd., Alnwick, Northumberland.

Swan, R. J. J., A.M.I.E.E., Chesham.

Szlumper, Sir J., Brompton & Piccadilly Circus Railway Co., St. James's Park Station, S.W.

Taite, C. D., M.I.E.E., Lancashire Electric Power Co., 196, Deansgate, Manchester.

Talbot, H., M.I.E.E., Corp., Nottingham.

Talbot, Henry, Corporation, Todmorden.

Tapper, J. E., A.M.I.E.E., U.D.C., Beckenham.

Tapper, W. C. P., A.M.I.E.E., Stepney Borough Council, Whitechapel, E.

Tattersall, D., Ingleton Electric Lighting & Power Co., Ingleton.

Taylor, H. M., Corporation, Middlesbrough.

Teague, F., Corporation, Bath.

Teasdel, J. E., U.D.C., Pontypridd.

Tester, W. A., A.M.I.E.E., A.M.I.M.E., Corporation, Lancaster.

Thomas, B., Llandrindod Wells Electric Light & Power Co., Ltd., Llandrindod Wells.

Thomson, J. S., Fife Electric Power Co., Dunfermline, N.B.

Thomson, W., Corporation, Kendal.

Thornhill, E. J. B., A.M.I.E.E., Corp., Taunton.

Tiddeman, P. J. S., M.I.E.E., Corporation, Stoke-on-Trent.

Todd, E. T., Oldham, Ashton & Hyde Electric Tramway, Denton.

Tomlinson-Lee, H., A.M.I.E.E., Wimbledon.

Tonge, J. H., M.I.E.E., National Electric Supply Co., Ltd., Preston.

Toulmin, J., A.M.I.E.E., Burton & Ashby Light Railway, Swadlincote, Burton-on-Trent.

Traill, W. A., C.E., Giants' Causeway & Portrush Electric Tramway Co., Portrush.

Trimmell, L. C. B., A.I.E.E., Richmond (Surrey) Electric Light & Power Co., Ltd., Richmond, Surrey.

Tudman, A. R., A.M.I.E.E., Electricity Works, Colwyn Bay.

Tulloch, H. A., Dalkeith, Midlothian.

Turnbull, C., A.M.I.E.E., Tynemouth Corporation, North Shields.

Turnbull, Jas. L., Corporation, Broughty Ferry, Forfarshire.

Turner, C. J., A.I.E.E., District Council, Hoylake.

Ullmann, W. C., M.I.E.E., M.I.MECH.E., Corporation, Nelson-st., East Ham.

Vignoles, W. A., M.I.E.E., Corporation, Great Grimsby.

Engineers—Electricity Works—*continued.*

Wakeford, J. P., Urban District Council, Bilston, Staffs.

Walker, C. R., Mansfield & District Tramways, Ltd., Sutton-rd., Mansfield.

Walker, H., A.M.I.E.E., Bridgewater & District Electric Supply & Traction Co., Ltd., Mount-st., Bridgewater.

Walker, J. R., A.M.I.E.E., L.C.C. Generating Station, East Greenwich, S.E.

Walker, W. A., Urban District Council, Kettering.

Warburton, H. N., Winchester Electric Light & Power Co., Ltd., Winchester.

Wardrop, A. V., A.M.I.E.E., District Council, Elland, Yorks.

Watkins, A. A., A.M.I.E.E., Sheerness & District Electric Power & Traction Co., Sheerness.

Watkins, H. S., Sunderland & District Tramways, Ltd., Philadelphia, nr. Fence Houses, Co. Durham.

Watson, S. J., M.I.E.E., Corporation, Bury.

Watts, H. W., A.M.I.M.E., A.M.I.E.E., Urban Electric Supply Co., Ltd., Weybridge, Surrey.

Weston, J. R., Urban District Council, Watford.

Wheelwright, P. P., A.I.E.E., Corp., Blackburn.

White, G. R., Corporation, Gloucester.

White, P. F., Electricity Works, Bangor.

Whitehead, T. R., M.I.M.E., Coventry Electric Tramways Co., Coventry.

Whitie, Wm., Brompton & Kensington Electricity Supply Co., Richmond-rd., Earl's-ct., W.

Whitlock, A. A., M.I.E.E., County of London Electric Supply Co., Ltd., The Causeway, Wandsworth.

Wilkes, A., Rothesay Tramways Co., Ltd., Rothesay.

Wilkins, A. E., Corporation, Monmouth.

Wilkinson, F. A., M.I.E.E., M.I.M.E., Marylebone.

Wilkinson, F. E., Electric Supply Corp., Ltd., Falmouth.

Wilkinson, G., M.I.E.E., Corporation, Harrogate.

Wilkinson, H., District Council, Radcliffe.

Wilkinson, R. H., Corporation, Huddersfield.

Williams, D., A.I.E.E., Atherton, Lancs.

Williams, E. J., North of Scotland Electric Light & Power Co., Ltd., Inverness, N.B.

Williams, P., Urban District Council, Holyhead.

Williams, S., Corporation, Motherwell, N.B.

Willis, R. H., Alloa, N.B.

Wilmshurst, T. P., M.I.E.E., Corp., Derby.

Wilson, W. H., Municipality, Sleaford.

Winslow, I. E., Coventry Electric Tramways Co., Coventry.

Woodhouse, W. B., A.M.I.MECH.E., A.M.I.E.E., Yorkshire Electric Power Co., Thornhill, nr. Dewsbury.

Woodman, L. W., M.I.E.E., Corporation, Dover.

Worrall, F., District Council, Long Eaton.

Wray, A. J., A.I.E.E., Banbury & District Electric Supply Co., Ltd., Banbury, Oxon.

Wright, E. H., A.M.I.E.E., Urban District Council, Rhyl, Flintshire.

Wyllie, Alex., M.I.E.E., Corporation, Walsall.

Engineers—Electricity Works—*continued.*

Yale, T. P. O., A.M.I.E.E., Yale Electric Power Co., Ltd., Blaenau-Festiniog, Merionethshire.
Yeaman, C. H., Corporation, Hanley.
Yerbury, H. E., A.M.I.E.E., Corporation Tramways Department, Sheffield.

Engineers—General.

F.—Ingénieurs—En général.
G.—Ingenieure—im Allgemeinen.

Ayrton, William, & Co., Gorebrook Iron Works, Longsight, Manchester.
Baerlein & Co., 12, Blackfriars-st., Salford, Manchester.
BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.
BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.
Bomford & Evershed, Ltd., Pershore.
Bow, McLachlan & Co., Ltd., Paisley.
Braby, F., & Co., Petershill-rd., Glasgow.
Bridge, D., & Co., Castleton Iron Works, Castleton, Manchester.
Brown, F. V., & Co., 49, Deansgate, Manchester.
Carter, J., Sons & Co., Ltd., New Bailey-st., Salford, Manchester.
Coalbrookdale Co., Ltd., 15 & 16, Rathbone-pl., Oxford-st., W.
Cole, T. & W., Ltd., Park-rd. Ironworks, St. Ann's-rd., Burdett-rd., London, E.
Danks, H. & T., Ltd., Crown Boiler Works, Netherton, Dudley.
Dashwood & Sons, Ltd., Sycamore Works, Wimbledon, Surrey.
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester. (Telegrams: "Paxman, Colchester.") *See advt., page* 527.
Davies & Metcalfe, Ltd., 4, St. Ann's-sq., Manchester.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Downham, John, & Co., Barnbrook Iron Works, Bury, Lancs.
Eddison, R. W., Steam Plough Works, Leeds.
Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, London, E.
Fairfax, J. S., & Co., Ltd., Kew Bridge Engineering Works, Chiswick, W. (Telegs.: "Speeduple, London." Telephone No. 535, Chiswick.)
Fenton, W., Burton-pl., Hanley.
Gifkins, A.V., & Co., 68, Victoria-st., Westminster, S.W.
Gosling & Gatersbury, Atlas Works, Victoria-rd., Staffs.
Graham, Wm., & Sons, 3, Rochester-row, Westminster, S.W.

Engineers—General—*continued.*

Gwyn, A. E. W., Ltd., 75A, Queen Victoria-st., London, E.C.
Haden, G. N., & Sons, Trowbridge.
Halse, W. H., & Co., Beckwith-st., Liverpool.
Handyside, Andrew & Co., Ltd., Britannia Iron Works, Derby; & 104, Queen Victoria-st., London, E.C.
Harvey & Co., Ltd., 183, Gresham House, Old Broad-st., London, E.C.
Hastie, J., & Co., Ltd., Nicholson-st., Greenock, N.B.
Head, Wrightson & Co., Thornaby-on-Tees.
Hetherington, J., & Sons, Ancoats, Manchester.
HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-square, London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")
Holmes, W. Cartwright, & Co., 80, Cannon-st., E.C.
Hughes & Stirling, Bootle, Liverpool; & 7, Arundel-st., London, W.C.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*
Johnson, William, & Sons (Leeds), Ltd., Castleton Foundry, Armley, Leeds.
Kennedy, H., & Son, Coleraine, Ireland.
Lancaster & Tonge, Ltd., Pendleton, Manchester.
Lea, Son & Co., Pengwerne Works, Shrewsbury (Telegs.: "Lea Son, Shrewsbury." Teleph. No. 60); & St. Mary's Walk, Stafford. (Telegs.: "Lea Son, Stafford." Teleph. No. 93.)
Leeds Forge Co., Ltd., Leeds; & 108, Fenchurch-st., & 63, Queen Victoria-st., London, E.C.
Longbotham, R. H., & Co., Ltd., Ings Foundry, Ings-rd., Wakefield.
Manlove, Alliott & Co., Ltd., Bloomsgrove Works, Nottingham; & 41 & 42, Parliament-st., London, S.W.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Mechan & Sons, Ltd., Scotstoun Iron Works, Glasgow, N.B.
Miles, Woodward & Co., Cardigan Engineering Foundry, Cardigan.
Moore, James, & Sons, Ltd., 114, Millfield, Belfast.
Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Tel. No. 184, Bury.)
Newman, F., & Co., Ltd., Victoria Foundry, Lever-st., Wolverhampton.
Nicholson, W. N., & Sons, Ltd., Newark-on-Trent.
Pearn, Frank, & Co., Ltd., West Gorton, Manchester.

Engineers—General—*continued.*

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

Peirson & Co., 17 & 18, St. Dunstan's Hill, Great Tower-st., London, E.C.

Piggott, Thomas, & Co., Ltd., Atlas Works, Springhill, Birmingham.

Plenty & Sons, Ltd., Eagle Iron Works, Newbury, Berks.

Pulsometer Engineering Co., Ltd., The, Nine Elms Ironworks, Reading, Berks. London offices: 61 & 63, Queen Victoria-st., E.C. *See advt., page* 720.

Raybould, E. J., & Co., Workington.

Robertson & Orchar, Wallace Foundry, Dundee.

Rushworth & Co., Sowerby Bridge, Yorks.

St. Pancras Ironwork Co., Ltd., 171, Pancras-rd., London, N.W.

Sanderson & Robinson, Ltd., Mansfield, Notts.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Shore & Son, Albion Foundry, Hanley.

Sowden, David, & Sons, Shipley.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, E. (Telegrams: "Reckenzaun, London.")

Stevenson & Co., Ltd., Canal Foundry, Preston, Lancashire.

STURTEVANT ENGINEERING CO., LTD., 147, Queen Victoria-st., London, E.C. (Telegs.: "Sturtevant, London." Teleph. No. 7121, Central. Lieber's Code.)

Sykes, Henry, Ltd., 66, Bankside, London, S.E.

TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.

Taylor Bros. & Co., Ltd., Clarence Iron & Steel Works, Leeds; & 16, Victoria-st., Westminster, S.W.

Tourtel Manufacturing Co., Ltd., Wardrobe-chbrs., 146A, Queen Victoria-st., London, E.C.

Urquhart, Lindsay & Co., Ltd., Blackness Foundry, Dundee.

VAUGHAN BROWN & COOK, 298 & 300, Goswell-rd., London, E.C.

Vauxhall Engineering Co., Liverpool.

Wadham's Engineering Co., 146A, Queen Victoria-st., London, E.C.

Wallsend Slipway & Engineering Co., Wallsend-on-Tyne.

Warner, H., & Son, Lion-st., Ipswich.

Wellman-Seaver-Morgan Co., Ltd., 47, Victoria-st., S.W.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077.) *See advt., page* 411.

Whittaker Bros., Horsforth, Leeds.

Yates & Thom, Ltd., Canal Engineering & Boiler Works, Blackburn.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Wasserkraft.

BÖVING, J. O., 72, Victoria-st., Westminster, London, S.W.

Causer, W., & Co., 48, St. Paul's-sq., Birmingham.

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.

ESCHER WYSS & CO. (agent, Jens Orten-Böving), 72, Victoria-st., Westminster, London, S.W.

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Jennings, George, Ltd., 65 & 67, Lambeth Palace-rd., London, S.E.

Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.

Leadbeater & Gill, Ltd., Braithwaite-st., Holbeck, Leeds.

Le Grand & Sutcliff, 125, Bunhill-row, London, E.C.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Nell, Frederic, 46, Queen Victoria-st., London, E.C.

Pulsometer Engineering Co., Ltd., Nine Elms Iron Works, Reading, Berks. London offices: Queen Victoria-st., E.C. *See advt., page* 720.

Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegrams: "Shand, London.")

Sharp, Sidney, M.I.M.E., M.I.E.E., 34, Victoria-st., Westminster, S.W. (Telegs.: "Vivax, London.")

STEIGER, ALPH., M.I.C.E., 28, Victoria-st., Westminster, S.W.

Taylor & Hubbard, Leicester.

Waller, G., & Son, 165, Queen Victoria-st., London, E.C.; & Stroud, Glos.

Williams, A., & Co., 814, Old Ford-rd., Bow, London, E.

Engineers—Lighthouse.

F.—Ingénieurs—Phares.
G.—Ingenieure für Leuchtthürme.

Chance Bros. & Co., Ltd., Smethwick, Birmingham.

Kenward, J., 12, Marine Parade North, Great Yarmouth.

Steven & Struthers, Anderston Brass Foundry, Glasgow. (Telegrams: "Bronze, Glasgow." Telephone Nos.: Nat. 133, Argyle; 1775, Corp.)

Stevenson, D. & C., 84, George-st., Edinburgh.

Engineers—Mechanical.

F.—Ingénieurs—Mecaniciens.

G.—Ingenieure—Maschinenbau.

Allchin, Wm., Ltd., Globe Works, Northampton.

Allen, C., & Son, Tone Engineering Works, Taunton.

Apps, A., 433, Strand, London, W.C.

Barber & Coleman, Ltd., 38, King-st. West, Manchester.

Barnett, Rowland & Co., Ltd. Office & works: Hanover-sq., Newcastle-on-Tyne. Branch office and show-room: 17, Dean-st.

Beck, W. H., & Co., 115, Cannon-st., London, E.C. (Teleph. No. 1519, Central.)

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Telephone Nos. 4480 & 4481.) *See advt., page* 529.

Bennis, Alf. W., M.I.MECH.E., A.I.E.E., Westcliffe, Eccles.

Bennis, Edward, & Co., Ltd., Little Hulton, Bolton.

Bentley, Wallace, Royal Insurance-buildings, Crossley-st., Halifax.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bessemer, H., & Co., Ltd., Bessemer Steel Works, Sheffield.

Braun & Co., experts in Industrial Mechanical Inventions. Offices: 236–238, Pentonville-rd., & 1, North-st., King's Cross, N.

Broadbent, T., & Sons, Ltd., Chapel Hill, Huddersfield.

Broom & Wade, Ltd., High Wycombe.

Burrell, C., & Sons, Ltd., St. Nicholas Works, Thetford.

Butterley Co., Butterley Iron Works, Derby.

Clark, Bunnett & Co., 22, Queen-st., London, E.C.

Clark, Fisher & Wadsworth, Gordon Works, Ealing, W.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Combe Barbour, Falls Foundry, Belfast.

Danks, John, & Son, Proprietary, Ltd., 32, Union-st., Wednesbury.

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.

Denison, T., & Co., Arrow Works, West-st., Leeds.

Donovan & Co., Ltd., Broughton Bridge Iron Works, Salford.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Engineers—Mechanical—*continued.*

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.

Edwards, A. E. A., 105, Colmore-row, Birmingham.

EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.

Efandem Co., Piccadilly Circus Mansions, 67A, Shaftesbury-ave., W.

Electric Lighting & Engineering Co., 137 & 139, Duke-st., Liverpool.

Fairfax, J. S., & Co., Ltd., Mechanical & Electrical Engineers; Patent Driving Gears of any Ratio, Pulley Blocks & Hand Cranes, Electric Machine Tools, Motor Vehicles, Kew Bridge Engineering Works, Chiswick, W. (Telegs.: "Speeduple, London." Teleph. No. 535, Chiswick.)

Farmer, Sir James, & Sons, Ltd., Adelphi Ironworks, Salford, Manchester.

Fawcett, Preston & Co., Ltd., 17, York-st., Liverpool.

Feneley, G. H., Thornbridge Villas, Great Longstone, nr. Bakewell, Derby.

Flamwell, T., & Son, Worksop.

Fletcher, George, & Co., Masson & Atlas Works, Derby.

Foxcroft & Duncan, Phœnix Works, Montmorcter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 & 633.

Gallinagh, Jas. P., Corporation, Limerick.

Gaster, Leon, 32, Victoria-st., Westminster, S.W. (Telegrams: "Gaster, London." Telephone No. 5215, Westminster.)

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 523.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Gillespie, John D., & Co., Leadenhall-bldgs., E.C.

Grangemouth Gas Co., Ltd., Grange-st., Grangemouth.

Granger, W. A., 12, Eaton Park-rd., Palmers Green, London, N.

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Harfield & Co., Ltd., Arundel House, Victoria Embankment, London, W.C.

Harris, J., Langstone-rd., Peverell, Plymouth.

Harrison & Co., Ure Bank Engine Works, Ripon.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Hathorn, Davey & Co., Ltd., Sun Foundry Leeds.

Hawthorns & Co., Leith Engine Works, Leith.

Heberlein Co., Ltd., Suffolk House, Laurence Pountney Hill, E.C.

Engineers—Mechanical—*continued.*

Hedleys, Ltd., Forward Works, Bell-st., West Bromwich.
Hopps, James, Englefield-green, Surrey.
Kelley, H., & Co., 26, Pall Mall, Manchester.
Kitson & Co., Airedale Foundry, Leeds.
Kramos, Ltd., Locksbrook Engineering Works, Bath.
Ledward & Beckett, Ltd., Sanctuary House, Tothill-st., London, S.W.
MacLellan, P. & W., Ltd., 129, Trongate, Glasgow; & 108A, Cannon-st., London, E.C.
Magnetic Separator, Ltd., 37, Tithebarn-st., Liverpool.
Massey, W. H., M.I.C.E., M.I.E.E., 25, Queen Anne's Gate, London, S.W. (Telegs.: "Massive, London." Teleph. No. 832, Westminster.)
Massey, B. & S., Openshaw, Manchester.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Mechanical Appliances Co., Ltd., 57, Chiswell-st., London, E.C.
Mitchell, J., & Co., Craven House, Kingsway, W.C.
Morcland, Richard, & Son, Ltd., 80, Goswell-rd., London, E.C.
Morris Herbert & Bastert, Ltd., Loughborough.
Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.
Munro, Robert W., 103–149, Cornwall-rd., South Tottenham, London, N.
Musker, C. & A. (1901), Ltd., Tue Brook, Liverpool.
New Century Co., 235, High Holborn, W.C.
Newall Engineering Co., Ltd., Atherton's Quay, Warrington.
Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Brick-lane (late 35 & 37, Brick-lane), Whitechapel, London, E.
Nott, J. E., & Co., Ltd., High-st., Brecon; & Middleton-ter., Llandrindod Wells.
Olrick, L., & Co., Palmerston House, Bishopsgate-st., E.C. (Telegrams: "Olrick, London.")
Palmers Shipbuilding & Iron Co., Ltd., 7, Fenchurch-ave., London, E.C.; & Jarrow.
Patrick & Son, 155, Fulham-rd., London, S.W.
Perry, Thos., & Son, Ltd., Highfield Works, Bilston.
PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.
Player, W. & J., Ltd., Lionel-st., Birmingham.
Pollit & Wigzell, Ltd., Sowerby Bridge, Yorks.
Pontifex & Wood, 176, Salisbury House, London Wall, E.C.

Engineers—Mechanical—*continued.*

Powell, E., 10, Grove Hill-rd., Tunbridge Wells.
Price & Belsham, 52, Queen Victoria-st., London, E.C.
Ramsay Bros., Phœnix Works, Whitehaven.
Reeves, A. R., M.I.M.E., 46, Queen Victoria-st., London, E.C.
Ritson, T., Redheugh Bridge-rd., Gateshead-on-Tyne.
Robey & Co., Ltd., Globe Works, Lincoln.
Robinson, John, Regent-st., Kingswood, near Bristol.
Rogers, H. J., M.I.M.E., M.I.E.E., Engineering Works, Watford.
Rose, Downs & Thompson, Ltd., Old Foundry, Cannon-st., Hull.
SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.
Sharp, Sidney, M.I.M.E., M.I.E.E., 34, Victoria-st., Westminster, S.W. (Telegs.: "Vivax, London.")
Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., Queen Victoria-st., London, E.C.
Shill, P. Richardson, A.M.I.E.E., Bassishaw House, Bassinghall-st., London, E.C.
Sinclair, J., 26, Beaver Bank-pl., Edinburgh.
Smillie, Samuel, Havelock Copper Works, 71, Lancefield-street, Glasgow.
Smith, Sydney, & Sons, Basford Brass Works, Nottingham.
Snowdon, Wm., 24, Basinghall-st., Leeds.
Spencer & Co., Ltd., Melksham Foundry, Melksham, Wilts.
Spittle, T., Ltd., Cambrian Foundry, Newport.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stevenson & Parry, 16, South Castle-st., Liverpool.
Sykes, Joseph, Bros., Ltd., Acre Mills, Lindley, Huddersfield.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.
Taylor, Wm., of Taylor, Taylor & Hobson, Ltd., Stoughton-st. Works, Leicester.
Taylor & Challen, Ltd., Derwent Foundry, Birmingham.
Taylor & Sons, Ltd., Briton Ferry, South Wales.
Thompson, Wm. J., 34, Park-lane, Liverpool.
Tyer & Co., Ltd., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.
Uskside Engineering Co., Uskside Iron Works, Newport, Mon.
Vickers, T., C.E., 10, Montgomery Mount, Nether Edge, Sheffield (consulting).
Wade, Joseph, & Sons, Bradford, Yorks.
Walley, J., St. Mary's-bridge Works, Derby.
Warburton, J. S., 19, Stanwick-rd., W. Kensington.
Warners & Son, Phœnix Foundry, Hanley.
Warwick Machinery Co., Ltd., 83, Cannon-st., London, E.C.
Watson, H., & Sons, High-bridge Works, Walker Gate, Newcastle-on-Tyne.

Engineers—Mechanical—*continued.*

Westinghouse Brake Co., Ltd., York-road, King's Cross, London, N.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077, Bank.) *See advt., page* 411.

White, Wm., & Co., 3, Budge-row, Cannon-st., E.C.

Wild, John, & Co., Ltd., Falcon-street, Oldham, Lancs.

Williams & Coppage, The Struet, Brecon.

Williams, Hal, & Bridges, 3, Salters' Hall-ct., London, E.C. (Telegs.: "Kawaka, London." Teleph. Nos.: 3333, Central; 5550, Bank.)

Wilson, J. Allan, National Bank-bldgs., Kilmarnock.

Wood & Crawford, Alma Works, Sheffield.

Youngs, Ryland-st. Works, Birmingham.

Engineers—Mining.

F.—Ingénieurs—Mines.
G.—Ingenieure—Gruben.

Bowes, Scott & Western, Ltd., Broadway-chbrs., Westminster, London, S.W.

Brown, M. Walton, Neville Hall, Newcastle-upon-Tyne.

Commans, R. E., M.I.C.E., 6, Queen-st.-pl., E.C.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester. (Telegrams: "Paxman, Colchester.") *See advt., page* 527.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Engineers' Stores.

F.—Ingénieurs—Fournisseurs et magasins pour.
G.—Ingenieure—Lagerhaüs.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Carr, Rowland & Co., 6 & 8, Lime-st.-sq., London, E.C.

Christopher, J., & Sons, 39, 41 & 43, Clerkenwell-rd., London, E.C.

Donovan & Co., 12, Barwick-st., Birmingham.

Miller, I., & Co., 112 & 114, Golden-lane, London, E.C.

Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st. Works: Castle-st., London, S.E. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Wilson, J. A., National Bank-bldgs., Kilmarnock.

Engineers—Telegraph.

F.—Ingénieurs—Télégraphe.
G.—Ingenieure—Telegraphenbau.

Anderson, J. S., superintendent Commercial Cable Co., Dundee.

Apps, A., 433, Strand, W.C.

Barnett, Pat. M., M.I.C.E. (Great North of Scotland Railway Company), Aberdeen.

Bolton, W., Eastern Telegraph Co., K13, Exchange-buildings, Liverpool.

Boys, Major R. H. H., D.S.O., R.E., A.M.I.E.E., Postal Telegraphs, 64, North Side, Wandsworth Common, S.W.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Brittle, J. R., WH.SCH., M.I.C.E., F.R.S.E., Farad Villa, Vanbrugh-hill, Blackheath, London, S.E.

Budden, R. W., Commercial Cable Co., 18, Moult-st., Manchester.

Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

Burley, T., Midland Railway, Gloucester.

Carr, G. M., M.I.E.E., Postal Telegraphs, Leeds.

Chapman, A. E., Postal Telegraphs, Nottingham.

Cook, T., Commercial Cable Co., Edinburgh.

Crawford, Francis C., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, Essex.

Cross, W. H., Postal Telegraphs, Cork.

Crotch, A., Engineer-in-Chief's Dept., G.P.O. (West), St. Martin's-le-Grand, E.C.

Cullen, Jas., Postal Telegraphs, Southern District, Tipperary.

Culley, W. R., I.S.O., Submarine Department, Post Office Telegraphs, Woolwich.

Dearlove, A. L., M.I.C.E., M.I.E.E., 4, Great Winchester-st., London, E.C.

Dering, G. E., M.I.E.E., Lockleys, Welwyn, Herts.

Dutton, S., Telegraph Dept., Relay Station, Haverfordwest.

Dwyer, J. J., Postal Telegraphs, Southern District, Waterford.

Furze, J., superintendent, Commercial Cable Co., Liverpool.

Gray, Matthew Hamilton, Silvertown, Essex.

Harben, Alfred, 101, Charlton-rd., Blackheath, S.E.

Harrison, Thomas, Postal Telegraphs, Metropolitan (South) District, 74, North Side, Wandsworth Common, S.W.

Herbert, T. E., A.M.I.E.E., G.P.O., Sheffield.

Haskayne, H., Postal Telegraphs, Manchester.

Engineers—Telegraph—*continued.*

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

Hoeltzer, C., Craignethan Lodge, St. John's-rd., Blackheath, S.E.

Holmes, J. R., & Co., 55, West Campbell-st., Glasgow; & 13, York-bldgs., Adelphi, London, W.C.

Hooper, J. P., M.I.E.E., 31, Lombard-st., London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson, R., Post Office Telegraph Department, Moseley, Birmingham.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Leyshon, John W., M.I.E.E., Aldborough House, Dublin.

Lucas, F. R., Telegraph Construction & Maintenance Co., Ltd., Enderby's-wharf, Greenwich, London, S.E.; & Green-hall, Forest-row, Sussex.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Peake, R. E., M.I.C.E., 4, Great Winchester-st., London, E.C.

Phillips, E. G., Telegraph Dept., Metropolitan Railway, Bishop's-rd. Station, London, W.

Plummer, T., G.P.O., Liverpool.

Price, Hugh, Engineering Department, Postal Telegraphs, Cardiff.

Price, J. P., South Metropolitan District, 74, North Side, Wandsworth Common, London, S.W.

Saunders, H. A. C., M.I.E.E., 50, Old Broad-st., London, E.C.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Barrow-in-Furness, Brecon, Welshpool, Swindon, Barry, Barnstaple & Isle of Wight. (Telegs.: "Lightable, London." Teleph. No. 961, Victoria.)

SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Smith, Henry, & Co. (Kieff), Ltd., 96 & 98, Leadenhall-st., London, E.C.

Stallibrass, E., 27, Cumberland Mansions, Bryanston-sq., W.

Stewart, D., Postal Telegraphs, Glasgow.

Sullivan, Herbert W., M.I.E.E., 19, Great Winchester-st., London, E.C. Works: Liverpool House, Middlesex-st.

Engineers—Telegraph—*continued.*

SYKES, W. R., INTERLOCKING SIGNAL CO., LTD., manufacturers of single needle, lock & block, signal & light indicators, galvanometers, large electric bells, & all kinds of electrical & mechanical signalling instruments for railways. Works: Voltaire-rd., High-st., Clapham, London, S.W. (Telegrams: "Blockish, London." Telephone No. 325, Battersea.) Glasgow office: Atlantic-chbrs., 45, Hope-st.

Taylor, H. A., M.I.C.E., M.I.E.E., 4, Great Winchester-st., E.C.

Tyer & Co., Ltd., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Vyle, W. W., Postal Telegraphs, Cardiff.

Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)

Weir, J., Commercial Cable Co.'s Office, Leith, Scotland.

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Engineers—Telephone.

F.—Ingénieurs—Téléphone.
G.—Ingenieure—Telephon.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Brown, Wm., district manager, National Telephone Co., Ltd., 13, Panmure-st., Dundee.

Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

Chambers, J. L., A.M.I.E.E., Post Office Telephone Service, Glasgow.

Clack, C. W., A.I.E.E., Western Electric Co., North Woolwich, E.

Cohen, B. S., National Telephone Co., Telephone House, Victoria Embankment, London, E.C.

Cox-Walkers, Ltd., Darlington. (Telegrams: "Cox-Walkers, Darlington." National Telephone No. 87.) *See advt., page* 29.

ELECTRICAL ENGINEERING & MAINTENANCE CO., 49, Lime-st., London, E.C.

Fletcher, Thomas, M.I.E.E., National Telephone Co., Ltd., Victoria Embankment, E.C.

GENT & HURLEY, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)

Gibson, Mansfield, Pilgrim-st., & Market-lane, Newcastle-on-Tyne.

Engineers—Telephone—*continued.*

Gill, Frank, M.I.E.E., National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.

Haley, A. C., 8, Exchange-st., Bolton.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

Jewson, F. K., A.I.E.E., Western Electric Co., North Woolwich, E.

King & Co., Park-row, Bristol.

McLean, Robert, States Telephone Dept., Guernsey.

Medlyn, W. J., Engineer-in-Chief's Office, G.P.O., E.C.

PARSONS, E. M., 67, King Edward-st., Hull.

Pease, H. M., A.M.I.E.E., Western Electric Co., North Woolwich, E.

PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Tel. No. 1243, London Wall.)

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Barrow-in-Furness, Brecon, Welshpool, Swindon, Barry, Barnstaple & Isle of Wight. (Telegs.: "Lightable, London." Teleph. No. 961, Victoria.)

Shill, P. Richardson, A.M.I.E.E., Bassishaw House, Basinghall-st., London, E.C.

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-hbrs., Westminster, London, S.W.

Stanhope, J. H., Post Office Central Telephone Exchange, London.

Stockens, E. E., National Telephone Co., Ltd., Aberdeen.

TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C. Room 76 (Telegrams: "Entraining, London." Telephone No. 881, Bank); & Vineyard House, Richmond.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 6100, Bank.) *See advt., page* 4.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Webb, Herbert Laws, M.I.E.E., M.AM.I.E.E., 35, Old Queen-st., S.W.

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Wilson, L. E., & Co., 20, Cross-st., Manchester.

Wood, E. J., National Telephone Co., Ltd., 12, Market-pl., Cambridge.

Engineers—Torpedo.

F.—Ingénieurs—Torpédo.
G.—Ingenieure—Torpedo.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.

Engineers—Torpedo—*continued.*

Hill, Claude W. (electrical dirigible locomotive torpedoes), Broad-st. House, London, E.C. (Telegrams: "Hillocking, London." Telephone No. 3503, Central.)

Engineers—Ventilating.

F.—Ingénieurs—Ventilation.
G.—Ingenieure—Ventilation.

Aland & Co, 46, Commercial-rd., Lambeth, London, S.E.

Alldays & Onions Pneumatic Engineering Co., Ltd., Small Heath, Birmingham.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.

Blackman Export Co, Ltd., 70, Finsbury Pavement, E.C.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Dargue, Griffiths & Co, Ltd., 51, North John-st., Liverpool.

FLITTON & COOMBS, sole makers of "the Lloyd" noiseless blast & exhaust fans, electrically or belt driven, Caroline-st., Old Kent-rd., London, S.E.

Gibbs, J., & Son, Ltd., 72–78, Duke-st., Liverpool.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Hayward Bros. & Eckstein, Ltd., 187–193, Union-st., Borough, London, S.E.

Hendry & Pattisson, Ltd., 3, Taybridge-rd, Lavender Hill, London, S.W.

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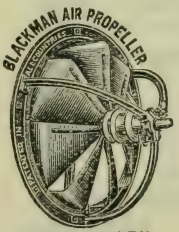

Matthews & Yates, Ltd., Cyclone Works, Swinton, Manchester.

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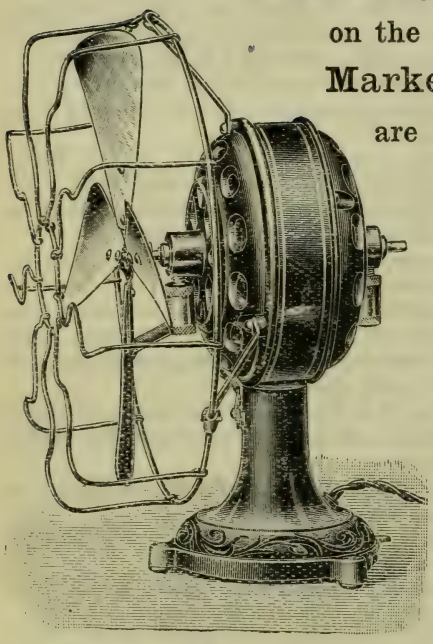

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Engineers—Ventilating—*continued.*

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Stott, J., & Co., 158, Queen Victoria-st., London, E.C.

STURTEVANT ENGINEERING CO., LTD., 147, Queen Victoria-st., London, E.C. (Telegs.: "Sturtevant, London." Teleph. No. 7121, Central.)

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

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Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Wilson-Wolf Engineering Co., Ltd., Laycocks Mill, Thornton-rd., Bradford.

Wing Disc Fan (F. W. Potter & Co.), Phipp-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Engravers—General.

F.—Graveurs—en général.

G.—Graveure—Allgemeinen.

Bowman, Charles, Ltd. (brass, &c.), 6, King-st., Tower-hill, London, E.C.

Carmichael, J., & Co., Ltd., Ward Foundry, Dundee.

Clayton, Son & Co., Ltd., Moor-end, Hunslet, Leeds; & 60, Queen Victoria-st., London, E.C.

Gilkes Engraving Works, Reading.

Greenwood, Thomas, Waterside, Halifax.

Hare & Co., Holborn-pl., High Holborn, London, W.C.

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Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.
Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.
Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 *&* 633.
Kirkaldy, D., & Son, 99, Southwark-st., S.E.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD EKTRIK TRADE MARK

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See advt., page 694 *& on lower outside edges.*

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.
Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End." Telephone No. 50, Bromley.) Laboratory: 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (Telegs.: "Muirheads, London." Tel. No. 779, Westminster.) *See advt., page* 609.
Newman, J. E., A.I.E.E., Sutton House, Gloucester.
O'Gorman & Cozens-Hardy, 82, Victoria-st., Westminster, S.W.
Paul, Robt. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, E.C. *See* ALPHABETICAL. *See advt., page* 608.
Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.
SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.
TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

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Bickford Smith & Co., Ltd, Tuckingmill, Cornwall.
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Brunton, W., & Co., Wrexham.
Electric Blasting Apparatus Co., Cinderford, Glos.
Electric Mining Co., Irongate, Derby.

Exporters & Importers of Electrical & Telegraphic Plant.

F.—Exportateurs et importateurs d'outillage électr. et télégr.
G.—Ausführer & Einführer von Electr. & Telegr. Materialen.

Brent & Co., 44, Great Tower-st., London, E.C.
Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.
Donovan & Co., 12, Barwick-st., Birmingham.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Eldon Electric Co., Ltd., 61, High Bridge, Newcastle-on-Tyne.
Fry, Miers & Co., 5, Laurence Pountney Hill, E.C.
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.
Harrower, Peter, 134, Bath-st., Glasgow.
Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)
IMPROVED ELECTRIC SUPPLIES CO., LTD., 7, Great Newport-st., St. Martin's-lane, W.C.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*
Keep Bros., 35 & 36, Great Charles-st., Birmingham.

Exporters & Importers of Electrical & Telegraphic Plant—*continued.*

Kidston, A. G., & Co., 155, Fenchurch-st., London, E.C.

Kilburn, Brown & Co., 20, St. Helens-pl., London, E.C.

Lang, Charles, 165, Queen Victoria-st., London, E.C. (Telegrams: "Clarinette, London." Telephone No. 10014, Central.) *European agent for Harris, Lee & Co., Ltd., Johannesburg.*

Levetus, E. & A., & Co., Stone House, 55 & 56, Basinghall-st., London, E.C.

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire (Telegrams: "Electricity, Dursley." Telephone No. 6, Nat.); & London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Markt Bros. & Co., 38, Beech-st., Barbican, E.C.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark; London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page 561.*

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Willis, Sindall & Co., Ltd., 4, Lloyd's-ave., London, E.C.

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BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Capell Fan Co., 13, Mosley-st., Newcastle-on-Tyne.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

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Edwards, J. D. (agent), 13 & 14, King-st., Cheapside, E.C.

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Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page 404 & inside back cover.*

LITTAUER, JAMES, 72, Finsbury Pavement, London, E.C. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

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PICKARD, F. HATTERSLEY, & CO., King-st., Leeds. Makers of patent fans, electric & belt-driven, for ventilating, cooling, &c.

REEDS ELECTRICAL CO., 128, Southwark-st., London, S.E. (Telegrams: "Rigoletto, London." Telephone No. 1304, Hop.)

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page 476.*

STURTEVANT ENGINEERING CO., LTD., 147, Queen Victoria-st., London, E.C. (Telegs.: "Sturtevant, London." Teleph. No. 7121, Central.)

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos.: 2292 & 2289, Gerrard.) *See advt., page 588.*

Fan Motors—Electric—*continued.*

Tetley & Co., Falcon Works, Poland-st., Oldham-rd., Manchester.

THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD. (Electrical Department), Canning Town, E. (Telegs.: "Thames, London." Tel. No. 526, Eastern.)

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wilson-Wolf Engineering Co., Ltd., Laycocks Mill, Thornton-rd., Bradford.

Wing Disc Fan (F. W. Potter & Co.), Phipp-st., E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Feed-Water Filter Manufacturers.

Carruthers, J. H., & Co., Ltd., Polmadie Iron Works, Polmadie, Glasgow. (Telegs.: "Hoisting, Glasgow." Teleph. No. 36, Nat. & Corp.)

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

RANKINE PATENT FEED WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

Feed-Water Heaters—Makers of.

F.—Injecteurs pour chaudières—Fab. de.
G.—Apparate zum Temperiren von Speisewasser.

Burnet, Lindsay, & Co., Moore Park Boiler Works, & Burnet's Siding (goods), Govan, Glasgow.

Erith's Engineering Co., Ltd., 70, Gracechurch-st., London, E.C.

Hawksley, Wild & Co., Sheffield.

Holden & Brooke, Ltd., Sirius Works, 47, Heywood-st., West Gorton, Manchester (Telegs.: "Influx, Manchester." Teleph. No. 3663); & 110, Cannon-st., London, E.C.

Kiersey & Co., Kilmacthomas, co. Waterford, Ireland.

McPhail & Simpson's Dry Steam Patents Co., Ltd., Wakefield.

Paterson Engineering Co., Ltd., Amberley House, Norfolk-st., W.C.

Royles, Ltd., Irlam, nr. Manchester.

Wright, T. Howard, Bros., Ltd., 72, Victoria-st., S.W.

Feeder Pillars.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

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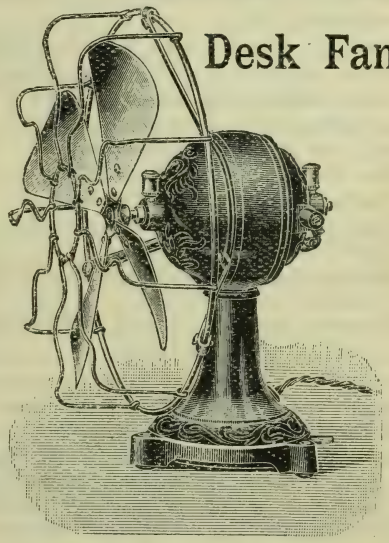

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Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Canning, W., & Co., polishing lathes, leather & felt bobs, calico mops, rouge, tripoli & crocus composition, 133–137, Great Hampton-st.; 5 & 6, Great Hampton-row; 1 & 2, Kenyon-st., & 88, Snow Hill, Birmingham.

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Field Rheostats.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

File Manufacturers.

F.—Limes—fab. de.
G.—Feilenhauer.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; 52, Queen Victoria-st., London, E.C.

EDELSTEN, JOHN, & SON, Warrington.

Groves, R., & Sons, Ltd., Beehive Wks., Sheffield.

Smith & Sons, 18, 22, 23, & 24, St. John's-sq., London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32,34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Filter Manufacturers.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

PULSOMETER ENGINEERING CO., LTD., THE, Nine Elms Ironworks, Reading, Berks.; & 61 & 63, Queen Victoria-st., E.C., manufacturers of the "Torrent" Filter & the "Criton" Water Softening Apparatus. *See advt., page* 720.

Reeves Patent Filters Co., Ltd., 9 & 11, Fenchurch-ave., London, E.C.

WELLS, A. C., & CO., 102, 103 & 104, Midland-rd., St. Pancras, London. Works: Manchester. (Telegrams: "Unbreakable, London;" "Unbreakable, Manchester." Telephone No. 341, North.) *See advt., page* 646.

Fire Alarm System.

Pearson Fire Alarm, Ltd., 62, King William-st., London, E.C. (Telegrams: "Sauvetage, London." Telephone No. 5887, Bank.)

Fire Alarms—Makers & Fitters of.

COLEBY & CO., 6, Princes-st., Cavendish-sq., London, W. (Teleph. No. 3224, Paddington.)

PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Telephone No. 1243, London Wall.)

Fire Engineers—Electric.

F.—Ingénieurs d'électr.—feu.
G.—Electr. Feuer Ingenieure.

Brown, A. C., 7, Queen-sq., Finsbury-ave., London, E.C.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Oatway, G. H., M.I.E.E., 94, Paul-st., E.C.; & 82, Milton Park, Highgate, N.

PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Tel. No. 1243, London Wall.)

PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.

Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegrams: "Shand, London.")

Fire Engines (Electric)—Portable & Stationary.

F.—Appareils électr. à feu—Portables et fixés.
G.—Electr. Feuer Spritzen—Tragbar & Feststehend.

Merryweather & Sons, Long-acre, London, W.C.

Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., S.E. (Telegs.: "Shand, London.")

Fire Extinguishing Apparatus.

F.—Extincteurs d'incendie.

G.—Feuer Losch apparate.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

HEATHMAN, J. H., & CO., 10, Parsons Green, S.W. (Tel. No. 150, Putney); & 2, Endell-st., W.C.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., London, S.W. (Telegs.: "Mather, Manchester;" "Sprinkler, London." Nat. Teleph. Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

SHAND, MASON & CO., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegrams: "Shand, London.")

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., W. *See advt., page* 30.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Fire-Proof Paints for Casings, &c.

Griffiths Bros. & Co., Macks-rd., Bermondsey, London, S.E. "Armour" special fire-resisting liquid & paint for casings, cotton covered wires, &c. *See advt., page* 18.

Fittings (Electric Light)—Porcelain & China.

Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

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(*See also* ARTISTIC FITTINGS.)

Accessories Manufacturing Co., Ltd., 9 & 10, Wells-st., Oxford-st., London, W.

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BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegrams: "Rapidolite, London." Telephone Nos. 3463 & 4, Gerrard.)

Benson, W. A. S., & Co., Ltd., 82 & 83, New Bond-st., London, W.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Birmingham Guild of Handicraft, Ltd., 45, Great Charles-st., Birmingham. (Telegrams: "Handicraft, Birmingham." Telephone No. 3750.) London show-room: 7, Newman-st., Oxford-st., W. (Telephone No. 6657, Gerrard.)

Birmingham Lighting Co., 133–135, Conybere-st., Birmingham.

Booth, S., & Co., Cheapside Works, Birmingham.

Bradbury & Co., Woodcock-st., Birmingham.

Breeden, Joseph, & Co., Ltd., New Mill Works, Fazeley-street, Birmingham.

Fittings Makers—Electrical—*continued.*

British Electric Co., Ltd, 116, High Holborn, London, W.C.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Carpenter, T. R., 171–179, Bishop-st., Birmingham.

Carter & Aynsley, 54, Bishopsgate-st. Without, E.C.

Chalwin & Edwards, 70, High Holborn, W.C.

Chesterton, Jones & Co., 44, Littleton-st., Walsall.

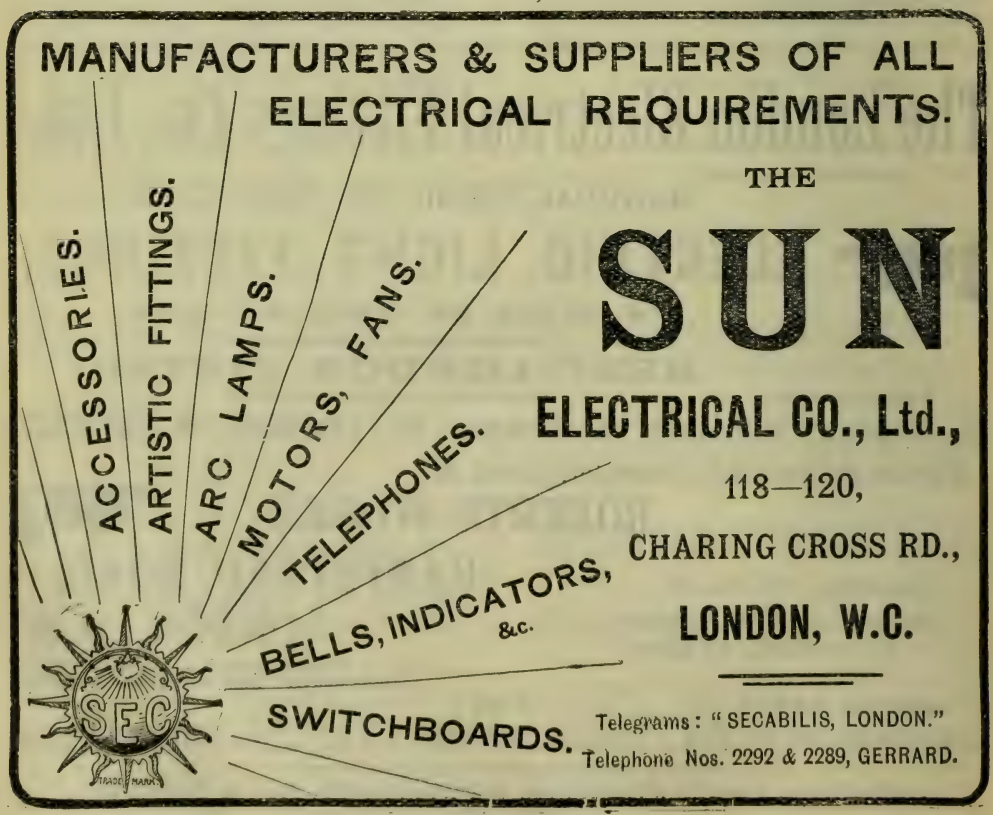
CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

Cross & Co., Apollo Works, Blews-st., Birmingham; & London.

Davis, H., & Co., Ltd., Vulcan Works, Vauxhall-st., Birmingham.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Davis & Smith, Star Works, Bracebridge-st., Birmingham.



Fittings Makers—Electrical—*continued.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

DUGDILL, JOHN, & CO. (Movable), Failsworth, nr. Manchester.

Eaton, Samuel, & Sons, Barr-st., St. George's, Birmingham.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

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Edwards & Magnus, Heneage-st., Birmingham.

Ehrich & Graetz, 66, Queen-st., E.C.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., S.W.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

Fittings Makers—Electrical—*continued.*

Electrical Fittings Co., 38, Conduit-st, W.

Emanuel, A., & Sons, Ltd., 9, 11 & 13, George-st., Manchester-sq., London, W.

Emery, W., & Co., Albion Brass Works, 167, Arundel-st., Sheffield.

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FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Fletcher, Sons & Udal, 51–53, Edgbaston-st., Birmingham.

Flitton & Coombs, Caroline-st., Old Kent-rd., London, S.E.

Fryers, Ltd., 6, Henrietta-st., Cavendish-sq., W.

Galloway, M. P., Ltd., 24, Shore, Leith.

Gardner, R., & Co., 66, Granville-st., Birmingham.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *& 708.*

Giddings & Dacre, Ltd., Victoria Works, Chapel-st., Salford.

Gooch, F., 38, Eagle-st., W.C.

Goode, T., & Co., 19, South Audley-st., London, W.

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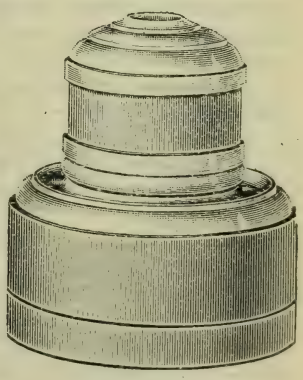

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HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) Works: Birmingham. *See advt., page* 386.

Harper, H., Howard Works, Witton-rd., Aston, Birmingham.

Hart, Son, Peard & Co., Ld., 138 & 140, Charing Cross-rd., London, W.C.; & Grosvenor Works, Birmingham.

Haseler, C., & Son, 94, Bridge-st. W., Birmingham.

HAWKES, O. C., LTD., 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham.

Hayes & Finch, Ltd., Vernon-st., Dale-st., Liverpool.

Höfler, Ltd., 26A, Soho-sq., W.

HOLLAND HOUSE ELECTRICAL CO., LTD., 9, HOLLAND-PL., & 121A, St. Vincent-st., GLASGOW. (Telegs.: "Electrical, Glasgow." Teleph. Nos.: 167, Nat.; 2190, Corp.)

Ingram & Kemp, Ltd., Newtown-row, Birmingham.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegs.: "Lampaient, London." Teleph. No. 5026, Gerrard.) *See advt., page* 589.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Joyner, Charles, & Co., Ltd., Icknield-sq., Monument-rd., Birmingham. London office & showroom: 44, Farringdon-st., E.C.; & Glasgow, 130, West Regent-st.

Kemp, Wm., & Co., 159, Buchanan-st., Glasgow.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)

Lawson, Turnbull & Co., Ltd., Mealmarket-st., Aberdeen.

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Lee & Co., 57, Theobald's-rd., London, W.C.

Linolite Co., 25, Victoria-st., S.W.

Loach & Clarke, 20–25, Essington-st., Birmingham.

Lockerbie & Wilkinson (Birmingham), Ltd., Exeter-st., Birmingham.

London Electrical Fittings Co., Ltd., The, Roberts Works, Hampstead-rd., N.W. (Telegrams: "Filosofone, London." Telephone No. 441, North.) Show-rooms: St. Andrews Mansions, 15, Newman-st., London, W. (Telephone No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Lumly, C. M., & Co., 6, Castle-st., Kingsland, London, N.

Fittings Makers—Electrical—*continued.*

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); & Corp. 101 & 2.)

Macintyre, J., & Co., Ltd., Washington China Works, Burslem. (Telegrams: "Macintyre, Burslem." Telephone No. 338, Hanley.) *See advt., page* 653.

McWhirter, Roberts & Co., 249 & 251, East India Dock-road, London, E.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Moffat & Walker, 51, Buchanan-st., Glasgow.

Oldaker, W., Phœnix Art Metal Works, Trinity-st., Smethwick.

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegrams: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless steel conduits. *See advt., page* 447.

Perry & Co., 17, Grafton-st., Bond-st., London, W.

Raeburn & Duncan, Vinicombe-st., Hillhead, Glasgow.

Richardson, C., 214, Vauxhill Bridge-rd., S.W.

Richardson Electrical Co., Ltd., 16, Dorset-st., Baker-st., W.

Sambidge, H. W., & Son, Ltd., Highgate-st., Birmingham.

Sanders, T., 71, Queen-st., London, E.C.

Schreiber & Neffen (Vienna). Agents: Kiesow & Co., 25, Fore-street-avenue, London, E.C.

Seymour & Co., 1, St. James' Walk, Clerkenwell, E.C.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; 165A, West George-st., Glasgow; & 11, Queen Victoria-st., London, E.C. *See advts., pages* 445 *&* 446.

Singer, J. W., & Sons, Ltd., Frome.

Sitch, W., & Co., 48, Berwick-st., London, W.

Smethurst & Co., 74, Duke-st., Grosvenor-sq., W.

Smyth, J., & Sons, 17, Wicklow-st., Dublin.

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Soutter, Wm., & Sons, Ltd., Farm-st., Birmingham.
Standard Foundry Co., 58 & 60, Paradise-st., Liverpool.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.
Taylor, E. D., 6, Rosebery-bldgs., John Bright-st., Birmingham.
Thursfield, C. J., & Co., 42, Clement-st. Parade, Birmingham; & 21A, Berners-st., Oxford-st., London, W. (Telegs.: "Electrolier, Birmingham;" "Thursfield, London." Teleph. Nos.: 05067, Birmingham; 5409, Gerrard.)
Tompkins, J. B., 79, Plashet-lane, East Ham, E.
VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.
Wakefield, J., & Sons, Ltd., Birmingham. (Telegrams: "Theodore, Birmingham." Telephone No. 1041, Birmingham.)
Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.
Welding, T. C., & Co., Ltd., 3, Redcross-st., Liverpool.
Whitehouse, Wm., & Co., Empire Works, Bruceton-st., Birmingham; & 59, Holborn Viaduct, London, E.C.
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G.—Biegsame Röhren—Fab. von.

Ellwood & Sledmere, 53, Mortimer-st., W.
Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Flexible Wires & Cords for Electric Light.

F.—Conducteurs flexibles.
G.—Biegsame Drähte für elek. Licht.

ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; & 114, Warrington.)
Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.
BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.
BRITISH INSULATED & HELSBY CABLES, LTD. Head offices: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.
DAVIES, KENT & STEWART, LTD., 17, Berners-st., Oxford-st., London, W. (Telegrams: "Polarizing, London." Telephone No. 6150, Gerrard.)
EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.
Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.
Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.
HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) *See advt., page* 386.
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIRE-PROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*
Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

Flexible Wires & Cords for Electric Light—*continued.*

LITTAUER, JAMES, 72, Finsbury Pavement, London, E.C. (Telegrams: "Litterula, London." Telephone No. 12015, Central.)

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., London, N.W. (Telegrams: "Filosofone, London." Telephone No. 441, North.) Showrooms: St. Andrews Mansions, 15, Newman-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 587 & 596.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See advt., page* 388.

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

Moores, Martin & Co., 37, Blackfriars-st., Manchester.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt., facing title-page.*

SAXONIA ELECTRICAL WIRE CO., LTD., Roan Works, Roan-st., Greenwich, S.E.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Smith, H. W., & Co., Lydbrook, Glos.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green Lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 727.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) Manufacturers of every description of electric light cords in pure & vulcanized rubber for shop, mansion or factory use. Silk, cotton & asbestos braidings. *See advt., page* 742.

Floor Sockets & Plugs—Makers of.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

Forced Draught.

Granger, W. A., 12, Eaton Park-rd., Palmer's Green, London, N.

HORSFALL DESTRUCTOR CO., LTD., Lord-st., Holbeck, Leeds. (Telegrams: "Destructor, Leeds." Telephone No. 2006, Central. A.B.C., 5th Edition, & Lieber's Codes.)

Forgings.

F.—Forges (outils et objets).
G.—Reibungstriebwerk.

Armstrong, Stevens & Son, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

Bagnall, J., & Son (*steel*), Langley Forge, Oldbury, nr. Birmingham.

Clark, Hunt & Co., Ltd., 159 & 160, High-st., Shoreditch, London, E.

Fownes Forge & Engineering Co., Ltd., Tyne Dock, Newcastle; & Cardiff.

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Hale & Son, 179½, Tottenham Court-rd., London, W.

Reed, Chas. H., & Co., Trimdon-st., Sunderland.

Reichwald, August (steel forgings), Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Sharpe, A. H., 8, Eastcheap, E.C.

Friction Gear Manufacturers.

F.—Engrenage-friction.
G.—Reibungstriebwerk.

Fuel Economizers—Makers of.

F.—Appareils pour l'Economie du combustible.
G.—Brennstoff Ersparer—Fabr. von.

Betts, F., 33, Skipton-st., London-rd., S.E.

Carter, J., & Sons, Stalybridge.

Claycross Co., Claycross, Derbyshire.

Goodbrand & Co., Clarence-st., Stalybridge.

GREEN, E., & SON, LTD., Wakefield; also 2, Exchange-st., Manchester; & at London & Glasgow. (Telegrams: "Economiser." Telephone Nos.: Wakefield, 43; Manchester, 1375.)

Fuel Economizers—Makers of—*continued.*

Hudson Economiser Co., Ltd., 7, Victoria-st., London, S.W.

Johnson Economiser & Smoke Consumer, Ltd., 6, Lloyd's-ave., E.C.

Lowcock, A., Ltd., 69, Lombard-st., London, E.C.

Roberts Bros., Dukinfield, Manchester.

Wilskemp, Ltd., 20, Bucklersbury, E.C.

WRIGHT, ALEX., & CO., LTD., Westminster, London, S.W. THE SIMMANCE-ABADY CO_2MBUSTION RECORDER SAVES FUEL.

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Kershaw, J. B. C., 2, Queen Anne's Gate, Westminster, London, S.W.; & West Lancashire Laboratory, Waterloo, Liverpool.

Furnace Plants—Electric.

Ferbeck Chimney Construction Co., 222, Finsbury Pavement House, London, E.C. *See advt., page* 440.

Fuse Boards & Distribution Boards—Makers of.

F.—Planches fusées et planches de distribution.
G.—Sicherung-Brette & Verteilungs-Brette.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Birmingham Electrical Fittings Co., Baskerville Electrical Works, Broad-st., Birmingham.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegs.: "Current, Manchester;" "Prefix, London." Teleph. Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

Harris, A. E., & Co. (stampers to the trade. Fuse clips in all sizes), 95, Camden-st., Birmingham.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegrams: "Lampaient, London." Telephone No. 5026, Gerrard.) *See advt., page* 589.

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., London, N.W. (Telegrams: "Filosotone, London." Telephone No. 441, North.) Showrooms: St. Andrews Mansions, 15, Newman-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Fuse Boards & Distribution Boards—Makers of—*continued.*

Lumly, C. M., & Co., 6, Castle-st., Kingsland, London, N.

Moores, Martin & Co., 37, Blackfriars-st., Manchester.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegs.: "Movedor, London.") *See advt., page* 693.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; 8, Howland Mews W., Fitzroy-sq., London, W.; & 61, Pollok-st., Pollokshaws, Glasgow.

Roberts, Adlard & Co. (slate), 11, Queen-st., Cheapside, London, E.C.; & 25 & 26, Bermondsey Wall, S.E.

SANDERS, W., & CO., Falcon Electrical Works, Wednesbury.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

TUCKER, J. H., & CO., Sampson-rd. North, Birmingham. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

WALSALL ELECTRICAL CO., LTD., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

Fuse Boxes—House & Main.

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIRE-PROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Fuse Manufacturers—Electric.

(*See* CUT-OUTS—MAKERS OF.)

Fuse Wire (Electric)—Manufacturers of.

F.—Fil fusible pour Coupe-Circuit—Fab. de.
G.—Draht für Sicherungen.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Hodges, Cecil, & Co., Balfour House, Finsbury Pavement, London, E.C.

Johnstone, Benjamin & Co., Ltd., 10, Ascham-st., Kentish Town, N.W. *See advt., page* 432.

Fuse Wire (Electric)—Manufacturers of —*continued.*

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See* WIRE COVERERS—SILK.

Ormiston, P., & Sons, 79, Clerkenwell-rd., E.C. (Telegrams: "Ormiston, London." Telephone No. 13259, Central.) *See advt.* BELOW.

Smith, H. W., & Co., Lydbrook, Glos.

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F.—Appareils galvaniques—Fab. et negoc. d'.

G.—Galvanische Apparate—Fab. & Händler von.

Apps, A., 433, Strand, London, W.C.

Galvanisers.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow. (Telegrams: "Braby, Glasgow." Nat. Telephone Nos.: 4130 & 4131, Royal; Corp., S2, S3 & S58.)

Galvanized Iron Manufacturers.

F.—Fer galvanisé—Fab dc.

G.—Verzinktes Eisen—Fab. von.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352 to 364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

Galvanized Iron Manufacturers—*continued.*

Bratt, J. & A., & Sons, Clarence-st., Wolverhampton.

Brownlee, A., & Co., 33 & 34, Anderson Quay, Glasgow.

Cookes & Swinnerton, Barrow Steel Wire Works, Barrow-in-Furness.

Lysaght, J., Ltd., St. Vincent's Iron Works, Bristol.

Galvanized Iron Wire Manufacturers.

(*See* WIRE MANUFACTURERS—GALVANIZED IRON.)

Galvanometers—Makers of.

F.—Galvanométres—Fab. de.

G.—Galvanometer—Fab. von.

CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Carlyle-rd., Cambridge.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *Single-Pivot, Moving-Coil Portable Galvanometers. See advt., page* 608.

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Galvanometers—Makers of—*continued.*

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Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See advts., pages* 611 & 612.

Gas Engines.

(*See* ENGINE MAKERS—GAS.)

Gas Generating Machine Manufacturers.

F.—Gaz—Machines pour la fab. de.
G.—Gaserzeugungs Maschinen.

Capel & Co., "Engine Works," 168, Dalston-lane. London, N.E.

Dowson Economic Gas & Power Co., Ltd., 39, Victoria-st., Westminster, S.W. (Telegs.: "Gaseous, London." Telephone No. 29, Victoria.)

NEVILLE BROS., 7 & 9, James-st., Liverpool. (Telegs.: "Neville, Liverpool." Telephone No. 7159.)

POWER PLANT CO., LTD., sole manufacturers of Capitaine's patent suction gas plant for any kind of fuel, Temple Bar House, Fleet-st., London, E.C. (Telegrams: "Biceps, London." Telephone No. 10968, Central.)

Gauge Glass Manufacturers.

F.—Calibre—Fab. de verre de.
G.—Wasserstandsgläser—Fab. von.

Bishop, S. & C., & Co., St. Helens, Lancashire.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.) T.A. Tubes a speciality.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C.

GUILBERT-MARTIN (BEACON & TITAN), 9, Edmund-pl., London, E.C. (Telegrams: "Photophore, London." Telephone No. 2799, Central.)

Sutcliffe Bros., Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegs.: "Tomey, Aston, Birmingham.") (Estab. 1853.)

TOMEY & SONS, Tay Glass Works, Perth. (Telegrams: "Tomey, Perth.")

Treasure, J. B., & Co., Vauxhall-road, Liverpool.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Gauge Glass Protectors.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegrams: "Tomey, Aston, Birmingham.")

Gauge Makers—Steam.

F.—Calibre—Fab. de.
G.—Aichmaasse—Fab. von.

Hopkinson, J., & Co., Ltd., Britannia Works, Huddersfield; & 165, Queen Victoria-st., London, E.C.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegrams: "Tomey, Aston, Birmingham.")

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Gearing & Framework for Motor Carriages.

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, N.W. *See advt., page* 642.

Gears & Pinions—Manufacturers of.

F.—Engrénages et Pignons.
G.—Triebwerke.

Barlow, H. B., & Co., Pendleton Gear Works, Manchester.

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

Buffoline Noiseless Gear Co., Ltd., Chapel-st., Levenshulme, nr. Manchester.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 & 723.

Dixon, W. F., & Co., 60, Percival-st., C.-on-M., Manchester.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. (Insulating lubricant.)

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 523.

Hamilton, J. B., & Co., Unica Works, Southey-rd., South Tottenham, N.

Humpage, Jaques & Pedersen, Ltd., Ashton Gate, Bristol.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

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POWER PLANT CO., LTD., sole licensees, makers of Wuest Patent MACHINE-CUT DOUBLE HELICAL WHEELS, Globoid worm gears with roller wheels, self-sustaining straight-line reduction gears, Temple Bar House, Fleet-st., London, E.C. (Telegs.: "Biceps, London." Tel. No. 10968, Central.)

Gears & Pinions—Manufacturers of—*continued.*

REID GEAR CO., THE, Linwood, nr. Paisley. Makers of all descriptions of Cut Gears & Patent Paper Pinions for Noiseless Drives.

Ross, R. G., & Son, Greenhead, Glasgow.

Watlington & Co. Offices: Moorgate Station-chbrs. Stores: 6, New Union-st., Moorfields, London, E.C.

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G.—Bedarfsartikel-Lieferanten.

Anderson, J. & A., 231, St. Vincent-st., Glasgow. Sole agents in Scotland for The Electric & Ordnance Accessories Co., Ltd., switchboards, motors, &c.; Armorduct Manufacturing Co., Ltd., cables & conduits; Ward & Goldstone, flexible & light wires; Simplified Underground Conductors Co., Ltd.; Premier Accumulator Co.

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Apps, A., 433, Strand, London, W.C.

General Suppliers of Electrical Requisites—*continued.*

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Tel. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

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Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegs.: "Current, Manchester;" "Prefix, London." Teleph. Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Drake & Gorham, Ltd. (for arc lamps), 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., paints, varnishes, lacquers. Sole makers of "Anti-Sulphuric" Enamel; "Armacell" & "Ohmaline" Insulating Varnishes; "Shaydolite" for colouring incandescent lamps; "Sticoline" Varnish for building mica. *See advt., page* 18.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) *See advt., page* 386.

Hindle, Robert, & Co., Ltd., Sabden, Lancs.

Hunt, A. H., 115-117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., N.W. (Telegrams: "Filosofone, London." Telephone No. 441, North.) Show-rooms: St. Andrews Mansions, 15, Newman-st., London, W. (Telephone No. 6621, Gerrard.) *See advts., page* 587 *&* OPPOSITE.

General Suppliers of Electrical Requisites—*continued.*

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGº EKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); Corp. 101 & 2.)

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See advt., page* 388.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt, page* 29.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Broadway, Westminster, London, S.W.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

United Electric Supply Co., Micklehurst, Mossley, nr. Manchester.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Generators—Electric.

(*See* DYNAMOS & ALTERNATE CURRENT GENERATORS.)

Glass Blowers for Electrical Purposes.

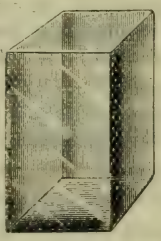
F.—Verre (Cintreurs de).
G.—Glas-Spanner.

COSSOR, A. C. (experimental glass blowing for electricians; lamps made), 54, Farringdon-rd., London, E.C. (Teleph. No. 10547, Central.)
Davidson, G., & Co., Teams Glass Works, Gateshead-on-Tyne.
Ide, T. & W., Glass Works, Glasshouse Fields, Ratcliffe, London, E.; & at Birmingham.
Sowerby's Ellison Glass Works, Ltd., Gateshead.
Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegs.: "Tomey, Aston, Birmingham.") (Est. 1853.)

Glass Cell (Battery) Manufacturers.

F.—Vases en verre pour piles.
G.—Glaskrüge für Electrische Batterien.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")
Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.
Breffitts, Ltd., 83, Upper Thames-st., London, E.C.
CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.
De Grelle, Houdret & Co., 130, London Wall, London, E.C.
Espir, Fernand, 2 & 3, East India-ave., London, E.C. *See advts., pages* 654 *&* 736.
MULLER, ERNST, 58 & 59, Chiswell-st., London, E.C., supplies all kinds of glass accumulator cells, electrical glassware, best quality, well annealed; also all articles appertaining to paraffin lamp & gas trade.



Pilkington Bros., Ltd., St. Helens, Lancs.
Pritchetts & Gold, Ltd., 20, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 417.

Glass Insulators.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

Glass Lamps.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

Glass-lined Tubing—Makers of.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegrams: "Tomey, Aston, Birmingham.")

Glass Manufacturers.

F.—Vererries—Fab. de.
G.—Glas—Fabr. von.

Bailey, M., & Co., Triumph Works, Church-path, Newington-green, London, N.
Bailey, W. & J. A., Alloa Flint Glass Works, Alloa; & 32, Hatton Garden, London, E.C.
Boulton & Mills. London show-rooms: 31, Ely-place, E.C. Works: Stourbridge.
Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)
Couper, James, & Sons, City Glass Works, Glasgow.
De Grelle, Houdret & Co., 130, London Wall, London, E.C.
FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.
GUILBERT-MARTIN (Tubes, Rods & Enamels), 9, Edmund-pl., London, E.C. (Telegrams: "Photophore, London." Telephone No. 2799, Central.)
Kray, Max & Co., 70 & 71, Chiswell-st., E.C.
Powell, James, & Son, 26, Tudor-st., London, E.C.
Reich, S., & Co., 23, Aldermanbury, London, E.C.
Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegrams: "Tomey, Aston, Birmingham.")
WALSH, JOHN WALSH. Works: Lodge-rd., Birmingham. (Telegrams: "Vesta, Birmingham." Telephone No. 63.) Special attention given to shades, reflectors, globes, & everything in connection with this branch of electric lighting.

Glass Supplies—Electrical.

F.—Verrerie élect.—fourn. de.
G.—Electr. Glaswaaren—Bezugsquellen von.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.
Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.
Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)
EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C. For branches & telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY.
Hingley, L. & S., & Sons, Wordsley, Staffs.
Hunt, A. H., 115-117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glass Supplies—Electrical—*continued.*

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegrams: "Tomey, Aston, Birmingham.")

WALSH, JOHN WALSH. Works: Lodge-rd., Birmingham. (Telegrams: "Vesta, Birmingham." Telephone No. 63.)

Globes for Electric Lighting—Makers of.

F.—Globes en verre pour lampes électr.—Fab. de.
G.—Glas Glocken für Electr. Licht.

Arc Lamps, Ltd. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., London, E.C. (Telegrams: "Voltarcon, London." Telephone No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 *&* 406.

Arculus, A., & Co., 295, Broad-st., Birmingham.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

Cochran, A. & R., 46A, Holborn Viaduct, E.C.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Ford, John, & Co., Royal Holyrood Glass Works, Edinburgh (C. M. Bradley, London & export agent, 23, Holborn Viaduct, London, E.C.).

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Gilbert, A., & Co., 82, Turnmill-st., E.C.

Heine Bros. & Co., 74, Milton-st., London, E.C.

Holophane Glass Co., 146A, Queen Victoria-st., London, E.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Kiesow & Co., 25, Fore-st.-ave., London, E.C. Agents for Schreiber & Neffen, Vienna.

Landier, A., et Fils, Sèvres & Paris, home & export agent, 20, Bartlett's-bldgs., Holborn Circus, London, E.C.

Northwood, J. & J., Glass Works, Wordsley, near Stourbridge.

Percival, Vickers & Co., Ltd., Glass Works, Jersey-st., Manchester.

Globes for Electric Lighting—Makers of—*continued.*

Quitmann, Carl, 3, Cloth-st., Aldersgate-st., London, E.C.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps, of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Schölzig, O., 9, New Broad-st., London, E.C.

Shaw, E. J., & Co., Astral Works, Hatherton-st., Walsall.

Smith, J. & W. B., 19–23, Farringdon-rd., London, E.C.

Stevens, Jas., & Son, Victoria Glass Works, Dartmouth-st., Birmingham.

Syer, Ernest (factor), 45, Hatton Garden, London, E.C.

Thompson, R. B., & Co., 54, West Howard-st., Glasgow.

WALSH, JOHN WALSH. Works: Lodge-rd., Birmingham. (Telegrams: "Vesta, Birmingham." Telephone No. 63.)

Woodall & Son, St. George's Glass Works, Birmingham; 12, St. Andrew's-street, Holborn-circus, London, E.C.

Glow Lamps.

(*See* INCANDESCENT LAMPS—ELECTRIC.)

Government Officials.

BOARD OF TRADE. President, The Right Hon. D. Lloyd-George. Parliamentary Secretary, H. E. Kearley, M.P. Permanent Secretary, Hubert Llewellyn Smith. Assistant Secretary Railway Department (includes tramways), Colonel Sir Herbert Jekyll, K.C.M.G., Principal, J. G. Willis. Chief Inspecting Officer of Railways, Lieut.-Colonel H. A. Yorke, R.E., C.B. Inspecting Officers of Railways, Lieut.-Colonel P. G. Von Donop, R.E., Major J. W. Pringle, R.E., Lieut.-Col. E. Druitt, R.E. Assistant Secretary Harbour Department (includes electric lighting & power), Hon. T. H. W. Pelham, C.B. Clerk in Charge of Electric Lighting Work, H. Booth. Electric Adviser, A. P. Trotter. Electrician, J. Rennie.

HOME OFFICE, Whitehall, S.W. Principal Secretary of State for Home Affairs, Mr. Herbert Gladstone, M.P. Factory Department: H.M. Chief Inspector, A. Whitelegge, C.B., M.D.; Deputy-Chief Inspector, W. D. Cramp, I.S.O.; Electrical Inspector, G. Scott Ram, M.I.E.E.

INDIA OFFICE. Secretary of State, The Rt. Hon. John Morley, M.P. Under Secretaries of State, Sir Arthur Godley, K.C.B.; & the Rt. Hon. J. E. Ellis, M.P. Director-in-Chief of the Indo-European Telegraph Department, H. A. Kirk. Accountant-General, A. Guillum Scott. Director-General of Stores, E. Grant Burls, C.S.I. Consulting Engineer for State Railways, Sir A. M. Rendel, K.C.I.E.

Governor Makers.

F.—Régulateurs—Fab. de.
G.—Regulatoren—Fab. von.

Cochrane, J., Barrhead, Scotland; & 20, Bucklersbury, London, E.C.

Hartung, Kuhn & Co., 21, Finsbury-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

Schäffer & Budenberg, Ltd., Whitworth-st., Manchester.

Governor Makers—Electric.

F.—Régulateurs élec.—Fab. de.
G.—Regulator-Fabrikanten—Elek.

Apps, A., 433, Strand, London, W.C.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Gutta-Percha Wires & Cables.

F.—Fil et cables—Gutta-Percha.
G.—Gutta-Percha Draht und Kabel.

(*See also* WIRE COVERERS.)

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Gutta-Percha Wires & Cables—*continued.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 432.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Heating & Cooking Apparatus Makers —Electric.

F.—Appareils elec. de Chauffage et de cuisine.—Fab. d'.
G.—Heizungs-und Koch-Apparaten (Elek.)—Fabr. von.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 109, Oxford-st., W. For details as to our manufactures, *see page* 74.

Dowsing, H. J., M.I.E.E., 24, Budge-row, Cannon-st., London, E.C.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row Cannon-st., London, E.C. Patentees of Dowsings Luminous Electric Radiator.

Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

HAWKES, O. C., LTD., 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham. Patentees & manufacturers of the X.L. Patent Induced Draught System of Electric Heating.

Electric Heating & Cooking. "ELEKTRA" SYSTEM.

IN COMPETITION { Awarded 1st Prize, Olympia, 1905. Selected for Train used for Royal Indian Tour, 1905.

Absolutely reliable, durable and highly efficient.
The best for Heating, the best for Cooking, the best for Technical Work.

ELECTROLYTIC & ELECTRO-MAGNETIC RECTIFIERS.

SWITCHBOARD INSTRUMENTS.
Electro-Magnetic & Dead-Beat MOVING COIL.
RHEOSTATS for Laboratory Work.

Mercury Vapour Lamps. ELECTRO-MEDICAL & SCIENTIFIC INSTRUMENTS.

ISENTHAL & CO., 85, Mortimer St., LONDON, W.

Telegrams: "ISENTHAL." Telephone No. 4829, Gerrard. ON ADMIRALTY LIST.

Heating & Cooking Apparatus Makers —Electric—*continued.*

ISENTHAL & CO., 85, Mortimer-st., London, W. "ELEKTRA" System of Electric Heating & Cooking. This System has been Awarded the First Prize in Open Competition at the Electrical Exhibition, Olympia, 1905, & has proved its Superiority over Other Systems both in Official Government Tests as well as in Actual Use.

Undoubtedly the most Reliable, Strongest & Durable System of Electric Heat Production.

All Types of Convectors for Heating Private Dwellings, Offices, Public Buildings, Ships, Trains & Trams, Motor Garages, &c.

Cooking Ranges & Ovens for Hotels, Private Houses, Yachts, Hot Closets, Hot Plates, Grills, Jugs, Kettles, Coffee Machines, Boilers, Laundry Irons, Tailors' Irons, Sterilizers, Sealing-Wax Pots, Glue Pots, Soldering Irons, Melting Pots & all Technical Purposes.

This System has secured for Electric Heating & Cooking Recognition as a most Important & Promising Department of Electrical Engineering. *See advt.* OPPOSITE.

PHŒNIX ELECTRIC HEATING CO., LTD., 3, Holborn-pl., High Holborn, London, W.C.

Reliable Electric Heating & Cooking Co., 227, Regent-st., W.

Sweet, Andrew, A.I.E.E., 102, Hampstead-rd., & 100–102, & 41, George-st., N.W.

VAUGHAN, BROWN & COOK, 298 & 300, Goswell-rd., London, E.C.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Heating Experts—Electrical.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 109, Oxford-st., W. For details as to our manufactures, *see page* 74.

DOWSING, H. J., M.I.E.E., 24, Budge-row, Cannon-st., London, E.C.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row, Cannon-st., London, E.C.

HAWKES, O. C., LTD., 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham.

Isenthal & Co., 85, Mortimer-st., London, W. *See advt.* OPPOSITE.

High Pressure Steam Mains.

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury; & 14, Great St. Thomas Apostle, London, E.C. (Telegrams: "Tubes, Wednesbury;" "Tubes, London.") High pressure steam mains with welded flanges.

High Speed Engine Makers.

(*See* ENGINE MAKERS—HIGH SPEED.)

High Voltage Supplies.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD EKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advts., page 694 *& on lower outside edges.*

Hoisting Machinery—Electric.

Carrick & Ritchie, Waverley Engineering Works, Norton Park, Edinburgh. BY HAND, POWER OR ELECTRICITY.

Childs, J. G., & Co., Ltd., Hawthorn-rd., Willesden Green, N.W. Show-room: 73A, Queen Victoria-st., E.C.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

SWITCH GEAR & APPARATUS FOR.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Hot Air Engines.

(*See* ENGINES—HOT AIR.)

House Service Fuse Boxes.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIRE-PROOF & ALL CABLE SPECIALITIES.

See advts., page 404 *& inside back cover.*

Ignition Accumulator Makers.

F.—Accumulateurs d'allumage.
G.—Zündung—Accumulatoren.

Armstrong & Co., Twickenham, London, S.W. (Telegrams: "Armstrongs, Twickenham.") Largest Makers. Hundreds of Sizes.

Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.

City Ignition Co., 14, Spencer-st., Goswell-rd., E.C.

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 633.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. *See advt., page* 9.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W. C.A.V. Accumulators.

Incandescent Lamp Mfrs.—Electric.

F.—Lampes électriques à incandescence—Fab. de.
G.—Elektrische Gluhlampen.

Allen, Laurence E., & Co., Ltd., 56 & 57, Aldermanbury, E.C.

Anderson, F. L., 1, Furnival-st., London, E.C.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Boddy, G. M., & Co., 18, Newington, Liverpool.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Tel. No. 1882, Gerrard.) *See advt., page* 617.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

Britannia Electric Lamp Works (1905), Ltd., Seven Sisters'-rd., South Tottenham, London, N,

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

COSSOR, A. C. (actual maker), 54, Farringdon-rd., London, E.C. (Teleph. No. 10547, Central.) Small voltage lamps a speciality.

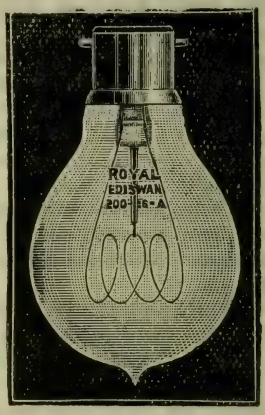
Incandescent Lamp Mfrs.—Elec.—*contd.*

CRYSELCO, LTD., Kempston Works, Bedford. Depôts: 50, Wellington-st., Glasgow; 3, S. Nicholas-bldgs., Newcastle-on-Tyne; 43, Cannon-st., Manchester; 11, Upper Mill Hill, Leeds; 43A, High-st., Belfast; 26, Bath-st., Bristol; 63, Wind-st., Swansea; 7 & 8, Western Mail-chbrs., Cardiff; & 30, Cheapside, London, E.C. *See advt., page* 605.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Donovan & Co., 12, Barwick-st., Birmingham.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.



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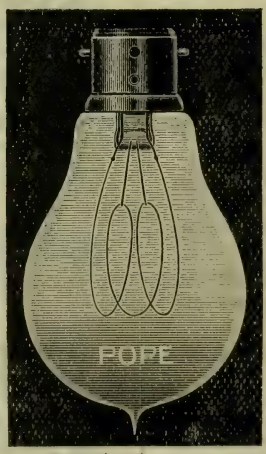

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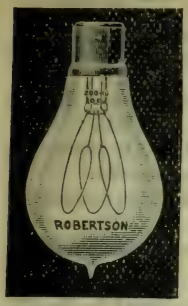

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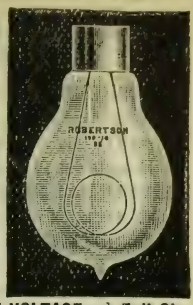

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Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., E.C.; & Glasgow.

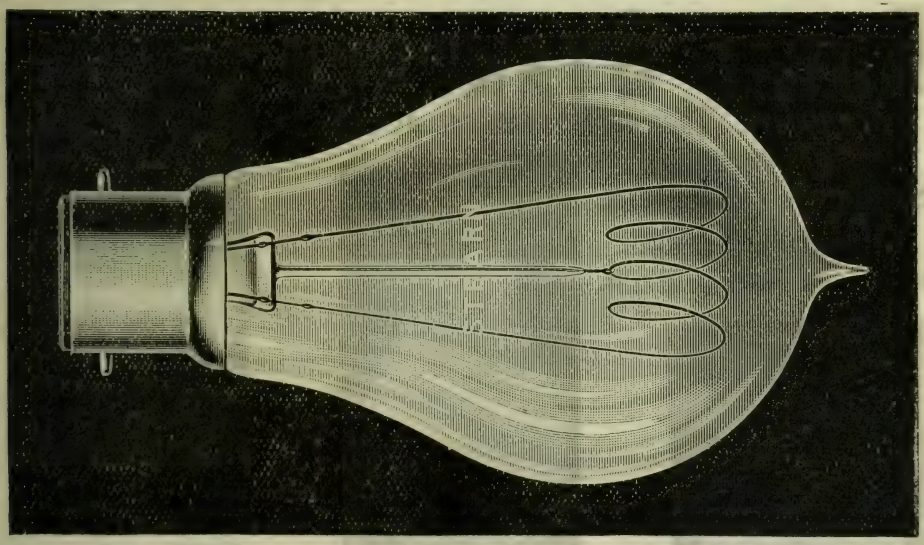
Gabriel Lamp Co., 15, Victoria-st., London, S.W.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London."

Incandescent Lamp Manufacturers—Electric—*continued.*

Teleph. Nos. 594 & 595, Hop.) Sole agents for Fabius Henrion, Nancy, France. *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.



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GOOSSENS, E., POPE & CO., 5, Arthur-st., New Oxford-st., W. (Teleph. No. 3000, Gerrard); 21, Manesty's-lane, Liverpool; & 15, Douglas-st., Glasgow.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Teleph. No. 1033, Holborn.) *See advt., page* 386.

HUNTER ELECTRIC CANDLE LAMP CO., LTD., THE, Newman-st., Oxford-st., W.

IMPROVED ELECTRIC SUPPLIES CO., LTD., 7, Great Newport-st., St. Martin's-lane, W.C.

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Lyell, J. C., & Co., Ltd., 55, Victoria-st., Westminster, London,

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Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegrams: "Gloriole, London." P.O. Telephone No. 12367, Central.)

Incandescent Lamp Manufacturers—Electric—*continued.*

Ohl, G. E., Hamburg, Germany. London office: 9 & 10, St. Mary-at-Hill, E.C.

POPE'S ELECTRIC LAMP CO., Hythe-rd., Willesden, N.W. *See advt., page* 602.

Premier Electric Lamp Co., Ltd., Huyton Quarry, nr. Liverpool.

Pulsford, G. E., 25, Coleman-st., London, E.C.; & 10, rue Taitbout, Paris.

RASHLEIGH ELECTRIC LAMPS, all voltages, 10*s.* 6*d.* per dozen, delivered free-English make. Rashleigh Phipps & Co., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 12155, Central.)

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ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, W. *See advt., page* 603.

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Sawyer-Man Electric Co., 15, Fore-st.-ave., E.C.

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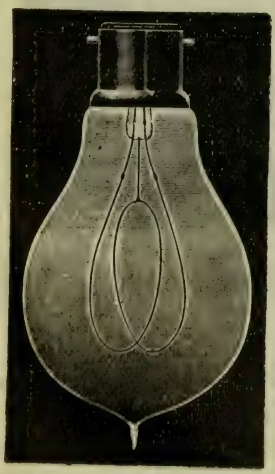

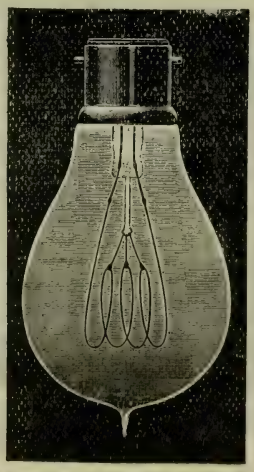

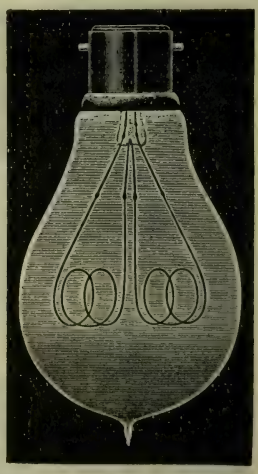

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Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs, Westminster, London, S.W.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Sunbeam Lamp Co., Ltd., Gateshead-on-Tyne; & 102, Charing Cross-rd., London, W.C.

Syer, Ernest (factor), 45, Hatton Garden, E.C.

Tiffin, F. J., 3, Great Winchester-st., London, E.C. (Telephone No. 1993, Central.)

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wallace Lamp Syndicate, Ltd., 5–9, Peacock-st., Newington Butts, London, S.E.

Zircon Syndicate, Ltd., 24, Budge-row, E.C.

ZURICH INCANDESCENCE LAMP CO., THE, 47, Victoria-st., Westminster, S.W. *See advt., page* 603.

Incandescent Lamp Making Machinery.

Fahn & McJunkin, Shaftesbury-ave., London, W.

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Bridge, D., & Co. (machinery makers), Castleton Iron Works, Castleton, Manchester.

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Broadhurst & Co., Ltd., 126, Market-st., Manchester.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Carson & Evans, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegrams: "Irishism, London." Telephone No. 2507, Avenue.)

Castle Rubber Co., Ltd., Dashwood House, New Broad-st., London, E.C. Works: Warrington.

Clark, Sons & Co., Failsworth, Manchester.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

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Harburg & Vienna Indiarubber Co., 9–14, Tower-chbrs., Finsbury Pavement, London, E.C.

"Hellewell" Rubber Co., 15–19, Corporation-st., Manchester.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

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INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Irwell & Eastern Rubber Co., Ltd., Mill-st., Ordsal-lane, Salford; 4, Lloyd's-ave., Fenchurch-st., London, E.C.; 58, Queen-st., Hull; & 25, Hope-st., Glasgow.

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Macintosh, Chas., & Co., Ltd., Cambridge-st., Manchester.

McLellan, George, & Co., Glasgow Rubber Works, Glasgow.

Moseley, D., & Sons, Ltd., Chapel Field Works, Ardwick, Manchester.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Smith, Alex., & Son (agents), 12, Hanover-st., Glasgow.

Statham, H., & Co., 9, 10 & 11, Corporation-st., Manchester.

Tasker, Sons & Co., Ltd., Angel-st., Sheffield.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 6100, Bank.) *See advt., page* 4.

Victoria Rubber Co., Ltd., Victoria Rubber Mills, Edinburgh.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Wallace, Wilkie & Newton, 5, York-st., Glasgow.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

WICKS, J. T., & CO., 98A, Amhurst-rd., Hackney, London, N.E. (Telegs.: "Caoutchine, London." Teleph. No. 2162, Dalston.)

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Indicators—Makers of.

E.—Indicateurs—Fab d'.
G.—Indikatoren—Fabr. von.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

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Apps, A., 433, Strand, London, W.C.

Miller, Leslie, A.M.I.E.E., 93, Hatton Garden, London, E.C. Jointless section (patent) coils for Wireless Telegraphy & X-Rays.

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Green & Boulding, Ltd., 28, New Bridge-st., E.C.

Gresham & Craven, Ltd., Craven Iron Works, Ordsall-lane, Manchester.

Holden & Brooke, Ltd., Sirius Works, 47, Heywood-st., West Gorton, Manchester (Telephone No. 3663); & 110, Cannon-st., London, E.C. (Telegrams: "Influx, Manchester.")

Madan, C. S., & Co., Ltd., Mansfield Injector Works, Crowther-street, Salford.

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(*See* TELEGRAPH INSTRUMENT INK MAKERS.)

Inspectors (Electrical)—Government, Municipal, &c.

F.—Inspecteurs électr. du gouvernement et municipalité.
G.—Electr. Inspectoren—Regierungs & Städtische.

Brown, H. W., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

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Calver, W. G., Corporation Tramways, Reading.
Crawford, C., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Crowther, W. C., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Davidson, W., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Drake, A. P., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Fitzgerald, Prof. W., B.O.T., Queen's College, Belfast.
Gatehouse, J. W., 36, Broad-st., Bath.
Harrison, E. W. L., A.M.I.E.E., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Henderson, A., British Engine, Boiler & Elec. Insurance Co., Ltd., 12, King-st., Manchester.
Hey, J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Holman, C. W., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Johnston, Jas., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Jones, R. L., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Lamb, G., Corporation, Newcastle-on-Tyne.
Moorhouse, E., A.M.I.E.E., district superintendent of the Edison & Swan United Electric Light Co., Ltd., 127, Albion-st., Leeds.
Morgan, R. J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Moss, G., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Mullowney, J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Naftel, P. H., A.I.E.E., Liverpool Corp. Electric Supply Works, Liverpool.
Nuttall, H. A., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
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Roberts, J. A., Electric Tramways, Lowestoft.
Robertson, J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Southey, G., 156, Richmond-rd., Cardiff.
Stewart, C. C., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Vernon Mechanical & Electrical Registers, Ltd., Eldon-st. House, E.C.
Weaver, T. E., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
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F.—Joailliers d'instruments électr.
G.—Electr. Instrumenten Juweliere.

Smith, G. J., 17, Malta-st., Clerkenwell, London, E.C.
WOODS, T. G., & SONS, 54, Spencer-st., Clerkenwell, London, E.C. (Telegrams: "Monomial, London." Telephone No. 11729, Central.) *See advt., page* 559.

Instrument Manufacturers—Electrical.

(*See also* APPARATUS MFRS.—ELECTRICAL.)
F.—Instruments électriques—Fab.
G.—Elektrische Instrumente—Fabr.

Apps, A., 433, Strand, London, W.C.
Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.
Arnold & Sons, 26, 30 & 31, West Smithfield, & 1–3, 18 & 19, Giltspur-st., London, E.C.
Baird, T., 34, Queen-street, Glasgow.
BAT ELECTRICAL CO., 23–25, North-st., King's Cross, London.
Beckett & Parker, Tenby-st., Birmingham.
Bessus & Co., 83 & 84, Hatton Garden, E.C.
Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.
Bristol Electric Safety Lamp Works. Office & works: 40, Great Smith-st., S.W. *See advt., page* 392.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.
Brown & Son, 25, Charlotte-st., Caledonian-rd., N.
BURNAND, W. E., & CO., Lowfield Works, Chippinghouse-rd., Heeley, Sheffield. (Teleph. No. 1671.)
CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Carlyle-rd., Cambridge.
Coxeter, J., & Son, 30–32, Seaton-st., London, W.C.
Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87, Darlington.) *See advt., page* 29.
CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Current & potential indicators. *See advt. inside front cover.*
Davison, Alex., 47, London-street, Glasgow.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Instrument Manufacturers—Electrical— *continued.*

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Dring & Fage, 56, Stamford-st., London, S.E.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, London, N.W. Send for latest lists post free. *See advt., page* 633.

EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

Gardner, T. A., 53, St. Vincent-st., Glasgow.

GEIPEL & LANGE, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.

Harvey & Peak, 56, Charing Cross-rd., London, W.C.

Hicks, J. J., 8–10, Hatton Garden, London, E.C.

Hilger, Adam, Ltd., 75A, Camden-rd., London, N.W.

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Home & Rowland, Troughton-rd., Charlton, London, S.E.

Hudson & Son, Stockwell-st., Greenwich, London, S.E.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

Johnson, W., 188, Tottenham Court-rd., London, W.

Instrument Manufacturers—Electrical— *continued.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; Nat., 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Tel. No. 725, Westminster.)

Lancaster, Jas., & Son, 37, Colmore-row, Birmingham.

Leyland & Birmingham Rubber Co., Ltd., Golden Hill Works, Leyland, nr. Preston; 45, Hope-st., Glasgow; Tower-chbrs., 29, Brown-st., Manchester; 26 & 30, Duke-st., Aldgate, London, E.C.; & 124, New-st., Birmingham.

Llewellin's Machine Co., Bristol.

MACKIE, W., & CO., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See advt., page* 473.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Mason, R. G., 69, Park-rd., Clapham, London, S.W.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt.* OPPOSITE.

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.

Negretti & Zambra, Holborn Viaduct, E.C.

Newman & Guardia, Ltd., 90 & 92, Shaftesbury-avenue, London, W.

Parks, R. W., 4, Central-bldgs., Seaside-rd., Eastbourne.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See advt.* BELOW.

Perken, Son & Co., Ltd., 99, Hatton Garden, E.C.

Pye, W. G., & Co., Granta Works, Mill-lane, Cambridge.

Rae Bros., 77, Renfield-st., Glasgow.

Telephone No. 4614. **ROBT. W. PAUL,** Telegrams: "UNIPIVOT."

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Instrument Manufacturers—Electrical—
continued.

Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.

Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.

Sadler, Michael, 19, Aston-st., Birmingham.

Schall, Karl, 75, New Cavendish-st., London, W.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Townson & Mercer, 89, Bishopsgate-st.-within; & 34, Camomile-st., London, E.C.

Tyer & Co., Ltd., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W.

VINTER, W., 10 & 11, Dyer's-bldgs., Holborn, E.C. (Tel. No. 12713, Central.) Every variety of accurate mathematical dividing, machine, ornamental, & general engraving. *See advt., page* 582.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walters, P., & Co., 249 & 251, Kensal-rd., W. (P.O. Telephone No. 653, Western.)

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See inset advt.* OPPOSITE.

WOODS, T. G., & SONS (jewels for), 54, Spencer-st., Clerkenwell, London, E.C. (Telegrams: "Monomial, London." Telephone No. 11729, Central.) *See advt., page* 559.

Insulated Wire.

(*See* WIRE MANUFACTURERS.)

Insulating Fittings Manufacturers.

F.—Fournitures isolants—Fab. de.
G.—Isolations—Armaturen—Fabr. von.

Crystalate Manufacturing Co., Ltd., 61½, Fore-st., London, E.C.

Insulating Material Manufacturers.

F.—Isolation—Fab. de matière.
G.—Isolations Materialen—Fab. von.

American Hard Fibre Co. (F. Winter, agent), 8, Redcross-st., London, E.C. (Telegs.: "Instantly, London." Teleph. No. 3186, Central.)

American Hard Rubber Co., 115, Fore-st., London, E.C.

Codes: A.B.C. & Anglo-American.

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Insulating Material Manufacturers—
continued.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Brandt, Henrich A., 28, Minories, London, E.C. Mica (block, cut & splittings), mica insulating materials, copper, presspahn, fibre, shellac, &c.

Briggs, Thomas (Manchester), Ltd., 21, Major-st., Manchester; & 2, Budge-row, London, E.C. Works: Salford, London & Rishworth.

British & Colonial Insulating Co., Ltd., Century-bldgs., 31, North John-st., Liverpool.

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

British Johns-Manville Co., Ltd., 81, Fenchurch-st., London, E.C.

BRITISH MICA CO., LTD., Lebanon-rd. Works, Wandsworth, S.W. (Telegs.: "Micamini, London." Teleph. No. 405, Putney.) MERCHANTS & MANUFACTURERS of mica insulators of every description for commutators, condensers, &c. MICA Washers, Bushes, Lightning Arresters, Powder, &c. MICANITE Plates, Paper, Cloth, Tubes, Rings, &c. Contractors to H.M. Government. *See advt., page* 474.

British Xylonite Co., Ltd., Hale End, London.

BURNS, J., LTD., "Delaware" vulcanized fibre & mica, 189, Central-st., London, E.C. *See advts., page* 723 *&* ABOVE.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 431.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

Delaware Hard Fibre Co. *See* J. Burns, Ltd.

Donovan & Co., 12, Barwick-st., Birmingham.

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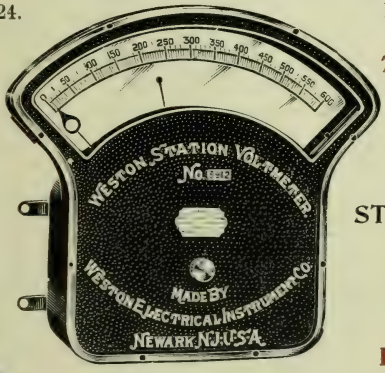

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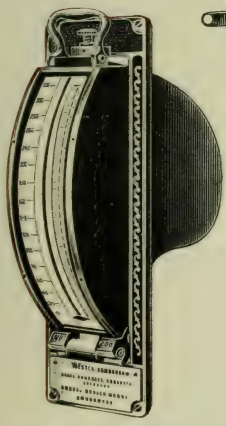

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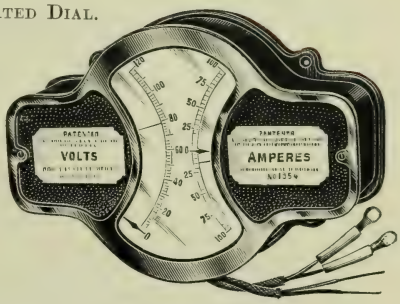

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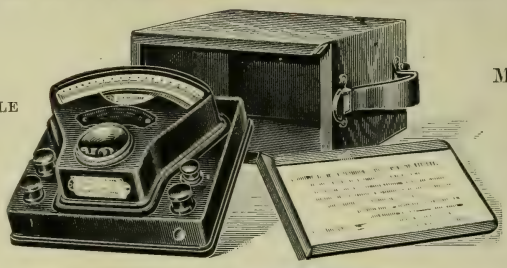

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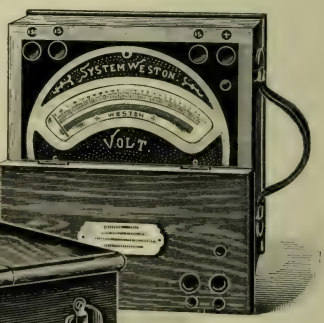

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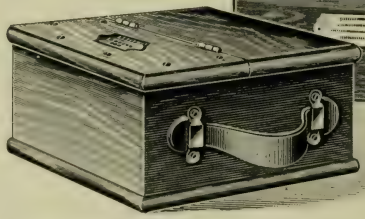
MODEL 56.



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WESTON ELECTRICAL INSTRUMENT CO.

Insulating Material Manufacturers—
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Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

EBONESTOS MANUFACTURING CO., THE, 22, Rosoman-st., Clerkenwell, E.C. (Telegs.: "Ebonestos, London." Teleph. No. 1422, Holborn.) *See advt.* BELOW.

Electrical Stores Supply Co., Marsden-chbrs., Marsden-st., Manchester.

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegrams: "Persistent, Liverpool." Telephone No. 872.) *See advt., page* 630.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegrams: "Mantel, Birmingham." Telephone No. 2475.) *See advt., page* 682.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) Sole European agents for the Okonite Co. of New York, for Okonite & Manson Insulating Tapes, Wires & Cables. *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

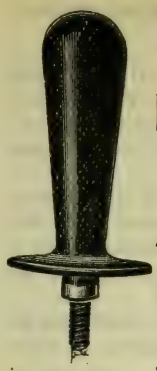
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Goodson & Co., 13, Maze Pond, St. Thomas's-st., London Bridge, S.E.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., sole makers of "Anti-Sulphuric" Enamel, "Armacell" high insulating stoving varnish, "Ohmaline" Insulating Varnish. Shellac Varnishes, Flexible Shellac Insulating Varnish, Indiarubber Varnish, &c. *See advt., page* 18.

Gunz, N. (Press-spahn), 46, Queen Victoria-st., E.C.

Hawnt, Montague & Co., 136–142, Clerkenwell-rd., E.C.



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Insulating Material Manufacturers—
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HOWARD ASPHALT TROUGHING CO., LTD., THE (asphalt troughs), Trafford Park, Manchester; & Parliament Mansions, Victoria-st., S.W.

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INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. VULCANIZED BITUMEN FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

JONES, INIGO, & CO., Tudor Slate Works, Groeslon, R.S.O., N. Wales. *See advt., page* 682.

KNOWLES. C. S., 7, Victoria-st., London, S.W. (Telegs.: "Sevenarch, London.")

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. (Telegrams: "Windsail, London." Telephone No. 5063, Central.)

Meek Watson & Co., 10, Fore-st., London, E.C.

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MICANITE & INSULATORS CO., LTD., Empire Works, Blackhorse-lane, Walthamstow, London, E. (Telegs.: "Mytilite, London." Teleph. No. 38, Walthamstow.) *See advt., page* 636.

MOSSES & MITCHELL, 68–71, Chiswell-st., E.C. Sole makers of the Original VULCANIZED FIBRE SHEETS. Tubing, sticks & rods. (Telegrams: "Insulator, London.") *See advt., page* 723.

Neville, Williams & Co., 11 & 13, Southwark-st., London, S.E. Sole manufacturers of "Varsulat" registered varnishes.

Okonite Co., Ltd., Finsbury Pavement House, E.C.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Vorwerk & Sohn, Barmen. *See advt., page* 9.

Roburine Co., 15, Victoria-st., S.W.

Roth, Schmidt & Co., 6, Crosby-sq., London, E.C.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. P. & B. Tapes & Compounds.

Schomburg, H., & Söhne, 57/58, Leadenhall-st., London, E.C. (Telephone No. 2492, Central.)

Scottish Indiarubber Co., 12, Hanover-st., Glasgow.

Silicate Paint Co. (J. B. Orr & Co., Ltd.), 46, Cannon-st., London, E.C.; & Charlton, London, S.E.

Standard Varnish Works, 23, Billiter-st., E.C. *See advt.* OPPOSITE.

STERLING VARNISH CO., Brougham-st., Blackfriars-rd., Manchester. (Telegs.: "Reduction, Manchester." A.B.C. Code, 4th edit.)

TULLY & STRAKER, 16, Water-lane, Great Tower-st., London, E.C. (Telegrams: "Glist, London." Telephone No. 975, Central.) *See advts., pages* 474 *&* 637.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 6100, Bank.) *See advt., page* 4.

United Berlin-Frankfort India Rubber Co., 11A, Upper Thames-st., E.C.

Volenite, Ltd., Dunster House, Mark-lane, London, E.C.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Western Electric Co., 171, Queen Victoria-st., E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Insulating Material Manufacturers—*continued.*

WHITELEY BROS. (Press-spahn), Slitheroe Mills, Rishworth, nr. Halifax. (Telegs.: "Boards, Ripponden." Nat. Teleph. No. 045, Rishworth.)

Wihl, Ed., & Co., 17, Nicholas-st., Manchester.

Willesden Paper & Canvas Works, Ltd., Willesden Junction, London, N.W.; & 61, South John-st., Liverpool.

Windschuegl, C., & Co., 1, Leadenhall-st., London, E.C.

Woodite Co., Mitcham Common, Surrey.

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Insulating Paper.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Christie & Co., 134, Upper Thames-st., London, E.C.

Neville Bros., 7 & 9, James-st., Liverpool. (Telegs.: "Neville, Liverpool." Tel. No. 7159.)

Insulating Rosin Oil Manufacturers.

Catchpole, E., & Sons, Plough Bridge, Rotherhithe, London, S.E.

Grindley & Co., Ltd., Upper North-st., Poplar, London, E. (Telegrams: "Resinous, London." Telephone No. 58, Eastern.)

Insulating Varnish.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Down, Fred. J., Harpenden, Herts.

Ebonestos Manufacturing Co., The, 22, Rosoman-st., London, E.C. (Teleph. No. 1422, Holborn.) Sole London agents for Calman's Insulating Elastic Varnish. *See advt., page* 613.

GRIFFITHS BROS. & CO., Mack's-rd, Bermondsey, London, S.E. "Armacell" & "Ohmaline" Insulating Varnishes. *See advt., page* 18.

SKELTON, WILLIAM, & CO., SOLE IMPORTERS OF CALMAN'S INSULATING VARNISHES. STICK LAC FOR MICA SHEETS, &c. LACQUER MANUFACTURERS, HAY MILLS, BIRMINGHAM. (TELEGS.: "SKELTON, HAY MILLS, BIRMINGHAM." TELEPH. NO. 16, SMALL HEATH.)

Insulating Varnish—*continued.*

Standard Varnish Works, 23, Billiter-st., London, E.C. "Voltalac," "Baking Voltalac" & the "Standard" Insulating Varnishes for all kinds of electrical construction & repair work. *See advt.* BELOW.

Insulation Testing Sets.

EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.

Insulators (Electrical) Manufacturers.

(*See also* BATTERY JARS.)

F.—Isolatoirs élec.—Fab. d'.

G.—Isolatoren-elek.—Fabrikanten.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

BRITISH MICA CO., LTD., Lebanon-rd. Works, Wandsworth, London, S.W. (Telegs.: "Micamini, London." Teleph. No. 405, Putney.) MERCHANTS & MANUFACTURERS of mica insulators of every description for commutators, condensers, &c. MICA Washers, Bushes, Lightning Arresters, Powder, &c. MICANITE Plates, Paper, Cloth, Tubes, Rings, &c. Contractors to H.M. Government. *See advt., page* 474.

Insulators (Electrical) Manufacturers—*continued.*

Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Cliff, J., & Sons, 2 & 4, Wharf, Great Northern Goods Station, King's Cross, London, N.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Smethwick, Staffs.; Burslem, Staffs.; St. Helen's, Lancs.; Paisley, N.B.; & Paris. Depôts: Birmingham, Liverpool, Manchester, Glasgow & Paris. Head office: Lambeth, S.E. Stoneware & porcelain insulators for electric traction, power transmission, telegraph & telephone. *See advt., page* 429.

EBONESTOS MANUFACTURING CO., THE, 22, Rosoman-st., Clerkenwell, E.C. (Telegs.: "Ebonestos, London." Teleph. No. 1422, Holborn.) *See advt., page* 613.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. *See advts., pages* 654 *&* 736.

Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

HUNT & HESS, The Grove, Hackney, London, N.E. (Telegrams: "Ferrules, London." Telephone No. 1492, North.) LITHOLITE moulded insulating material for Handles, Bushes, Nipples, &c. *See advt., page* 613.

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Selling Agents: PINCHIN JOHNSON & CO., Ltd.

Insulators (Electrical) Manufacturers—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., London, E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., London, E.C. *See advts., page* 404 *& inside back cover.*

KNOWLES, C. S., 7, Victoria-st., London, S.W. (Telegs.: "Sevenarch, London.")

Price, Powell & Co., Bristol, Stoneware Porcelain Insulators. (Telegs.: "Pottery, Bristol." Nat. Teleph. No. 279.)

Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Schomburg, H., & Söhne, 57/58, Leadenhall-st., London, E.C. (Telephone No. 2492, Central.)

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Stiff, Jas., & Sons, London Pottery, Lambeth, London, S.E. Highly vitrified insulators for telegraph, telephone, electric light & electric traction work. Speciality: Cream-glazed stoneware cable bridges for conduits. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

TULLY & STRAKER, 16, Water-lane, Great Tower-st., London, E.C. (Telegrams: "Glist, London." Telephone No. 975, Central.) *See advts., pages* 474 *&* 637.

Tuxford, J. G., Conway.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (Ebonite or Vulcanite), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts., pages* 478 *&* 722.

Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)

Insulators (Marble & Slate) Manufacturers.

F.—Isolatoirs (Marbre & Ardoise)—Fab.

G.—Isolatoren (Marmor & Schiefer)—Fab.

BRABY, E. & C., Bangor-wharf, Belvedere-rd., London, S.E. (Telegrams: "Marble, London." Telephone No. 825, Hop.)

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegrams: "Mantel, Birmingham." Telephone No. 2475.) *See advt., page* 682.

Insurance Cos.—Fire, Employers' Liability, Engines, Boilers, &c.

F.—Compagnies d'Assurance—Contre l'incendie, responsabilité des patrons, machines à vapeur, chaudières et machines elec.

G.—Versicherungs Ges.—Feuer, Haftpflicht, Maschinen, Kesseln u. elektr. Triebwerk.

BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.

Car & General Insurance Corp., Ltd., 1, Queen Victoria-st., E.C.

County Fire Office, 50, Regent-st., W.; & 14, Cornhill, London, E.C.

Electric & General Assurance, Ltd., 1 & 2, Great Winchester-st., London, E.C.

Electric Light Insurance & Maintenance Co. (1904), Ltd., 44, Gillingham-st., Pimlico, S.W.

Law Accident Insurance Society, Ltd., 215, Strand, W.C.

Liverpool & London & Globe Insurance Co., 1, Cornhill, London, E.C.

Manchester Steam Users Association, 9, Mount-st., Albert-sq., Manchester.

National Boiler & General Insurance Co., Ltd., 22, St. Ann's-sq., Manchester; & 60, Queen Victoria-st., London, E.C.

Phœnix Fire Office, 19, Lombard-st., E.C.; & 57, Charing Cross-rd., S.W., London. S. G. C. Russell, electrical adviser. (Telegs.: "Phœnix, London.") *See advt., page* 450.

Sun Insurance Office, 63, Threadneedle-st., London, E.C.

Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester.

Iridium Manufacturers, Workers & Dealers.

F.—Iridium (fab. et Marchands).

G.—Iridium-Fabrikanten.

Johnson, Matthey & Co., Ltd., 74 to 81, Hatton-garden, London, E.C.

Powell, F. S., The Elms, Egham, Surrey.

WOODS, T. G., & SONS, 54, Spencer-st., Clerkenwell, London, E.C. (Telegrams: "Monomial, London." Telephone No. 11729, Central.) Speciality: iridium points. *See advt., page* 559.

Iron & Steel Manufacturers & Merchants.

F.—Fer et acier—Fabr. et March. de.

G.—Eisen & Stahl. Fabr. und Händler.

Armstrong, Stevens & Son, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

Campbell, Macmaster & Co., 11 & 12, Clements-lane, London, E.C.

Clark, Bunnett & Co. (founders), New Cross-rd., London, S.E.

Iron & Steel Manufacturers & Merchants —*continued.*

Clark, Hunt & Co., Ltd., 159 & 160, High-st., Shoreditch, London, E.
Colville, D., & Sons, Ltd., Motherwell, N.B.
Dorman, Long & Co., Ltd., Middlesborough; & 19, Victoria-st., London, S.W.
Eyre, Wm., & Nephew, 1, Tithebarn-st., Liverpool.
Glasgow Iron & Steel Co., Ltd., Wishaw, N.B.
Glenfield & Kennedy, Ltd., Kilmarnock.
Hadfield's Steel Foundry Co., Ltd., non-magnetic steel castings, wire & strips, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.
Hall, J., & Son, Crossbank-st., Oldham.
Jacks, Wm., & Co., 5, East India-ave., E.C.
LANDER & LARSSON, 164, Edmund-st., Birmingham. (Telegrams: "Lander, Birmingham." Teleph. No. 676.) *See advt., page* 425.
Markham & Co., Broad Oak Iron Works, Chesterfield.
Muirhead, J., Cart Forge, Glasgow.
Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.
Rollason & Slater, Ltd., Mitre Wire & Rivet Works, Richard-st., Birmingham; & Wombridge Iron Works, near Oakengates, Salop.
Ross, William, & Co. (London), Ltd., Horse-shoe Wharves, Malt-st., Old Kent-rd., London, S.E.
Samuelson & Co., Ltd., Banbury, Oxon.
SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See* WIRE MANUFACTURERS—TELEGRAPH.
Summerlee Iron Co., 112, Fenchurch-st., London, E.C.
Sutton & Ash, Snow Hill, Birmingham.
Tett, Henry S., & Co., Ltd., Faversham, Kent.
Turner Bros., 134, Upper Thames-st., London, E.C. Swedish charcoal iron, all sizes flats, rounds, squares in stock.
Walmsley, T., & Sons, Atlas Forge, Bolton.
Whitehouse Bros., South Quay, Worcester.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*
Woodhouse & Rixon, Chantry Steel & Crank Works, Attercliffe, Sheffield.

Ivory & Wood Turners for Electrical Appliances.

F.—Tourneurs en bois et ivoire.
G.—Elfenbein & Holz Drechsler.

Apps, A., 433, Strand, London, W.C.
Bate, Richard, Cadby's Steam Works, 39½, Leather-lane, London, E.C.

Ivory & Wood Turners for Electrical Appliances—*continued.*

BONNELLA, D. H., & SON, LTD., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) *See advt.* BELOW.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.
Cripps, E. H., 161, Kennington-rd., S.E.
Davis, Charles, 29, Charles-st., Hatton Garden, London, E.C.
EBONESTOS MANUFACTURING CO., THE, 22, Rosoman-st., Clerkenwell, E.C. (Telegs.: "Ebonestos, London." Teleph. No. 1422, Holborn.) *See advt., page* 613.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.
Hildersley, J., & Son, 33, Berwick-st., Soho, London, W.
Irvin & Sellers, Preston.
Lawrance, W. J., 9, Giltspur-st., London, E.C.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts; leading wholesale houses.

REGD EKTRIK TRADE MARK

By Royal Warrant to H.M. the King.
See advts., page 694 *& on lower outside edges.*
Norris, George, 33, Kirby-street, Hatton-garden, London, E.C.

MANUFACTURING ELECTRICIANS
Ivory, Ivoride, Bone, Horn, Ebonite & Wood Turners.
D. H. BONNELLA & SON, LTD
ILLUMINATING TABLE CLOTH.
Bells.
Pushes.
Indicators.
Name & Address Tablets.
TELEPHONES.
Telephone No. 1882, GERRARD.
Telegrams: "BONCINELLO, LONDON."
"SHADOLESS" Candle Fittings & Lamps.
58 & 60, MORTIMER STREET, LONDON, W.
Works: 43, Kirby St., E.C.

Ivory Switchboard Labels & Address Tablets.

F.—Etiquettes en Ivoire.
G.—Elfenbein Anhängzettel.

BONNELLA, D. H., & SON, LTD., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) *See advt., page* 617.

ENDOLITHIC MANUFACTURING CO., LTD. (brass & other metals), Pomona-bldgs., 61½, Fore-st., London, E.C. (Telegs.: "Dendron, London." Teleph. Nos.: 3421, London Wall; & 11630, Central.)

Hibbert, G., 69, Arundel-st., Sheffield.

HUGHES LABEL CO., LTD., THE, 34, Great Titchfield-st., W. (Telegrams: "Nivose, London." Telephone No. 2732, Gerrard.)

Pope, T., & Co., Livery-st., Birmingham.

Japanning Machines for Armature Discs.

Neville Bros., 7 & 9, James-st., Liverpool. (Telegrams: "Neville, Liverpool." Tel. No. 7159.)

Jewel Hole Makers.

F.—Perceur de pierres précieuses.
G.—Steinlöcherdrillen.

Lee, Fred, & Co., Dover-st., Coventry.

Powell & Co., 17, Poland-st., London, W.

WOODS, T. G., & SONS, 54, Spencer-st., Clerkenwell, London, E.C. Jewels for telegraphic, electrical & scientific purposes. (Telegrams: "Monomial, London." Telephone No. 11729, Central.) *See advt., page* 559.

Joint Box Fittings.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Joint Box Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Jointing Material—Makers of.

F.—Matière à Jointoiement.
G.—Fügung Material.

Donovan & Co., 12, Barwick-st., Birmingham.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Hudson, John, & Co.'s Successors, 4, Victoria Warehouses, Mansell-st., London, E.C.

Neville, Williams & Co., 11 & 13, Southwark-st., London, S.E.

Junction Box Makers.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See advts., pages* 445 *&* 446.

Laboratories—Electrical.

F.—Laboratoires électr.
G.—Electr. Laboratorien.

Electrical Standards Laboratory, 8, Richmond-ter., Whitehall, S.W.

"James Watt" Laboratories, University, Glasgow.

Lewisham Electrical Laboratory, 13, Manor-ter., Lewisham.

Liverpool Research Laboratory, 131, St. Domingo-rd., Liverpool.

WESTMINSTER ELECTRICAL TESTING LABORATORIES, York Mansion, York-st., Westminster, London, S.W.

Laboratories (Electrical) Furnishers.

F.—Laboratoires électr.—Fournisseurs pour.
G.—Einrichtung von electrischen Laboratorien.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; Nat. 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Tel. No. 725, Westminster.)

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

PHŒNIX ELECTRIC HEATING CO., LTD., 3, Holborn-pl., London, W.C.

Lacquer & Varnish Manufacturers & Merchants.

F.—Laques et vernis.
G.—Lack & Firniss—Fabr. & Händler.

Bigsby, W. T., & Sons, Morden-rd., Mitcham.

Bowley, S., & Son (specialities in oil & spirit varnishes, &c.), Wellington Works, Battersea Bridge, London, S.W. (Telegrams: "Bolyanson, London." Telephone Nos. 1 & 209, Battersea. A.B.C. Code, 5th Edition.) Established 1744. Contractors to H.M. Government, &c., &c.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Crane, Fredk., Chemical Co., Birmingham.

Dalton Lacquer Manufacturing Co., Ltd., 8, St. James's-sq., Manchester.

Lacquer & Varnish Manufacturers & Merchants—*continued.*

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., cold-drying and hot-drying lacquers of all shades; "Lustre Liquid," a colourless, durable, cold-drying lacquer for large work. Shellac varnishes for all purposes. *See advt., page* 18.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. (Telegrams: "Windsail, London." Telephone No. 5063, Central.)

Naylor Bros., 12 & 14, James-st., Oxford-st., London, W.

Neville, Williams & Co., 11 & 13, Southwark-st., London, S.E.

Polglase & Co., Tyne Vale Chemical Works, Skinnerburn-rd., Forth Banks, Newcastle-on-Tyne.

SKELTON, WILLIAM, & CO., SOLE IMPORTERS OF CALMAN'S INSULATING VARNISHES. STICK LAC FOR MICA SHEETS, &c. LACQUER MANUFACTURERS, HAY MILLS, BIRMINGHAM. (TELEGS.: "SKELTON, HAY MILLS, BIRMINGHAM." TELEPH. NO. 16, SMALL HEATH.)

STERLING VARNISH CO., Brougham-st., Blackfriars-rd., Manchester. (Telegs.: "Reduction, Manchester." A.B.C. Code, 4th ed.)

Ladders.

F.—Echelles.

G.—Leitern.

HEATHMAN, J. H., & CO., Parson's Green, London, S.W. (Telephone No. 150, Putney.) Branches: 2, Endell-st., W.C.; & 7, Pentonville-rd., N.

Lamp Frosters & Tinters.

Griffiths Bros. & Co., Macks-rd., Bermondsey, London, S.E. "Shaydolite" for colouring incandescent lamps. *See advt., page* 18.

Lamp Holder Makers.

F.—Portes-lampes—Fab. d'.

G.—Lampen Fassungen Fab.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin. Makers of the "Thikflex" Patent Lampholder.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Lamp Holder Makers—*continued.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegs.: "Current, Manchester;" "Prefix, London." Tel. Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Hacs, 56, Margaret-st., Sydney. *See advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegs.: "Lampaient, London." Teleph. No. 5026, Gerrard.) *See advt., page* 589.

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. Round & square switch blocks. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

LUNDBERG, A. P., & SONS, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. Inventors, patentees & manufacturers of Lundbergs' electric light accessories. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advts., page 694 *& on lower outside edges.*

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.) Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); Corp. 101 & 2.)

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Maxim Electrical Co., Ltd., Maxim Works, Gillingham-st., Victoria, S.W.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents). *See advt., page* 9.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wakefield, J., & Sons, Ltd., Birmingham. (Telegrams: "Theodore, Birmingham." Telephone No. 1041, Birmingham.)

Lamp Makers (for Motor Cars, Railways, &c.).

F.—Lampes pour automobiles, chemins de fer—Fab. de.

G.—Lampen Fabr. (für Motorwagen, Eisenbahnen, &c.).

Birmingham Lamp & Gasfittings Co., Ltd., Summerfield Park Works, Birmingham.

Lamp Makers (for Motor Cars, Railways, &c.—*continued.*

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

CRYSELCO, LTD., Kempston Works, Bedford. *See advt., page* 605.

DORMAN & SMITH, railway train lighting fittings & appliances, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

M'Haffie & Co., 13, Margaret-st., Glasgow.

Murray, R. C., & Co., 7, Carlton-court, Glasgow.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W.

Webb, F., & Son, 15, Cank-st., Leicester.

Whyte, R. A., & Co., 140, Bath-st., Glasgow.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes).

F.—Poteaux pour l'élec. et la télég. (fab. de).
G.—Lampenpfosten Fabr. für elek. & teleg. Zwecke.

Allan, J., Sen., & Son, Elmbank Fdry., Glasgow.

Bray, Geo., & Co., Ltd., Bagby Works, off Blackman-lane, Leeds.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Butt, J. M., & Co., Kingsholm Iron Works, Glos.

Cockburn, M., & Co., Gowan Bank, Falkirk.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Duckering, C., Rosemary-lane, Lincoln.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes)—*continued.*

FALKIRK IRON CO., 67, Upper Thames-st., E.C. Works: Falkirk, N.B.

Hardy & Padmore, Ltd., Blockhouse, Worcester.

Law, J. & A., Rae-st., Glasgow.

McDowall, Steven, & Co., Ltd., Glasgow.

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

Porter & Co., Gowts Bridge, Lincoln.

Shotts Iron Co., Ltd., 130, George-st., Edinburgh.

Smith Bros., Abbey-street, Derby.

Lathes.

(*See* MACHINE TOOLS.)

Launch Designers & Builders—Electric.

F.—Bateaux électriques—Dessinateurs et Constructeurs.
G.—Boot Entwurfe & Bau—Elektrische.

Bourne End Electric Installation Co., Bourne End, Bucks.

Burgoine, Alfred, Ltd., Kingston-on-Thames; & Riverside, Hampton Wick.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Eck, H. Justus, M.A. (Cantab.), M.I.E.E., 10, Priory-rd., Chiswick, W.

Edwards & Co., Ltd., Millwall, London, E.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, E.

Tagg, Tom, & Son, above the Lock, East Molesey.

Thornycroft, J. I., & Co., Ltd., Chiswick, London, W.

Vosper & Co., Ltd., Broad-st., Portsmouth.

Yarrow & Co., Poplar, London, E.

Lead Covered Cable Makers.

F.—Cables couverts de plomb.
G.—Bleibedeckte Kabel—Fab. von.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Lead Covered Cable Makers—*continued.*

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 6100, Bank.) *See advt., page* 4.

WESTERN ELECTRIC CO., Bridge-chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Lead for Electrical Accumulators.

PASS, C., & SON, LTD., Bedminster Smelting Works, Bristol. SELLERS OF ANTIMONIAL LEAD OF ALL GRADES; BUYERS OF LEAD ASHES, OLD ACCUMULATORS, & DROSS FROM SAME. (Telegrams: "Pass, Bristol." Telephone No. 475.)

Lead Merchants.

F.—Marchands—Plomb.
G.—Blei-Händler.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegrams: "Metalcibles, London." Telephone No. 993, Hop.) City office: 53, Gracechurch-st. (Telegrams: "Soldeerpan, London." Telephone No. 1572, Avenue.) Birmingham office: Guildhall-bldgs., Navigation-st., Birmingham. (Telegrams: "Metalcibles, Birmingham." Telephone No. 4604, Central.)

Cashmore & Co., Ltd., Victoria-st., Bristol.

Cookson & Co., Ltd., Newcastle-on-Tyne.

Eyton & Co., Chester Wharf, Mann Island, Liverpool.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Lead Merchants—*continued.*

Holman, Michell & Co., Cornwall Lead Works, St. Helens.

Locke, Blackett & Co., Ltd., 47, Gallowgate, Newcastle-on-Tyne.

Sheldon Bush & Patent Shot Co., Cheese-lane, Bristol.

Lead Refiners & Manufacturers.

PASS, C., & SON, LTD., Bedminster Smelting Works, Bristol. SELLERS OF ANTIMONIAL LEAD OF ALL GRADES; BUYERS OF LEAD ASHES, OLD ACCUMULATORS, & DROSS FROM SAME. (Telegrams: "Pass, Bristol." Telephone No. 475.)

Leadless Paper Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* Alphabetical.

Lecturers' Apparatus—Makers of.

F.—Lecteurs—Fab. d'appareils pour.
G.—Apparate für Vorleser—Fab. von.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

Paul, Robt. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* Alphabetical. *See advt., page* 608.

PHŒNIX ELECTRIC HEATING CO., LTD., 3, Holborn-pl., London, W.C.

Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Lettering on Ivory.

F.—Ecriture sur ivoire.
G.—Buchstaben Gravcure auf Elfenbein.

ENDOLITHIC MANUFACTURING CO., LTD. (bone & metal), Pomona-bldgs., 61½, Fore-st., E.C. (Telegs.: "Dendron, London." Teleph. Nos.: 3421, London Wall; & 11630, Central.)

HUGHES LABEL CO., LTD., THE, 34, Great Titchfield-st., London, W. (Telegrams: "Nivose, London." Tel. No. 2732, Gerrard.)

Lift Controllers.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.

Lift Controllers—*continued.*

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) "Perfecta" automatic lift controllers for direct, polyphase & alternating currents.

Lifts (Electric)—Makers of.

F.—Ascenseurs électriques—Fabr. de.
G.—Electrische Aufzüge.

Brooke, J. W., & Co., Ltd., Adrian Ironworks, Lowestoft, Suffolk.

Childs, J. G., & Co., Ltd., Hawthorn-rd., Willesden Green, N.W. Show-room: 73A, Queen Victoria-st., E.C.

Clark, Bunnett & Co., Ltd., New Cross-rd., London, S.E.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

DUGDILL, JOHN, & CO. (automatic switching), Failsworth, nr. Manchester.

Easton Lift Co., Ltd., 4, John Dalton-st., Manchester.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Heywood, S. H., 37A, Fountain-st., Manchester. Works: Reddish, nr. Manchester.

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks.

Lidgerwood Manufacturing Co., Caxton House, Westminster, London, S.W.

Lucas, J. E., & Son, Brockley, S.E.

M'Lean, J., & Sons, Grosvenor-rd., Belfast.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Rawlinson, Ltd., Hope Works, Kirkstall-rd., Leeds.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Smith, B. G., Stannery-st., Halifax.

Lifts (Electric)—Makers of—*continued.*

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

Wadsworth, Wm., & Sons, School Hill, Bolton.

Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Waygood, R., & Co., Ltd., Falmouth-rd., Great Dover-st., S.E.

Light & Power Companies—Electric.

(*See* ELECTRICITY WORKS.)

F.—Éclairage électrique—Compagnies d'.
G.—Gesellschaften für elektrische Beleuchtung.

Alderley & Wilmslow Electric Supply, Ltd.

Altrincham Electric Supply, Ltd.

Ashford & District Electric Supply Co., Ltd.

Banbury & District Electric Supply Co., Ltd.

Barmouth & District Electric Lighting & Power Co.

Belfast & North-East Ireland Electricity & Power Gas.

Bettws-y-coed Electric Lighting Co., Ltd.

Birkdale District Electric Supply Co., Ltd.

Bishop's Stortford & Stanstead Electric Lighting Co., Ltd.

Blockley Electric Supply Co.

Bournemouth & Poole Electricity Supply Co., Ltd.

Brentford Electric Supply Co., Ltd.

Bridgwater & District Electric Supply & Traction Co., Ltd.

British Eastern Electric Power Co., Ltd.

British Electric Plant Co., Ltd.

Bromley (Kent) Electric Light & Power Co., Ltd.

Brompton & Kensington Electricity Supply Co., Ltd.

Brynamman & District Electric Supply Co., Ltd.

Buckfastleigh Electric Supply Co.

Buckingham Electric Light Co.

Buncrana Electric Supply Co.

Burgess Hill & District Electric Supply Co., Ltd.

Camberley Electric Supply Co., Ltd.

Cambridge Electric Supply Co., Ltd.

Carmarthenshire Electric Power Co.

Central Electric Supply Co., Ltd.

Chagford & Devon Electric Light Co., Ltd.

Charing Cross, West End & City Electricity Supply Co., Ltd.

Chelmsford Electric Lighting Co., Ltd.

Chelsea Electricity Supply Co., Ltd.

Chepstow Electric Lighting & Power Co., Ltd.

Chesham Electric Light & Power Co., Ltd.

Chichester & District Electric Supply Co., Ltd.

Chislehurst Electric Supply Co., Ltd.

Chiswick Electricity Supply Corporation, Ltd.

Church Stretton Electric Supply Co., Ltd.

City of London Electric Lighting Co., Ltd.

Cleveland & Durham County Electric Power Co.

Cleveland Trust, Ltd., Saltburn-by-the-Sea.

Light & Power Companies—Electric— *continued.*

Clyde Valley Electrical Power Co.
Coatbridge & Airdrie Electric Supply Co., Ltd.
Cork Electric Tramways & Lighting Co., Ltd.
Cornwall Electric Power Co.
County of Durham Electric Power Supply Co.
County of Durham Electrical Power Distribution Co., Ltd.
County of London Electric Supply Co., Ltd.
County of Northampton Electric Power & Traction Co., Ltd.
Croydon & District Electric Lighting Co., Ltd.
Deeside & District Electric Supply Co., Ltd.
Derbyshire & Nottinghamshire Electric Power Co.
Dorchester & District Electric Supply Co., Ltd.
Dorking Electricity Supply Co.
Dublin Electric Light Syndicate, Ltd.
Dulverton Electric Lighting Co., Ltd.
Durham Collieries Electric Power Co.
Electric Supply Corporation, Ltd.
Farnham & District Electricity Supply Co., Ltd.
Fife Electric Power Co., Ltd.
Fladbury Electric Light & Power Co., Ltd.
Fleetwood & District Electric Light & Power Synd., Ltd.
Folkestone Electricity Supply Co., Ltd.
Foot's Cray Electricity Supply Co., Ltd.
Formby & Freshfield Electric Light Co., Ltd.
Fort William Electric Light Co.
Frinton-on-Sea & Dis. Elec. Lt. & Pr. Co., Ltd.
Galway Electric Co., Ltd.
Gloucestershire Electric Power Co.
Gorseinon Electric Light Co., Ltd.
Gosport & Alverstoke Electric Lighting Co., Ltd.
Guernsey Electricity Supply Co.
Guildford Electricity Supply Co., Ltd.
Harrington Electric Light Co., Ltd.
Harrow Electric Light & Power Co., Ltd.
Harwich Electric Lighting & Tramways Co., Ltd.
Hayward's Heath Electric Supply Co., Ltd.
Hemsworth Electricity Supply Co., Ltd.
Heswall Electric Light Co., Ltd.
Hexham & District Electric Supply Co., Ltd.
Hindhead & District Electric Light Co., Ltd.
Houghton-le-Spring & District Electric Lighting Co., Ltd.
Hove Electric Lighting Co., Ltd.
Ilfracombe Electric Light & Power Co., Ltd.
Indian Electric Supply & Traction Co., Ltd.
Ingleton Electric Lighting & Power Co., Ltd.
Isle of Thanet Electric Tramways & Lighting Co., Ltd.
Isle of Wight Electric Light & Power Co., Ltd.
Kensington & Knightsbridge Electric Lighting Co., Ltd.
Kent Electric Power Co.
Kerry Electric Supply Co., Ltd.
Keswick Electric Lighting Co., Ltd.
Keynsham Electric Light & Power Co., Ltd.
Kidderminster & District Electric Lighting & Traction Co., Ltd.

Light & Power Companies—Electric— *continued.*

Kilmacolm Electric Lighting Co., Ltd.
Kingsbridge & South Devon Electric Lighting & Traction Co., Ltd.
Kingswood Electric Supply Co., Ltd.
Lancashire Electric Power Co.
Larne Electric Light Works, Ltd.
Leatherhead & District Electricity Co., Ltd.
Leicestershire & Warwickshire Electric Power Co.
Lewes & District Electric Supply Co., Ltd.
Liverpool District Lighting Co., Ltd.
Llandrindod Wells Electric Light & Power Co., Ltd.
Llanelly & District Electric Lighting & Traction Co., Ltd.
Llangollen & District Electric Light & Power Co., Ltd., Llangollen.
Llanrwst Electricity Supply Co., Ltd.
Loch Leven Water & Electric Power Co.
London Electric Supply Corporation, Ltd.
Lothians Electric Power Co.
Ludlow Electric Light Co., Ltd.
Lymington Electric Light & Power Co., Ltd.
Lyndhurst Electric Lighting & Traction Co., Ltd.
Lynton & Lynmouth Electric Light Co., Ltd.
Macroom & District Electric Lighting Syndicate, Ltd.
Mardy Electric Light Co., Ltd.
Market Drayton Electric Light & Power Co., Ltd.
Marlborough Electric Supply Co., Ltd.
Melton Mowbray Electric Light Co., Ltd.
Merthyr Electric Traction & Lighting Co., Ltd.
Metropolitan Electric Supply Co.
Mevagissey Electric Lighting Co., Ltd.
Midland Electric Corp. for Power Distribution, Ltd.
Midland Electric Light & Power Co., Ltd.
Milford-on-Sea Electric Supply Co., Ltd.
Minehead Electric Supply Co., Ltd.
Musselburgh & District Electric Light & Traction Co., Ltd.
National Electric Supply Co., Ltd.
New Rottingdean Electricity Co., Ltd.
Newcastle & District Electric Lighting Co., Ltd.
Newcastle-upon-Tyne Electric Supply Co., Ltd.
Newmarket Electric Light Co., Ltd.
Newquay Electric Light & Power Co., Ltd.
North Metropolitan Electric Power Supply.
North Metropolitan Electrical Power Distribution Co., Ltd.
North of Scotland Elec. Light & Power Co., Ltd.
North Wales Power & Traction Co., Ltd.
North-Western Electricity & Power Gas Synd., Ltd.
Northallerton Electric Light & Power Co., Ltd.
Northampton Electric Light & Power Co., Ltd.
Northern Counties Electricity Supply Co., Ltd.
Northwich Electric Supply Co., Ltd.
Northwood Electric Light & Power Co., Ltd.
Notting Hill Electric Lighting Co., Ltd.

Light & Power Companies—Electric— *continued.*

Ogmore Valley Electric Light & Power Supply Co., Ltd.
Oswestry Electric Lighting & Power Co., Ltd.
Oulton Broad Electricity Co., Ltd.
Oxford Electric Co., Ltd.
Penarth Electric Lighting Co., Ltd.
Penzance & District Electric Supply Co., Ltd.
Pontypool Electric Light & Power Co.
Portpatrick Electric Supply Co., Ltd.
Railway Lighting, Ltd.
Ramsgate & District Electric Supply Co., Ltd.
Reading Electric Supply Co., Ltd.
Richmond (Surrey) Electric Light & Power Co., Ltd.
Ross Electric Light & Power Co., Ltd.
Roundhay & District Electric Lighting Co., Ltd.
Rugby School Electric Lighting Co., Ltd.
St. Albans & District Electric Supply Co., Ltd.
St. Austell & District Electric Lighting & Power Co., Ltd.
St. Helen's Electric Lighting Co., Ltd.
St. James' & Pall Mall Electric Light Co., Ltd.
Salisbury Electric Light & Supply Co., Ltd.
Sandgate & Hythe Electric Co., Ltd.
Scarborough Electric Supply Co., Ltd.
Scottish Central Electric Power Co.
Shannon Water & Electric Power Co.
Sheerness & District Electric Power & Traction Co., Ltd.
Sheppey Water & Lighting Co., Ltd.
Shropshire & Worcestershire Electric Power Co.
Slough & Datchet Electric Supply Co., Ltd.
Smithfield Markets Electric Supply Co., Ltd.
Somerset & District Electric Power Co.
South Lancashire Electric Supply Co., Ltd.
South London Electric Supply Corporation, Ltd.
South Metropolitan Electric Light & Power Co., Ltd.
South Metropolitan Electric Tramways & Lighting Co., Ltd.
South Wales Electrical Power Distribution Co.
Stratford-on-Avon Electricity Co., Ltd.
Strathclyde Electricity Supply Co., Ltd.
Suffolk Electricity Supply Co., Ltd.
Tadcaster Electricity Co., Ltd.
Tavistock & District Electric Supply Co., Ltd.
Tayside Electric & Gas Light Co., Ltd.
Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd.
Topsham Electricity Supply Co., Ltd.
Totnes Electricity Co., Ltd.
Trafford Power & Light Supply (1902), Ltd.
Twickenham & Teddington Electric Supply Co., Ltd.
Ulster Electric Power Distribution Co., Ltd.
United Electric Light & Power Supply Co., Ltd.
Urban Electric Supply Co., Ltd.
Uxbridge & District Electric Supply Co., Ltd.
West London & Provincial Electric Supply Co., Ltd.
Western Electric Distributing Corp., Ltd.

Light & Power Companies—Electric— *continued.*

Westminster Electric Supply Corporation, Ltd.
Weston-super-Mare & District Electric Supply Co., Ltd.
Whitchurch & Pangbourne Electric Supply Co., Ltd.
Winchester Electric Light & Power Co., Ltd.
Windermere & District Electricity Supply Co., Ltd.
Windsor Electrical Installation Co., Ltd.
Witney Electric Supply Co., Ltd.
Woking Electric Supply Co., Ltd.
Wycombe (Borough) Electric Light & Power Co., Ltd.
Yale Electric Power Co., Ltd.
Yarmouth (Isle of Wight) Electricity Supply Co., Ltd.
Yorkshire Electric Power Co.

Light Systems—Electric.

F.—Systèmes de lumière électr.
G.—Electr. Licht Systeme.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CONDUIT & INSULATION CO., LTD., Conduit Works, Summers Town, S.W. (Telegrams: "Conduits, London.") *Improved system of Electric Wiring.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. on outside of back cover.*

Light Systems—Electric—*continued.*

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., E.C. *See inset advts., pages* 445 & 446.

Lightning Arresters—Makers of.

F.—Paratonnerres—Fab. de.
G.—Blitzschutz vorrichtung—Fabr. von.

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 20, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester. The Wurts non-arcing metal lightning arresters for light & power plants, alternating current & direct.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegrams: "Gloriole, London." P.O. Telephone No. 12367, Central.)

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Watlington & Co. Offices: Moorgate Station-chbrs. Stores: 6, New Union-st., Moorfields, London, E.C.

Lightning Conductor Manufacturers & Erectors.

F.—Paratonnerres—Fab. de cable pour.
G.—Blitzableiter-Kabel-Fabrikanten.

ANDERSON, RICHARD, & CO. (successors to Sanderson & Co.), Huddersfield, Leadenhall House, 101, Leadenhall-street, London, E.C. (Telegrams: "Tonnerre, London." Telephone No. 5537, Avenue.) TEN FIRST-CLASS PRIZE MEDALS; HIGHEST AWARD, CRYSTAL PALACE, 1892.

Ball, Joseph, York-castle, Oldham, Lancs.

Lightning Conductor Manufacturers & Erectors—*continued.*

Baxendale & Co. (makers), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Berry, W. D., & Son, Spring-pl. Works, Springwood-st., Huddersfield.

Birt, J. A. W., Tower Works, Wapping, London, E.

Blackburn, Starling & Co., Ltd., Gresham Works, Nottingham; 72, Piccadilly, Hanley; & 12, Fleet-st., Dublin.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Bramham, J., 104, Dale-street, Liverpool.

Burns, Joseph, 27, Whitevale-st., Glasgow.

Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

Cross, George, & Sons, Smethwick.

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Dixon & Corbitt & R. S. Newall & Co., Ltd., Rope Works, Gateshead-on-Tyne; 130, Strand, London, W.C.; & 28, West Nile-st., Glasgow.

Dutton, F., & Co., Heckmondwike, Yorks.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

Ellis, E., & Co., 21, Emmett-st., Poplar, London, E.

FERBECK CHIMNEY CONSTRUCTION CO., Finsbury-pave. House, London, E.C.

Furse, W. J., & Co., Traffic-st., Nottingham.

Gray, J. W., & Son, 115, Leadenhall-st., E.C.

Izant, Alfred, 6, Lorenzo-st., King's Cross, W.C.

Jenkins, W., & Son, 7, Trinity-st., Leamington.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct, Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Laidler, Thomas, 1, Lee-st., Thomas-st., Limehouse, London, E.

Lamb, Joseph P., & Co., 24, Canning-place, Liverpool.

Larkins, Wm., 18, Alfred-st., Bow, E.

LEWIS, JOSEPH, 5 & 6, GREAT WINCHESTER-ST., LONDON, E.C. Patentee of the "LEWIS LINK;" the only coupling in one piece for Lightning Conductors. Prize Medal Electrical Exhibition, London, 1892. The trade & shippers supplied with conductors & fittings ready for easy fixing, also copper & wire rope & wire cord, &c. CHIMNEY SHAFTS & steeples, &c., examined, altered & repaired; conductors fixed, & all kinds of lofty work without expense of scaffolding or stoppage of works. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.)

Lightning Conductor Manufacturers & Erectors—*continued.*

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")
Morris, John Stuart, Wardrobe-chambers, Queen Victoria-st., London, E.C.
Parkinson, T., Canterbury-street, Blackburn.
Princess Art Metal Works Co., 183 & 185, Princess-st., Manchester.
Short, J., & Co., 46, East Crawford-st., Glasgow.
Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.
Stevens, F. J., & Co., 348, St. Leonards-road, Bromley, London, E.
Stewart, W. W., & Co., 365, Scotland-street, Glasgow.
Swinnerton, G., & Son, 108, Shirland-rd., Smethwick, Birmingham.
Universal Engineering Co., Ltd., Nottingham.
Utley, C. J., & Co., Overton & Quenby-rd., Leicester.
WILKINS WIRE ROPE CO., LTD., Eastwood, Notts. (Telegrams: "Cordelero, Eastwood." Telephone No. 17, Langley Mill.)
Wragge, G., Ltd., 152, 154, 156 & 165, Chapel-st., Salford, Manchester.

Lightning Engineers.

F.—Paratonnerres—Ingénieurs pour.
G.—Blitzableiter—Ingenieure für.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.
Fulton, T. Crichton, A.I.E.E., 44, West George-st., Glasgow.
Martin & McFie, 8, Wellington-st., Glasgow.
MIDLAND WIRE CORDAGE CO. (DAVISON'S), Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegs.: "Orchard, Birmingham.")

Linesmen's Tool Wallets.

F.—Porte-outils pour poseurs de lignes télég.
G.—Linien—Werkzeuge-Schnappsacken.

Thewlis & Co., Mersey-street, Warrington.

Litharge & White Lead.

BRIMSDOWN LEAD CO., LTD., 37 & 38, Mark-lane, London, E.C.

Lock Manufacturers—Electric.

F.—Serrures électr.—Fabr. de.
G.—Schlöeser—Fabr. von.

Chubb & Son's Lock & Safe Co., Ltd., 128, Queen Victoria-st., E.C.; & 68, St. James's-st., Pall Mall, S.W.

Lock Washers.

Burns, J., Ltd., 189, Central-st., London, E.C.
See advts., pages 610 & 723.

Locomotives—Electric.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

Lubricant Manufacturers.

F.—Huiles à lubrefier—Fab. d'.
G.—Maschinen-Oele.

BLUMANN & STERN, LTD., HIGH CLASS LUBRICANTS OF EVERY DESCRIPTION, PLOUGH BRIDGE, DEPTFORD, S.E.
Blundell, Spence & Co., Ltd., Anchor Wharf, 9, Upper Thames-st., London, E.C.
Bowley, S., & Son, Wellington Works, Battersea Bridge, S.W. (Telegs.: "Bolyanson, London." Tel. Nos. 1 & 209, Battersea. A.B.C. Code.)
Duncan, Watson & Co., Dashwood House, New Broad-st., E.C.
Engelbert & Co., 119–125, Finsbury Pavement, London, E.C.
International Oil Co., 120, Fenchurch-st., E.C.
Kingfisher (1118), Leeds, Leeds.
Mawson, Clark & Co., Pandon-bldgs., City-rd., Newcastle.
Mica Lubricant Co., 63, King-st., South Shields.
Reliance Lubricating Oil Co., 19 & 20, Water-lane, Great Tower-st., London, E.C.
Samuel, Wm. H., & Co., Leeds-st., Liverpool.
Spurrier, Glazebrook & Co., Ltd., 66, Victoria-st., Westminster, S.W. Works: Salford, Manchester.
STERN-SONNEBORN OIL CO., Royal London House, Finsbury-sq., E.C. (Telegs.: "Centumvir, London." Tel. Nos. 2898 & 2899, Avenue); & Jubilee-bldgs., 108A, Hope-st., Glasgow. Sternoline Motor & Fram Lubricant (registered).

Lubricator Makers for Electric Machines & Engines.

F.—Lubricateurs—Fab. de.
G.—Schmier Apparate—Fab. von.

Dunham, White & Co., Ltd., Harrow Green Works, Leytonstone-rd., London, N.E.
Fisher, J. Greevz, 78, Harrogate-rd., Leeds.
Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Brick-lane (late 35 & 37, Brick-lane), Whitechapel, London, E.
STERN-SONNEBORN OIL CO., Royal London House, Finsbury-sq., E.C. (Telegs.: "Centumvir, London." Tel. Nos. 2898 & 2899, Avenue); & Jubilee-bldgs., 108A, Hope-st., Glasgow. Sternoline Motor & Fram Lubricant (registered).
Summer, G., Rhodes Bank Works, Oldham.
Trier Bros., 19, Great George-st., London, S.W.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Machine Tool Makers.

F.—Outils pour Machines—Fab. de.
G.—Maschinen-Werkzeug—Fabr.

Archdale, J., & Co., Ledsam-st., Birmingham.
Armstrong, Stevens & Son, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.
Atlas Engineering Co., Manchester.
AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD.")
Ayrton, Wm., & Co., Longsight, Manchester.
Berry, F., & Sons, Sowerby Bridge.
Beyer, Peacock & Co., Ltd., Gorton, Manchester.
BIRCH, G., & CO., Islington Tool Works, Salford, Manchester.
Booth, G., & Co., Arundel-st., Gilbert-st., Halifax.
Bradbury & Co., Ltd., Wellington Works, Oldham.
Britannia Engineering Co., Ltd., Colchester (Nat. Telephone No. 47, Colchester); & 73, Queen Victoria-st., London, E.C. Lathes as made for the British & other Governments.
Campbells & Hunter, Ld., Dolphin Fdry., Leeds.
Chatwin, Thos., Gt. Tindal-st., Birmingham.
CHURCHILL, CHAS., & CO., LTD., 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 2, Charlotte-st., Mosley-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow.
Cook, C. E., & Son, Ashton-in-Makerfield.
Cunliffe & Croom, Ltd., Broughton Iron Works, Manchester.
Dean, Smith & Grace, Worth Valley Tool Works, Parkside, Keighley.
Dempster, Moore & Co., Ltd., 49, Robertson-st., Glasgow.
Drummond Bros., Ltd., Rhydes Hill, nr. Guildford.
Easterbrook, Allcard & Co., Ltd., Albert Works, Sheffield.
Evans, Jos., & Son, Highfield Tool Works, Sheffield.
GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-street, Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.
Halls, Arthur, Tool Works, Great Yarmouth.
Hardy Patent Pick Co., Ltd., 15, Walbrook, E.C.
Hatch, George, Ltd., 20 & 21, Queenhithe, Upper Thames-st., London, E.C.
Heap, William, & Co., Ltd., Oldham-rd., Ashton-under-Lyne.
Herbert, Alfred, Ltd., Coventry.
Herbert, E. G., Ltd., Rosamond-st. East, Manchester.
Holbrook & Son, 44, Martin-st., Stratford, E.
Holroyd, J., & Co., Ltd., Perseverance Works, Milnrow, nr. Rochdale.
Houchin, R., 13, Bridport-pl., New North-rd., N.
Hughes, Fawcett & Co., Hebden Bridge.
Ingham, W. P., Middlesbrough.
Jarratt, J. T., 57, Highcross-st., Leicester.
Kendal & Gent, Ltd., Gorton, Manchester.
Knox, J., & Co., 210, Upper Thames-st., E.C.

Machine Tool Makers—*continued.*

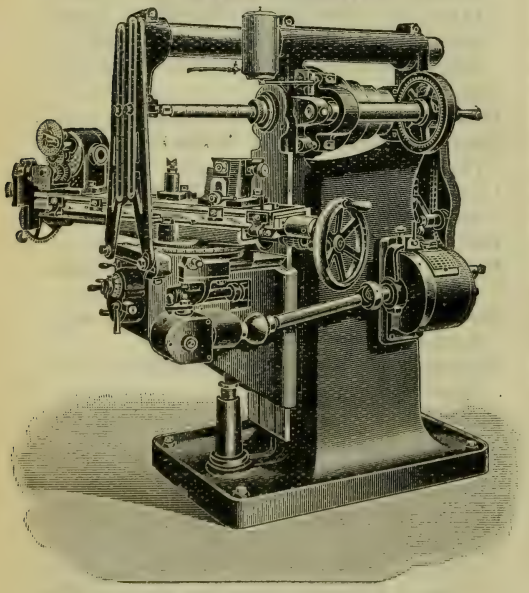
Lang, John, & Sons, Johnstone, nr. Glasgow; & 149, Bishopsgate-st. Without, London, E.C.
Lee & Hunt, Arkwright Tool Works, Crocus-street, Nottingham.
Lindley, C., & Co., Ltd., 34, Englefield-rd., N.; & Beauvoir Bolt & Nut Works, Luddenden, Yorks.
Lloyd, R., & Co., 135–139, Steelhouse-lane, Birmingham.
Loewe, L., & Co., Ld., 30 & 32, Farringdon-rd., E.C.
Loudon Bros., Johnstone; & Glasgow.
Maud & Turner, Gibbet-st., Halifax.
Midland Manufacturing Co., Ltd., Sheffield.
Moseley & Son, 63, New Oxford-st., London, W.C.
Mosers, Ltd., 178, 180, 182 & 192, Borough High-st., & 4, Marshalsea-rd., London, S.E.
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.
Muir, Wm., & Co., Ltd., Sherbourne-st., Manchester.
NEVILLE BROS., 7 & 9, James-st., Liverpool. (Telegs.: "Neville, Liverpool." Tel. No. 7159.)
Newbold, W., & Co., Ltd., Pearl-bldgs., 107, Upper Thames-st., E.C.
Niles-Bement-Pond Co., 23 & 25, Victoria-st., S.W.
Noble & Lund, Ltd., Felling-on-Tyne.
Northern Engineering Co., Ltd., King's Cross, Halifax.
Parkinson, J., & Son, Canal-rd., Shipley.
Pfeil & Co., 145–157, St. John-st., London, E.C.
PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 87, Victoria-st., S.W.
Pickard & Lloyd, Steelhouse-lane, Birmingham.
Plumpton, George, Albion Works, Warrington. (Telegrams: "Tools, Warrington.")
Plumpton, H., Excelsior Tool Works, Warrington, Lancs.
Pollock & Macnab, Deansgate, Manchester.
Proctor, J., Ltd., Hammerton-st. Iron Works, Burnley.
Rasmussen, Webb & Co., 11, Charterhouse-bldgs., London, E.C.
Richards, Geo., & Co., Ltd., Broadheath, near Manchester.
Richardson & Co., Bowling-green Tool Works, Halifax.
Ryder, Thos., & Son, Bolton.
Scriven & Co., Mill-st., Leeds.
SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 628.
Shanks, Thos., & Co., Johnstone, N.B.
Smith & Coventry, Ltd., Ordsal-lane, Salford, Manchester; & 5, Laurence Pountney-hill, E.C.
Smith & Sons, 18, 22, 23 & 24, St. John's-sq., E.C.
Smith & Wilshaw, Kingston Works, Hopwood-lane, Halifax, Yorks.
Spencer, J., & Co., Chamber Iron Works, Hollinwood, Manchester; & 5, Dowgate-hill, E.C.

Machine Tool Makers—*continued.*

Strachan, Turner & Co. (agents), 37, Lime-st., E.C.
Syer, T. J., & Co., 45, Wilson-st., Finsbury, London, E.C.; & at Birmingham.
Taylor, Taylor & Hobson, Ltd., Stoughton-st. Works, Leicester.
Turton Bros. & Matthews, Ltd., Sheffield; & 34, Gracechurch-st., London, E.C.
Tweedales & Smalley, Ltd., Castleton, nr. Manchester.
Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.
Webster & Bennett, Ltd., Atlas Works, Coventry.
Werner, Pfleiderer & Perkins, Ltd., Westwood Works, Peterborough.
Wild, A. M., Castle-chbrs., 13, High-st., Sheffield.
Wilkinson, G., & Sons, Keighley, Yorks.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

SELIG, SONNENTHAL & CO.

ENGINEERS.



KEMPSMITH UNIVERSAL MILLING MACHINE, WITH POSITIVE FEED AND GEAR-BOX.

Large Stock of
HIGH-CLASS MACHINE TOOLS
Of Every Description.

85, Queen Victoria St. & Lambeth Hill,
LONDON, E.C.

Machine Tool Makers—*continued.*

Wingfield, Rowbotham & Co., 1, Suffolk-rd., Sheffield.
Wynn, Timmins & Co., Ltd., Century Works, Commercial-st., Birmingham.
Yorkshire Machine Tool & Engineering Works & Alma Foundry, Liversedge.

Machinery Merchants & Agents.

F.—Machines—March. et represent. de.
G.—Maschinen Händler & Agenten.

Bliss, E. W., & Co., New-rd., Wandsworth-rd., S.W.
Cartwright, Mead & Purvis, Bishop's House, 1B, Bishopsgate-st.-without, London, E.C.
Gilman, F., High Park-rd., Smethwick, Birmingham.
Hunt, J. H., Lombard-rd., Battersea, S.W.
Johnson, H., 117, High-st., Stratford, London, E.
Kerr, R. L., 41, John Dalton-st., Manchester.
Leigh, Evan, & Son, 19, James-st., Liverpool.
PAL, MICHAEL, & CO., Parliament Mansions, Victoria-st., London, S.W.
Ross, J., 885A, Old Kent-rd., London, S.E.
SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt.* IN PREVIOUS COLUMN.
Stone, J. B., & Co., 135, Finsbury Pavement, E.C.
Takata & Co., 88, Bishopsgate-st., London, E.C.
Thomson, A. W., 5, Lloyd's-ave., Fenchurch-st., London, E.C.
Ward, T. W., Ltd., Albion Works, Sheffield.
Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*
Williams, J. T., 231, Rotherhithe New-rd., S.E.
Williams & Geils, 35, King William-st., E.C.

Magnesium Merchants.

F.—Magnesium—March. de.
G.—Magnesium—Händler von.

Johnson, Matthey & Co., Ltd., 74 to 81, Hatton Garden, London, E.C.

Magnet Castings (Steel) Manufacturers.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; London, 52, Queen Victoria-st., E.C.
Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E

Magnet Forgings.

F.—Aimants—Pieces forgées pour.

G.—Magnet Schmiede Stücke.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

TURNER BROS., 134, UPPER THAMES-ST., LONDON, E.C. (Telegs.: "Sheetiron, London." P.O. Teleph. No. 355, Central.)

Magnet Manufacturers.

F.—Aimants.

G.—Magnete.

Apps, A., 433, Strand, London, W.C.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Perry, Thomas, & Son, Herbert-rd., Birmingham.

Rhodes, J. F., maker of magnets for electrical & other trades, 161, Newhall-st., Birmingham.

Shaw, H., & Son, 45 & 47, Monmouth-st., Sheffield.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

Magnet Steel Manufacturers.

F.—Acier magnétique—Fab. d'.

G.—Stahl für Magnete—Fab.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; & 52, Queen Victoria-st., London, E.C.

Flockton, Tompkin & Co., Ltd., Newhall Steel Works, Sheffield.

Guy, H. Augustus, & Co., Invincible Steel Works, Smithfield, Sheffield.

Jonas & Colver, Ltd., Continental Wks., Sheffield.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Saville, J. J., & Co., Ltd., Triumph Steel Works, Shoreham-st., Sheffield.

Turner Bros., 134, Upper Thames-st., London, E.C.

Magneto & Electric Machine Manufacturers.

F.—Machines magnetiques et électr.—Fab. de.

G.—Magnet & Electr. Maschinen Fab.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Skidmore, Wm., & Co., Ltd., 59, Cemetery-rd., Sheffield.

Smith, H. W., & Co., Lydbrook, Glos.

Mahogany, Hardwood & Timber Merchants.

F.—Bois—March.

G.—Holz-Händler.

HARRIS, J. F. & G. Offices & Mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough; Victoria Wharf, Palmer-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

WADE, RICHD., SONS & CO., LTD., Hull & West Hartlepool. *See advt., page* 15.

Wheeler, H., Son & Coombs, Eastleigh Saw Mills, near Southampton.

Main Switches.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. No. 7123, Central.)

Maintenance & Insurance of Electrical Installations.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

Malleable Iron Castings.

F.—Fonte en fer malléable.

G.—Schmiedbarer Eisen Guss.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

Badger & Sons, Wadsley Bridge, Sheffield.

Dronfield Malleable Casting Co., Dronfield, nr. Sheffield. (Telegs.: "Casting Co., Dronfield.")

FISHER, S., & CO., Pelham Works, Mitchell-st., Sheffield.

Gameson, Thos., & Sons, Ltd. (founders), Britannia Foundry, Walsall.

GUEST, JOHN, & SON, Wolverhampton-rd., Walsall. (Telegrams: "Guests, Ironfounders, Walsall.")

Harper, J., & Co., Ltd., Albion Works, Willenhall.

Ley's Malleable Castings Co., Ltd., Vulcan Iron Works, Derby.

Maddock, John, & Co., Ltd., Oakengates, Salop.

Moston Malleable Castings Co., Manchester.

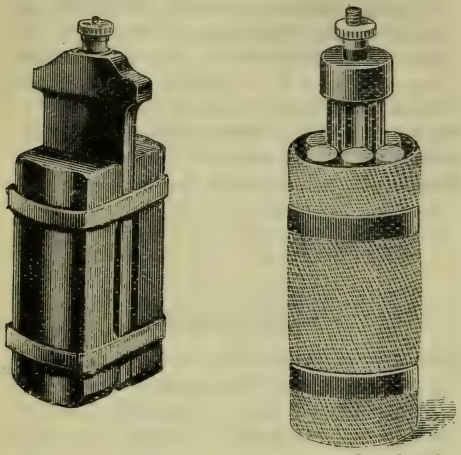
Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

Springfield Steel Co., 777, London-rd., Glasgow.

Manganese Merchants.

F.—Marchands—Manganèse.
G.—Braunstein-Händler.

ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams : "Altisonant, London.")



Makers of Manganese Agglomerate Blocks, for "Agglomerate Leclanché Cells," "6-block Agglomerate Batteries," &c., &c.

Bailey, S. G., & Co., Ltd., Stafford Mills, Stroud, Gloucester. London office : 9, Moorgate-ct., E.C.

Birch, J., & Co., Ltd., 3, London Wall-bldgs., London, E.C.

Blackwell, Geo. G., Sons & Co., Ltd. Works : Garston. Head offices : The Albany, Old Hall-st., Liverpool.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegrams : "Persistent, Liverpool." Telephone No. 872.) *See advt.* BELOW.

Flint, W. J., 79 & 81, Ethelburga-house, Bishopsgate-street-within, London, E.C.

Gilbert, W. K., & Co., 6, Dowgate Hill, London, E.C.

Goadsby & Co., 2, 4 & 6, Albert Bridge, Manchester.

Haeberlin, F., 5, Whittington-ave., London, E.C.

THOMAS & STRACHAN,

HIGH-GRADE PEROXIDE

MANGANESE ORE

For Electrical Purposes.

In Lumps, Nuts, Pea and Rice Sizes.

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GROUND BLACK OXIDE.

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LIVERPOOL.

TELEGRAMS : "STRACHAN, LIVERPOOL." TELEPHONE No. 6789.

Manganese Merchants—*continued.*

Hof, Charles, & Co., 52, Leadenhall-st., London, E.C.

Huntley, R., Ltd., 34 & 36, Mowbray-st., Sheffield.

Jobling, J. A., St. Nicholas-chambers, Newcastle-on-Tyne.

Lyon, J. L., & Co., 75, Mark-lane ; & 19 & 20, London-st., London, E.C.

Macqueen Bros., 45, St. Mary Axe, London, E.C.

Morrison, R., & Co., 2, Fen-court, Fenchurch-st., London, E.C.

Nightingale, G. P., 24 & 25, Great Tower-st., London, E.C.

Parkyn & Peters, 32, Queen Victoria-st., London, E.C.

Pyle & Blaina Works, Ltd., 17, Gracechurch-st., London, E.C.

Thomas & Strachan, 4, Fazakerley-st., Liverpool. (Telegrams : "Strachan, Liverpool." Telephone No. 6789.) *See advt.* ABOVE.

MANGANESE

Specially prepared in Grain & Powder for the Electrical Trade.

Finest Air-floated Asbestos Powder, Asbestos Fibre, Silex, Silica Powder, Graphite, Plumbago, Talc, French Chalk, Mica Powder, Calcium Fluoride, Oils, Greases, Waxes.

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RAW MATERIAL FOR MAKING ARTISTIC SEAMLESS FIREPROOF FLOORING.

EVERITT & Co., 40, CHAPEL ST., LIVERPOOL.

Telegrams : "PERSISTENT, LIVERPOOL." Telephone No. 872.

Manufacturers' Agents.

F.—Agents de Fabricants.
G.—Fabrik—Agenten.

Barnes, E., 15, Charterhouse-st., Holborn Circus, E.C.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.
Dollery & Palmer, 110, Cannon-st., London, E.C.
Donovan & Co., 12, Barwick-st., Birmingham.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Edwards, S. Burton, 5, Cromford-ct., Market-st., Manchester.
Fellheimer, J. M. & D., 26, City-rd., London, E.C.
Ferrier & Hillestrom, 119A, Exchange-bldgs., Cardiff.
Fyfe, A. M., A.I.E.E., 74, York-st., Glasgow.
Goodale, W. P., 64, Leadenhall-st., London, E.C.
Greenberg & Sons, 8, Water-lane, London, E.C.
Haynes, S., 84, Lord's-chbrs., Parliament-st., Nottingham.
Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)
Jarvis Bros., Ltd., Bridge-st., Middlesbrough.
Kappey, Wirth & Co., Dunedin House, Basinghall-ave., E.C.
Key Engineering Co., Ltd., The, 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester. Works: Trafford Park, Manchester.
Lawler, J. E., 39, Lime-st., London, E.C.
Lind & Co., 60, Castle-st., Liverpool.
Martin & McFie, 8, Wellington-st., Glasgow.
Moesch & Schmidt, 43, Basinghall-st., London, E.C.
Muller, E., 58 & 59, Chiswell-st., E.C. *See advt., page* 598.
Osmers, Dettmer, 23 & 25, Billiter-st., E.C.
PARTINGTON, W. E., & CO., Farmside-pl., Levenshulme, Manchester. (Telegs.: "Partington, Levenshulme." Tel. No. 0112, H.M.)
Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents). *See advt., page* 9.
Santoni, D., & Co. (1906), Ltd., 15/17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.
Smith, J. J., & Co., 46A, Holborn Viaduct, E.C.
Weiss & Biheller, 70 & 71, Chiswell-st., London, E.C.

Manufacturers' Representatives.

F.—Representants de Fabricants.
G.—Fabrikvertreter.

Anderson, Frank L. City office: 1, Furnival-st., London, E.C.
Baxter & Caunter, 86, Charing Cross-rd., London, W.C. (Telegs.: "Rapidolite, London." Teleph. Nos. 3463 & 4.)

Manufacturers' Representatives—*contd.*

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
DUGDILL, JOHN, & CO., Failsworth, nr. Manchester.
Fullerton, R. A., & Co., 116, Hope-st., Glasgow.
Rhodes Electrical Manufacturing Co., Ltd., Griffin Engineering Co.
Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Teleph. No. 8114, Bank.)
Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents). *See advt., page* 9.
Wuthrich, G. (Maschinenfabrik Oerlikon), Oswaldestre House, Norfolk-st., Strand, W.C.

Manufacturing Companies—Electric.

F.—Compagnies Electriques—Fab.
G.—Electrische Gesellschaften—Fab.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegrams: "Asteroidal." Telephone Nos.: Head office, 54, Rugby; London office, 379, Bank.)
BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.
BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.
CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.
DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Manufacturing Companies—Electric—*continued.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilatore, Milan." Teleph. Nos. 809–3150.) Works in Sesto S. Giovanni. Electric Fans, Single & Polyphase Current Motors. *See advts., pages* 582, 585, 997, 998 *&* 1227.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Maxim Electrical Co., Ltd., Maxim Works, Gillingham-st., Victoria, S.W.

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Wilson-Wolf Engineering Co., Ltd., Laycocks Mill, Thornton-rd., Bradford.

Marble Slab Merchants & Manufacturers.

Braby, E. & C., Bangor Wharf, Belvedere-rd., Lambeth, S.E. (Telegrams: "Marble, London." Telephone No. 825, Hop.)

LEE, ARTHUR, & BROS., LTD., Hayes, Middlesex. (Telegrams: "Lee, Hayes, Middlesex." P.O. Telephone No. 11.) Wharves & factories: Cumberland-rd., Bristol.

Marble—Workers & Turners of.

BRABY, E. & C., manufacturers of marble switchboards, insulators, square & circular bases, cut-outs, & general lathe turned work in marble or slate, Bangor Wharf, Belvedere-rd., London, S.E. (Telegrams: "Marble, London." Telephone No. 825, Hop.)

Marble—Workers & Turners of—*continued.*

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 683.

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt., page* 683.

Mathematical Instrument Makers.

F.—Instruments de mathematique (fab. d').
G.—Mathematische Instrumente—Verfertiger.

Adie, Patrick, Broadway Works, 1, Broadway, Westminster, London, S.W.

Apps, A., 433, Strand, London, W.C.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Frost & Reed, 47, Queen's-road, Clifton.

Harling, W. H., 47, Finsbury Pavement, E.C.

Holtzapffel & Co., 13 & 14, New Bond-st., W.C.

Hughes, H., & Son, Ltd., 59, Fenchurch-st., E.C.

Norton & Gregory, Ltd., Castle-lane, Buckingham Gate, Westminster, S.W.

Rowney, G., & Co., 10 & 11, Percy-st., W.; & 9, 10 & 11, Diana-pl., Euston-rd., London, N.W.

Stanley, W. F., 5, Great Turnstile, Holborn, W.C.

Measuring Instrument Manufacturers—Electric.

F.—Instruments de mésure électriques.
G.—Elektrische Mess-Instrumente.

Apps, A., 433, Strand, London, W.C.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Patent current & potential indicators, potentiometers, &c. *See advt. inside front cover.*

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, *& advt., page* 519.

Measuring Instrument Manufacturers—Electric—*continued.*

EVERETT, EDGCUMBE & CO., LTD., 87, Victoria-st., London, S.W. (Telegs.: "Everectus, London." Teleph. No. 83, Westminster); & COLLINDALE WORKS, HENDON, N.W. (Telegs.: "Evergendos, London." P.O. Teleph. No. 136, Hampstead.) MEASURING INSTRUMENT SPECIALISTS, DEAD-BEAT MOVING-COIL & MOVING-IRON AMMETERS & VOLTMETERS. LAMP TESTING WATTMETERS. DIRECT READING INSULATION INDICATORS. "INKLESS" RECORDERS. Photometers. Standard WATTMETERS & POWER FACTOR INDICATORS for SINGLE & POLYPHASE CIRCUITS. FREQUENCY INDICATORS.

EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

FOXCROFT & DUNCAN, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., page* 404 *&* BELOW.

Measuring Instrument Manufacturers—Electric—*continued.*

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Telegrams: "FOXSHIP, LONDON." Telephone No.

FOXCROFT & DUNCAN,

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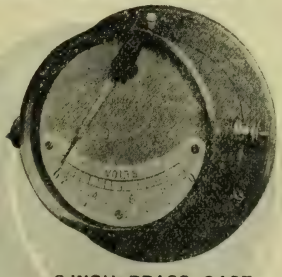

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Phœnix Works: **MENTMORE TERRACE, LONDON FIELDS, N.E.**

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For telegraphic addresses & telephone numbers, see Alphabetical Section.

Measuring Instrument Manufacturers—Electric—*continued.*

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

Jackson Bros., Ltd., Bankfield Mills, Armley, Leeds.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; Nat. 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Teleph. No. 725, Westminster.)

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 609.

NALDER BROS. & THOMPSON, LTD. (man. director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt.* BELOW.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page* 608.

PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)

Measuring Instrument Manufacturers—Electric—*continued.*

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents). *See advt., page* 9.

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See inset advt., pages* 611 *&* 612.

Mechanical Draught.

STURTEVANT ENGINEERING CO., LTD., 147, Queen Victoria-st., London, E.C. (Telegs.: "Sturtevant, London." Teleph. No. 7121, Central. Lieber's Code.)

Mercury Vapour Lamps.

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

NALDER BROS. & THOMPSON, LTD

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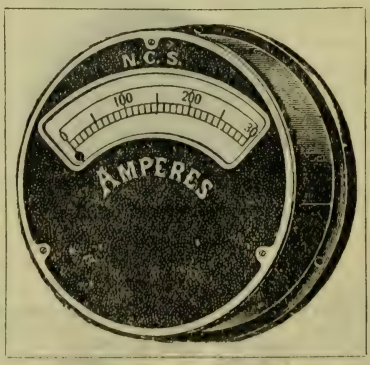

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124 & 161, Bank.

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F.—Fonte en Metal—Fab. de.
G.—Metallguss—Fab.

Billington & Newton, Longport, Staff.
Brown, J., 22, Loveday-st., Birmingham.
Brown Bayley's Steel Works, Ltd., Sheffield.
Catton & Co., Ltd., Black Bull-st., Hunslet, Leeds.
Darlington Forge Co., Ltd., Darlington.
FALKIRK IRON CO., 67, Upper Thames-st., London, E.C. Works: Falkirk, N.B.
Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")
SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; & at Mansion House-chbrs., 20, Bucklersbury, London, E.C. Publicity Department: 11, Queen Victoria-st., E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. *See advts., pages* 445 *&* 446.
Symmons, Syd. H., representing Wm. Cottis & Sons, Ltd., 10, Great St. Helen's, London, E.C.
Thornton & Crebbin, Hammerton-st. Ironworks, Bradford, Yorks.

Metal Manufacturers & Founders—General.

F.—Métal—Fab. & Fonte (en général).
G.—Metall Fab. & Giesser (im Allgemeinen).

Dugard Bros., Vulcan Mills, Birmingham.
Elmore's German & Austro-Hungarian Metal Co., Ltd., Finsbury House, Blomfield-st., London, E.C.
Espir, Fernand, 2 & 3, East India-avenue, London, E.C. Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller). *See advts., pages* 654 *&* 736.
Gilbertson, W., & Co., Ltd., Pontardawe.
Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)
HUGHES, JOHN & JOSEPH, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.) Ingots, rods, sheets, wire & castings in all metals of every description & weight.
Jackson, F., Victoria Foundry, Cardiff.
Keeling, A. D., Warstone Metal Works, Birmingham.
Kenyon, John, & Co., Millsands, Sheffield.
Lucas, Edward, & Son, Dronfield Foundry, near Sheffield.
Pursell, D., & Co., Dalkeith, Midlothian, N.B.
Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.
SPRATT BROS. (branch of Houghtons, Ltd.), Ensign Works, Victoria-rd., Wood-st., Walthamstow, Essex. *See advt., page* 740.
Steel, Peech & Tozer, Ltd., Sheffield; & 49, Victoria-st., Westminster, London, S.W.
Vickers Sons & Maxim, Ltd., 32, Victoria-st., S.W.
Wallace Bros., 284–290, Crownpoint-rd., Glasgow.
Widnes Foundry Co., Widnes, Lancashire.

Metal Merchants.

F.—Marchands—Métaux.
G.—Metall-Händler.

Back & Manson, 36, New Broad-st., London, E.C.
Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegrams: "Metalcibles, London." Telephone No. 993, Hop.) City office: 53, Gracechurch-st., E.C. (Telegrams: "Soldeerpan, London." Telephone No. 1572, Avenue.) Birmingham office: Guildhall-bldgs., Navigation-st. (Telegrams: "Metalcibles, Birmingham." Telephone No. 4604, Central.) Buyers of old metals.
Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.
BENNETT, WALTER, 60, Gracechurch-st., London, E.C. (Telegrams: "Benefit, London." P.O. Telephone No. 770, Central.)
Bibby, J., Sons & Co., Garston, Liverpool.
Elwell, J., Sheepcote-st., Birmingham.
EVERITT & CO., 40, Chapel-st., Liverpool. (Telegrams: "Persistent, Liverpool." Telephone No. 872.) *See advt., page* 630.
Grey & Marten, Ltd., Southwark Bridge, London, E.C. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)
Harris, F. W., 132 & 134, Hurst-st., Birmingham.
Hickie, Borman & Woods, Ltd., 4, Lloyd's-ave., E.C.
HUGHES, JOHN & JOSEPH, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.) Ingots, rods, tubes, sheets & wire. Scrap metals & borings purchased.
Le Bas, Edward, & Co., Dock House, Billiter-st., London, E.C.
Merton, H. R., & Co., 2, Metal Exchange-bldgs., Whittington-ave., London, E.C.
Muntz Metal Co., 23, Rood-lane, E.C.; & Salmon's-lane-wharf, Limehouse, London, E.
Neale, G. W., 83, Upper Thames-st., E.C.
Simpson, C., & Sons, 15, Park-row, Leeds.
Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Metal Spinners.

F.—Metal Fileurs.
G.—Metal Spinnereien.

Ackland, Snow H., 75 & 81, Worship-st., London, E.C.
BURMAN, R. H., Windmill-st., Horse Fair, Birmingham. (Telegrams: "Reflection, Birmingham." Telephone No. 3455.)

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14, CHARTERHOUSE BUILDINGS, LONDON, E.C.
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Clark, W. T., & Co., 5, Green-ter., Rosebery-ave., London, E.C.
Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)
Still, W. M., & Co., 24, Charles-st., Hatton Garden, London, E.C.

Metallurgists—Electro.

F.—Electro-Métallurgistes.
G.—Electro-Erzkundige.

Beadle, A. A., A.I.E.E., F.C.S., "Greenheys," Barnet.
Bonney, S. R., & Co., 34, Blackheath-rd., & 8, Skinners-row, Greenwich, S.E.
Buck, C., & Co., 18–20, St. John's-lane, London, E.C.
Cowper-Coles, Sherard, M.I.E.E., Grosvenor Mansions, Victoria-st., London, S.W.
Elmore, F. E. & A. S., 4, Broad-st.-pl., London, E.C.
Gibbings, W., M.I.E.E., 11, Howard Drive, Grassendale, Liverpool.
Spiers, F. S., B.SC., A.M.I.E.E., 82, Victoria-st., Westminster, S.W.
Sturtevant & Co., Ltd., St. John's Works, 90 & 92, Clerkenwell-rd., London, E.C. (removing March 31, 1907, to 105–111, Euston-rd., N.W.). *See advt., page* 29.
Thorrowgood, W. J., A.M.I.E.E., 2, Waldemar-rd., Wimbledon Park.

Meteorological Instrument Makers.

F.—Instruments de météorologie—Fab. d'.
G.—Meteorologische Instrumente—Fab. von.

Adie, Patrick, Broadway Works, 1, Broadway, Westminster, London, S.W.
Casella & Co., 11–15, Rochester Row, London, S.W.

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BAXTER, R. & S. Office: 31, Murraygate. Works: Commercial-court, Dundee. (Telegrams: "Farina, Dundee." Telephone No. 83.) *See advt., page* 472.
Brandt, Henrich A., 28, Minories, London, E.C.
BRITISH MICA CO., LTD., Lebanon-rd. Works, Wandsworth, London, S.W. (Telegs.: "Micamini, London." Teleph. No. 405, Putney.) MERCHANTS & MANUFACTURERS of mica insulators of every description for commutators, condensers, &c. MICA Washers, Bushes, Lightning Arresters, Powder, &c. MICANITE, Plates, Paper, Cloth, Tubes, Rings, &c. Contractors to H.M. Government. *See advt., page* 474.

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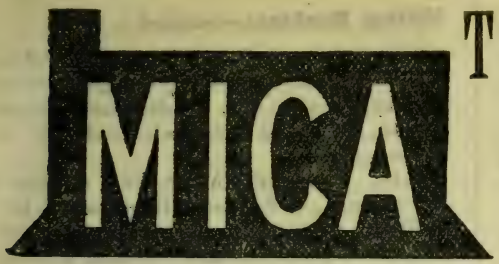

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Mica Merchants—*continued.*

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.
Canadian Electrical Insulations Co., 78, Long-lane, London, E.C.
Davis, E., & Co., 3, Fen-ct., Fenchurch-st., E.C.
Gerhardt, C. F., 34, Seething-lane, London, E.C.
Gunz, N., 46, Queen Victoria-st., London, E.C.
Jaroslaw, D., 5, George-st., Tower Hill, E.C.
Lehmann, L., 68, Basinghall-st., E.C.
Meirowsky & Co., 22, Laurence Pountney-lane, Cannon-st., London, E.C.
MICANITE & INSULATORS CO., LTD., Empire Works, Blackhorse-lane, Walthamstow, London, E. (Telegs.: "Mytilite, London." Teleph. No. 38, Walthamstow.) *See advt.* OPPOSITE.

Mica Merchants—*continued.*

Morrice, A. E., 17, Billiter-bldgs., Billiter-st., London, E.C.
ROGERS BROS., 221, Bradford-street, Birmingham. MICA, FOR STOVES, CORONETS, ELECTRICAL, & ALL PURPOSES.
TANNAHILL, A., & CO., 14, Charterhouse-bldgs., London, E.C. (Telegrams: "Tannahill, London." Telephone No. 12692, Central.) *See advt.* OPPOSITE.
Taylor & Co., 40, Hatton Garden, London, E.C.
Tulloch & Co., 4, Fenchurch-ave., London, E.C.
TULLY & STRAKER, 16, WATER-LANE, GREAT TOWER-ST., LONDON, E.C. (Telegrams: "Glist, London." Telephone No. 975, Central.) *See advts., page* 474 *&* ABOVE.

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NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

Smith, J. C., 6, Holborn Viaduct, London, E.C.

Smith, H. W., & Co., Lydbrook, Glos.

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G.—Microphon-Fabrikanten.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom: Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., London, E.C.

Apps, A., 433, Strand, London, W.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Nussbaum, G. A., C.E., 29, Ludgate Hill, E.C.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Milling Machines.

F.—Fraiseuses.

G.—Ranetelmaschinen.

CHURCHILL, CHAS., & CO., LTD., 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 2, Charlotte-st., Mosley-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow.

Milling Machines—*continued.*

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Tel. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 628.

Miners' Batteries.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

Miners' Safety Lamps—Electric.

F.—Lampes de sûreté pour mines.

G.—Electr. Gruben Lampen—Fabr. von.

Ackroyd & Best, Ltd., Morley, Yorks.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

PETO & RADFORD, LTD., 100, Hatton Garden, London, E.C.

PITKIN, J., & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Miniature Lamp Manufacturers.

ROYAL STANDARD ELECTRIC LAMP MANUFACTURING CO., 4, Hart-st., New Oxford-st., London, W.C. *See advt., page* 604.

Mining Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Mining Machinery (Electric)—Makers of.

F.—Machines électr. de Mines—Fab. de.

G.—Electr. Gruben Maschinen—Fab. de.

Allis-Chalmers Co., 533, Salisbury House, Finsbury Circus, London, E.C.

Anderson, Boyes & Co., Ltd., Flemington Electrical Works, Wishaw, N.B.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Bailie, J. D., Messrs. C. A. Parsons & Co., Peacocks-bldgs., Park-row, Leeds. (Telegrams: "Turbo, Leeds." Telephone No. 1194.)

Mining Machinery (Electric)—Makers of —*continued.*

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Telephone Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Corlett Electrical Engineering Co., Ltd., Wigan; & Union-bldgs., St. John-st., Newcastle-on-Tyne.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford (Telegs.: "Dynamo, Bradford." Teleph. No. 952); & 17, Victoria-st., London, S.W.

ROYCE, LTD., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Mining Machinery (Electric)—Makers of —*continued.*

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Mirrors & Diverging Lenses for Galvanometers.

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Tel. No. 779, Westminster.)

Mirrors & Diverging Lenses for Search Lights.

F.—Miroirs et lentilles de divergence.
G.—Spiegel & divergierende Linsen für Scheinwerfer.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Model Makers.

F.—Modèles—fab. de.
G.—Modelle—Fabr.

Apps, A., 433, Strand, London, W.C.

Braun & Co., inventors' engineers & model makers. Experimental works: 236 & 238, Pentonville-rd., & 1, North-st., King's Cross, N.

Brooks, W. J., & Co., Letchworth, Herts.

Bygrave, W., East Barnet-rd., & Triangle, New Barnet; & Hadley, Middlesex.

Goodwin, H. G., & Son, 16, Charles-st., E.C.

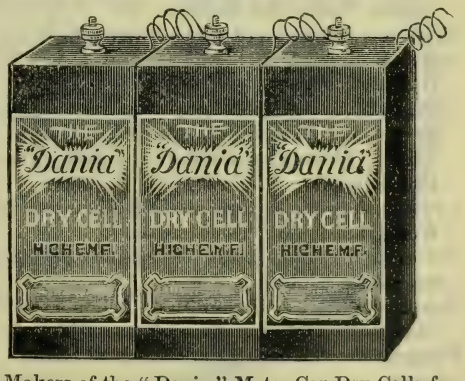
Parr, E. B., & Co., 294, Bermondsey-st., S.E.

Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.

Sharman Bros., 6, Free School-lane, Leicester.

Motor Car "Cells."

ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")



Makers of the "Dania" Motor Car Dry Cells for sparking, &c.
The best dry cell in the market!

Motor Car Requisites—Electrical.

F.—Fournitures pour automobiles—élec.
G.—Motorwagen-Zubehöre—Elek.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 633.

OWENS, FELIX J. A., A.M.I.E.E., 68 & 70, Wood-st., Liverpool.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. *See advt., page* 9.

PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Tel. No. 1243, London Wall.)

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W.

Motor Carriages.

F.—Voitures Motrices.

G.—Motor Wagen.

Acme Motor & Traction Co., 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

Albion Motor Car Co., Ltd., South-st., Scotstoun, Glasgow.

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

DOWSING, H. J., M.I.E.E., 24, Budge-row, Cannon-st., London, E.C.

Electrocars, Ltd., Alderman's House, Alderman's Walk, Bishopsgate-st., London, E.C. (Telegs.: "Ignotum, London." Teleph. No. 9696, London Wall.)

English Motor Co., Mill-lane & Bradford-st., Birmingham.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney-lane, E.C. (Motors for). (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 471.

Holland & Holland, 479 & 483, Oxford-st., W.

James & Browne, Hammersmith, W.; & 395, Oxford-st., W.

JONES, F. J., & SON (experts), City Motor Garage, 134, Foregate-st., Chester. (Telegs.: "Jones, Electrician, Chester." Teleph. Nos. 180, 180A.)

Lewis, J. & S. W., Electric Motor & Engineering Works, London-rd., Twickenham.

O'Gorman & Cozens-Hardy (experts on), 82, Victoria-st., Westminster, S.W.

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, N.W. *See advt., page* 642.

Paragon Motor Works, Ltd., London-rd., King's Lynn.

Sevenoaks Motor Car & Electrical Co., Ltd., Sevenoaks, Kent.

Motor Carriages—*continued.*

Stanley Electric Carriage Co., Ltd., 19A, Carlyle-sq., Chelsea, S.W.

Waverley Electric Vehicle Co., 39, Sussex-pl., South Kensington, S.W.

Motor Controllers.

Geipel & Lange, Vulcan Works, 72A, St. Thomas st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Motor Flexibles.

KALKER, E., & CO., 141, Much Park-st., Coventry.

Motor Manufacturers—Electric.

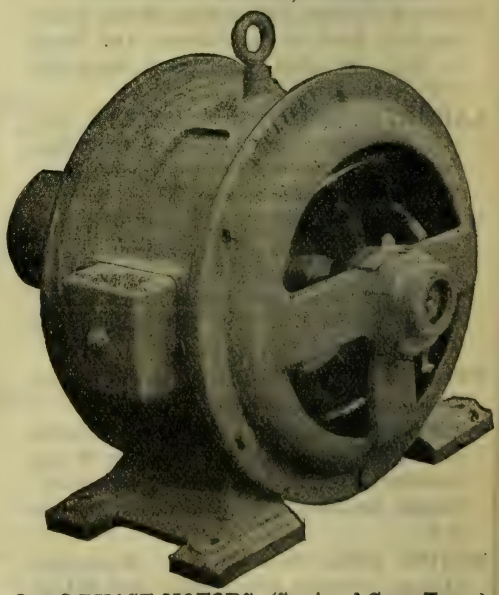
F.—Moteurs élec.—Fab. d'.
G.—Elektrische Motoren.—Fabr.

Acme Motor & Traction Co. (Immisch Type), 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

Anchor Electric Co., 39, Victoria-st., London, S.W.

ANGLO-SWISS (H. CUÉNOD) CONSTRUCTION CO., Thury Regulators & Electric Motors, 21, Finsbury-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

HODGSON WRIGHT & WOOD,
CENTURY WORKS, HALIFAX.



2- & 3-PHASE MOTORS. (Squirrel Cage Type.)

H.P.	Revs.	£	s.		H.P.	Revs.	£	s.	
1 ..	1380 ..	10	0	50 Cycles	5 ..	1400 ..	20	0	50 Cycles
2 ..	1400 ..	12	10		7½ ..	1400 ..	24	0	
3 ..	1400 ..	14	0		10 ..	1400 ..	30	0	

LIST No. 19.—2- & 3-Phase Motors.
LIST No. 20.—Single-Phase Motors.
LIST No. 21.—Continuous-Current Motors.

Motor Manufacturers—Electric—*continued.*

Apps, A., 433, Strand, London, W.C.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegrams: "Rapidolite, London." Telephone Nos. 3463 & 4, Gerrard.)

Bayley & Sons, Poole Hill, Bournemouth.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Boudreaux, L. (Patent foliated metal brushes for). Agents: Le Carbone, 17, Water-lane, London, E.C. *See advt., page* 469.

Braulik, G., 218, Upper Thames-st., London, E.C. N.S.W. *See advt., page* 387.

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Motor Manufacturers—Electric—*continued.*

BULL MOTORS. The East Anglian Engineering Co., Ltd. Stowmarket, Suffolk. (Telegrams: "Anglian, Stowmarket.")

BURNAND, W. E., & CO., Lowfield Works, Chippinghouse-rd., Heeley, Sheffield. (Teleph. No. 1671.)

Charlesworth, S., & Co., Oldham, Lancs. (Telegrams: "Charlesworth, engineers, Oldham." Telephone No. 63.)

CHURTON, T. HARDING, & CO., Atlas Works, Water-lane, Leeds.

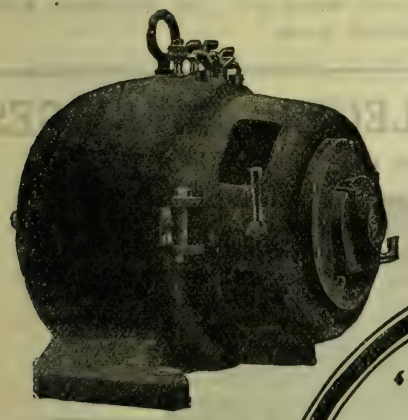
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Electro motors made to any specification. *See advt. inside front cover.*

Crypto Electrical Co., 155 & 157, Bermondsey-st., London, S.E. (Telegs.: "Commutator, London." Teleph. No. 12830, Central.)

Darton, F., & Co., 142, St. John-st., Clerkenwell. Works: 31, Gloucester-st., Clerkenwell; & Woodford.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.



"Witton" MOTORS

STAND ALONE

FOR

RELIABILITY & ALL ROUND EXCELLENCE IN EVERY DETAIL.

Any Type. Any Voltage. Any Speed.

PROMPT DELIVERIES.

Ask for Catalogue.

REG'D TRADE MARK

THE GENERAL ELECTRIC CO., LTD.

Head Office—

71, Queen Victoria Street, London, E.C.

Engineering Works—Witton, nr. Birmingham.

Motor Manufacturers—Electric—*continued.*

DICK, KERR & CO., LTD. Head office: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos.: 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

ELECTRICAL POWER ENGINEERING CO., Mary-st., St. Paul's, Birmingham. (Telegs.: "Torque, Birmingham." Teleph. No. 3819.)

ELECTROMOTORS, LTD., Openshaw, Manchester. London office: 35, Queen Victoria-st., E.C.

Motor Manufacturers—Electric—*continued.*

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney-lane, E.C. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 471.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.

GRAY, E. B., Hythe, Colchester.

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Groombridge & South, 40, New Bond-st., W.

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

THE CARL OPPERMANN ELECTRIC CARRIAGES

Awarded Gold Medal, Town Carriage Competition, Oct., 1906.

Electrical Motor Cars of every description for Sale or Hire.

Electric Motors and Gearing.

Electrotyping Dynamos . . . and Complete Plant.

Nickel-facing Dynamos . . Tanks. Solutions. . . . Anodes. . . .

The "Flambeau" . . . . . Accumulators.

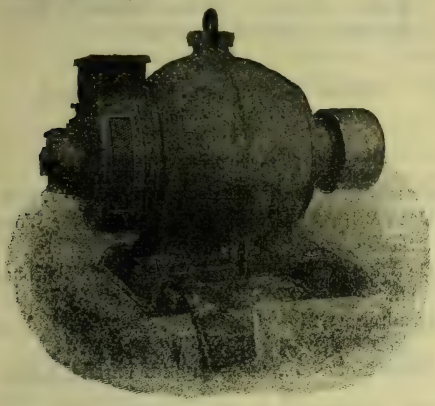
Electric Landaulette.

Works: 5, UNDERHILL STREET, ARLINGTON ROAD, CAMDEN TOWN, N.W.

Telephone No.: 2019, North.

Motor Manufacturers—Electric—*continued.*

HOLMES, J. H., & CO., Sole Manufacturers & Patentees of the "Castle" Dynamos & "Lundell" Motors,



LUNDELL MOTOR (PATENT).

Portland Rd., Newcastle-on-Tyne; also at 17 Soho Sq., London, W.; Examiner Bldgs., Strutt St., Manchester; & 19, Waterloo St., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

International Electrical Engineering Co., Clun House, Surrey-st., Strand, W.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks.

LAHMEYER ELECTRICAL CO., LTD., 109-111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Tel. No. 2822, Gerrard.)

LAIDLAW, LAIDLER & CO., Nutsford Vale Works, Longsight, Manchester.

LANGDON-DAVIES MOTOR CO., LTD., SINGLE-PHASE, POLYPHASE & CONTINUOUS CURRENT MOTORS (F. B. O. HAWES, MANAGING DIRECTOR), SOUTHWARK WORKS, DEVERELL-ST., LONDON, S.E. (TELEGRAMS: "DAMOPHON, LONDON." TELEPHONE NO. 277, HOP.) *See advt., page* 398.

LAURENCE, SCOTT & CO., LTD., Gothic Works, Norwich. (Telegrams: "Gothic, Norwich." Nat. Telephone No. 246.)

Le Carbone (formerly Lacombe & Co.), (CARBON BRUSHES FOR). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegs.: "Lacombe, London.") *See advts., pages* 469 & 470.

Linotype & Machinery, Ltd., 188 & 189, Fleet-st., E.C.

Motor Manufacturers—Electric—*continued.*

LISTER ELECTRIC MANUFACTURING CO., Dursley, Gloucestershire. (Telegrams: "Electricity, Dursley." Telephone No. 6, Nat.) Open, protected-enclosed & fully-enclosed types. London, Manchester & Glasgow. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION.

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

London Electric Firm, George-st., Croydon.

McClure & Whitfield, Mersey Dynamo Works, Adswood, Stockport. (Telegrams: "Motors, Stockport." Telephone No. 180.)

MACKIE, W., & CO., 122 & 124, Golden-lane, London, E.C. (P.O. Telephone No. 2704, Central.) *See advt., page* 473.

MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilatore, Milan." Teleph. Nos. 809-3150.) Works in Sesto S. Giovanni. *See advts., pages* 582, 585, 997, 998 *& 1227.*

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Moore & Haigh, Star Works, Kirkstall-rd., Leeds.

Moores, Martin & Co., 37, Blackfriars-st., Manchester.

Morris-Hawkins Electrical Co., Ltd., 17, Charing Cross-rd., London, W.C. Works: Dagenham, Essex.

"Motors," Ltd., 12, Camomile-st., London, E.C.

NEWTON BROS. Offices: Market-pl., Derby. Works address: Alfreton-rd., Derby. (Telegs.: "Dynamo, Derby." Teleph. No. 413.)

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Omnium Wholesale Supply Co., Pinner, Middlesex.

Oppermann, Carl, 5, Underhill-st., Arlington-rd., Camden Town, London, N.W. *See advt.* OPPOSITE.

Pal, Michael, & Co., Parliament Mansions, Victoria-st., London, S.W.

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

Pearson Bros., 52, Elm Grove, Portsmouth.

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) Speciality: enclosed motors for work in the open air, damp & dusty places, &c. London office: 17, Victoria-st., S.W.

Potter, F. W., & Co., Phipp-st., Great Eastern-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Motor Manufacturers—Electric—*continued.*

REEDS ELECTRICAL CO., 128, Southwark-st., London, S.E. (Telegrams: "Rigoletto, London." Telephone No. 1304, Hop.)

Rhodes Electrical Mfg. Coy., Ltd., Riverside Works, Doncaster; & 102, Charing Cross-rd., London, W.C.

Robinson, A. E. & H., Ltd., 78, Great Bridgewater-st., Manchester. (Hot Air.)

ROYCE, LTD., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Shill, P. Richardson, A.M.I.E.E., Bassishaw House, Basinghall-st., London, E.C.

SIEMENS BROS. DYNAMO WORKS, LTD., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Smith, H., & Co., 29, Finsbury Pavement, E.C.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD. (Electrical Department), Canning Town, E. (Telegs.: "Thames, London." Teleph. No. 526, Eastern.)

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION. "Aston" Type Motors.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Washington & Co., Ltd., Sowerby Bridge, Yorkshire. (Telegrams: "Washington, Sowerby Bridge.")

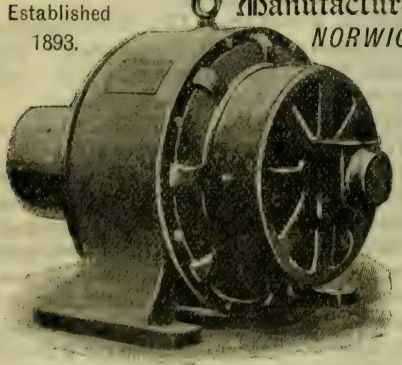
Westminster Engineering Co., Ltd., Victoria-rd., Willesden Junction, London, N.W.; & 16, Davies-st., London, W.

Wilson-Wolf Engineering Co., Ltd., Laycocks Mill, Thornton-rd., Bradford.

F. WOOLNOUGH,

Established 1893.

Manufacturer, NORWICH.



Motor Manufacturers—Electric—*continued.*

Woolnough, F., St. Stephen's, Norwich. *See advt.* BELOW.

WRIGHT & WOOD, Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. No. 499.) *See advt., page* 640.

Motor Manufacturers—Petrol.

F.—Moteurs—Pétrole.
G.—Mortoren—Petroleum.

Cremorne Motors, Ltd., Lots-rd., Chelsea, S.W.

Dean & Burden Bros., Ltd., Scout Motor Works, Salisbury.

De Dion Bouton, Ltd., 10, Great Marlborough-st., Regent-st., London, W.

Headingley Motor & Engineering Co., Ltd., 18, St. Michael's-lane, Headingley, Leeds.

Lewis Motor Co., Ltd., 4, South Parade, Leeds.

Motor Starters & Regulators.

THOMAS, BERTRAM. Works: Worsley-st., Hulme, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) Gibbing's Automatic Rheostats, Controllers, Starters, &c.

Motor Starting Switches.

F.—Commutateurs de départ pour Moteurs.
G.—Motoren—Anlasser.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. No. 7123, Central.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Brooks, H. B., Granville Works, Tennant-st., Birmingham.

DEWHURST, ED., Mount-st. Electrical Works, Preston.

Donovan & Co., 12, Barwick-st., Birmingham.

Edwards, S. Burton, 5, Cromford-ct., Market-st., Manchester.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

ELECTRICAL POWER ENGINEERING CO., Mary-st., St. Paul's, Birmingham. (Telegs.: "Torque, Birmingham." Teleph. No. 3819.)

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Heywood, S. H., 37A, Fountain-st., Manchester. Works: Reddish, nr. Manchester.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks.

Motor Starting Switches—*continued.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. No. 2822, Gerrard.)

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) "Perfecta" starters, regulators & controllers. "Emsea" resistance units.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; 8, Howland Mews W., Fitzroy-sq., London, W.; & 61, Pollok-st., Pollokshaws, Glasgow.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, E.C. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION. Makers of the Aston patent porcelain grid starters & regulators.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

National Telephone Co.'s Officials.

Head office: general manager, Wm. E. L. Gaine; secretary, Albert Anns; engineer-in-chief, F. Gill, Telephone House, Victoria Embankment, London, E.C. Metropolitan offices: Salisbury House, London Wall, E.C. Superintendent, C. B. Clay; assistant superintendent, C. M. Bailey. Scotland: superintendent, F. D. Watson, Royal Exchange, Glasgow. Northern Province: superintendent, J. C. Chambers; assistant superintendent, A. Martin, Commercial-bldgs., Park-row, Leeds. North-Western Province: superintendent, R. Shepherd; assistant superintendent, T. A. Prout, 22, The Temple, Liverpool. Midland Province: superintendent, A. Coleman; assistant superintendent, A. E. Cotterell, Telephone-bldgs., Newhall-st., Birmingham. Southern Province: superintendent, C. J. Phillips, Telephone House, Victoria Embankment, E.C. Western Province: superintendent, R. A. Dalzell, Telephone-bldgs., Telephone-ave., Baldwin-st., Bristol. Ireland: superintendent, F. Cowley, Telephone-bldgs., Crown Alley, Dublin.

Nickel Manufacturers, Merchants & Refiners.

F.—Nickel—Raffineurs, Marchands et fab. de.
G.—Nickel—Fab., Läuterer und Händler.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers, 133–137, Great Hampton-st.; 5 & 6, Great Hampton-row; 1 & 2, Kenyon-st.; & 88, Snow Hill, Birmingham.

Johnson, Matthey & Co., Ltd., 74 to 81, Hatton Garden, London, E.C.

Reichwald, August, Finsbury Pavement House Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne. (Telegrams: "Reichwald, London;" "Reichwald, Newcastle-on-Tyne." Telephone No. 2612, London Wall.)

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Wiggin, H., & Co., Ltd., 55, George-st., Parade, Birmingham.

Nickel Platers.

F.—Nickeleur.
G.—Vernickeler.

Loefe, F. E., 364, Goswell-rd., London, E.C. (Telegrams: "Leefregel, London." Telephone No. 1926, Central.)

Sturtevant & Co., Ltd., St. John's Works, 90 & 92, Clerkenwell-rd., London, E.C. (removing March 31, 1907, to 105–111, Euston-st., S.W.). *See advt., page* 29.

Nickel-Plating Salts & Anodes.

F.—Anodes et sels de Nickel pour Galvanoplastie.
G.—Salze u. Anoden zum Vernickeln.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers, 133–137, Great Hampton-st.; 5 & 6, Great Hampton-row; 1 & 2, Kenyon-st., & 88, Snow Hill, Birmingham.

Cooke, E. J., 2, 4, 5, Parsonage, MANCHESTER.
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Nitric & Nitrous Acid Manufacturers.

F.—Acide nitrique et nitreux—Fab. de.
G.—Salpetersäure—Fabr.

BERK, F. W., & CO., LTD., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, E. (Telegrams: "Berk, London." A.B.C. Code. Telephone No. 4013, Avenue.) Electrical requirements a speciality. *See advt., page* 389.

HOULDER, WM., SON, & CO., Norwood Chemical Works, Southall, Middlesex. (Nat. Telephone No. 1017, Southall.)

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Novelties—Electrical.

Rose Bros., 30, Cheapside, London, E.C. Sole agents for Schmidt & Co., Berlin. (Teleph. No. 7043, Central.)

Ohmmeters & Generators.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.

Oil Filter Makers.

F.—Filtres pour huile.
G.—Oelfilter.

Shelby & Co., Ltd., 58, Gt. Dover-st., London, S.E.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

WELLS, A. C., & CO., 102, 103 & 104, Midland-rd., St. Pancras, London. Works: Manchester. (Telegrams: "Unbreakable, London;" "Unbreakable, Manchester." Telephone No. 341, North.) *See advt.* BELOW.

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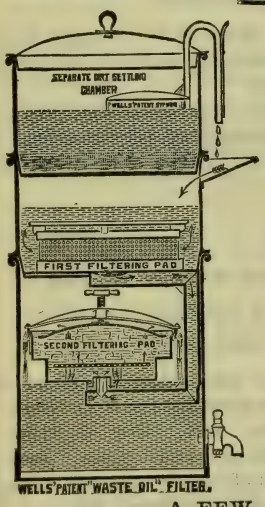

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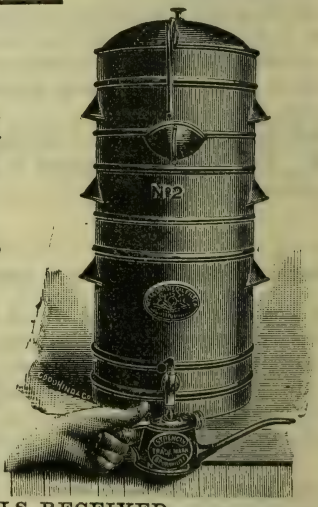

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"Your Filter is working wonders. The used oil comes out perfectly cleaned. We do not use a big quantity of oil, but we are quite sure it will save its cost in a very short time. Any firm possessing a Gas Engine would find it very economical."

"We have pleasure in stating we are pleased with the Oil Filters, which are well finished and perform their work satisfactorily. Nearly all the Gas Engines and Dynamo Plants we have put down have your Filters, and use the same oil time after time."

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No. 4.—Two top chambers hold about 12 gallons of oil, 36in. by 16in. .. .. **110s.**
No. 5.—Two top chambers hold 24 gallons, 43in. by 23in. .. .. **189s.**
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Larger Sizes made to Order.

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Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Oil Manufacturers, Refiners & Merchants.

F.—Huiles—Fab. Raffineurs et Marchands d'.
G.—Oel—Fab., Läutere & Händler.

Bentley, I., & Co., Ltd., Vinoleo Oil Works, Trafford Park, Manchester.

BLUMANN & STERN, LTD., HIGH-CLASS LUBRICANTS OF EVERY DESCRIPTION PLOUGH BRIDGE, DEPTFORD, S.E.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegrams: "Bolyanson, London." Telephone Nos. 1 & 209, Battersea. A.B.C. Code.)

Bremner, J. A., & Co., Albert-st., Manchester.

Christopher, J., & Sons, 39, 41 & 43, Clerkenwell-rd., London, E.C.

Colledge, Roy & Co., Brown-st., Red-bank, Manchester.

DEE OIL CO., LTD., THE. Works: Saltney, Chester; 49, Lime-st., London, E.C.; & Colonial House, Water-st., Liverpool.

Ditton Oil Mills (1904), Ltd., 31, North John-st., Liverpool.

DUNCAN, WATSON & CO., Dashwood House, New Broad-st., London, E.C.

Dussek Bros. & Co., Verney-rd., Old Kent-rd., S.E.

Fleming, A. B., & Co., Ltd., 15, Whitefriars-st., London, E.C.

Glyn & Co., 28, Budge-row, London, E.C.; & at Stratford, E.; & Barrow.

Grindley & Co., Ltd., Upper North-st., Poplar, E.

Hinshelwood, T., & Co., Glenpark-st., Glasgow.

Hopps, Alfred, & Sons, Ltd., African-chbrs., 19, Old Hall-st., Liverpool.

Massé, Francis, & Co., 53, Union-rd., Rotherhithe, London, S.E.

Parsons, Fletcher & Co., Ltd., Gravel-lane, S.E.

Price, C., & Co., Castle Baynard, 12 & 13, Upper Thames-st., E.C.; Regent's Wharf, West Ferry-rd, Poplar, E. Works: Belvedere, Kent.

Price's Patent Candle Co., Ltd., Battersea, London, S.W.; & Liverpool.

Ragosine & Co., Ltd., 7 & 8, Idol-lane, Eastcheap, London, E.C.

ROSE, SIR W. A., & CO., 66, Upper Thames-st., London, E.C.; & Rose's Wharf, Millwall, E.

Snowdon, Sons & Co., Ltd., West Ferry-rd., Millwall, London, E.

STERN-SONNEBORN OIL CO., Royal London House, Finsbury-sq., London, E.C. (Telegrams: "Centumvir, London." Telephone Nos. 2898 & 2899, Avenue); & Jubilee-bldgs., 108A, Hope-st., Glasgow.

Oil Manufacturers, Refiners & Merchants—*continued.*

Storer, David, & Sons, Storer's Wharf, Cubitt Town, London, E.

Wells, M., & Co., Hardman-street Oil Works, Manchester.

Wilkinson, Heywood & Clark, Ltd, 138 & 140, Vauxhall-rd., Liverpool.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Wilson, J. Allan, National Bank-bldgs., Kilmarnock.

Windschuegl, C., & Co., 1, Leadenhall-st., London, E.C.

Oil Separators.

Holden & Brooke, Ltd., Sirius Works, 47, Heywood-st., West Gorton, Manchester (Telegrams: "Influx, Manchester." Telephone No. 3663); & 110, Cannon-st., London, E.C.

Oilless Bearings & Trolley Wheels.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C. Sole makers of Entwistle's patent carbonated bearings & trolley bushes & wheels. Used by largest companies & corporations in United Kingdom. No oil required. Perfect lubrication ensured.

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F.—Voitures Omnibus et autres.
G.—Electr. Omnibusse, Droschken & Packwagen.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 392.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Overhead Equipment for Electric Tramways.

F.—Equipement aérien pour tramways elec.
G.—Luftleitungen Materialen für elek. Strassenbahnen.

BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)

Overhead Equipment for Electric Tramways—*continued.*

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt.* BELOW.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C. Sole Licensees & Makers of the Birkby Patent Trolley Head. Also of Entwistle's Patent Oilless Bearings for Trolley Wheels, &c.

HILL, GEO., & CO., Trafford Electric Works, Cornbrook, Manchester. (Teleph. No. 2920.) (Specialists in.)

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (ebonite & vulcanite), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Overhead Equipment for Electric Tramways—*continued.*

Watlington & Co. Offices: Moorgate Station-chbrs. Stores: 6, New Union-st., Moorfields, London, E.C.

Overhead Line Materials.

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Ozokerit Manufacturers.

F.—Ozokerite—Fab. d'.
G.—Ozokerit—Fabr. von.

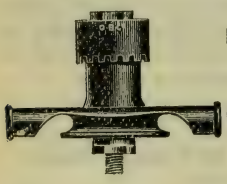
Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C.

Campbell, Donald, & Co., 10, St. Mary Axe, London, E.C.

Field, J. C. & J., Ltd., Upper Marsh, Lambeth, London, S.E.

Grunbaum, L. N., & Son, 84, Leadenhall-st., London, E.C.

Windschuegl, C., & Co., 1, Leadenhall-st., London, E.C.



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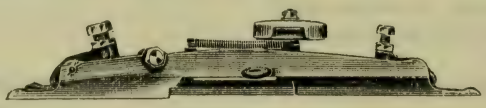

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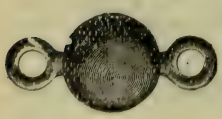

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F.—Appareils d'Ozone.
G.—Ozon-Apparate—Fabr. von.

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Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents). *See advt., page 9.*

Paints—Makers of.

F.—Peinture—Fab. de.
G.—Malerfarben—Fab. von.

Asbestos Fireproof Paint Co., Ltd., 34, Deansgate, Manchester. Works: Clement-st., Birmingham.

Cyanite Paint Co., 163, Clapham-rd., S.W.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

Fenner, N. J., & H. B. Alder & Co., Ltd., 120, Fenchurch-st., E.C.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., special non-metallic coloured paints for electrical plant; acid resisting, fire resisting & all classes of paints, colours, &c. *See advt., page 18.*

Griffiths, Knight & Co., 114, Ford-st., Vauxhall-rd., Liverpool.

Macpherson, Donald, & Co., Ltd., Knott Mill, Manchester.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. (Telegrams: "Windsail, London." Telephone No. 5063, Central.)

Minton, R. R., & Co., 39–71, Cheapside, Liverpool.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. P. & B. Compounds & Paints.

Szerelmey, N. C., & Co., Szerelmey Works, Rotherhithe New-rd., London, S.E.

Zocus Paint Co., 17, Gracechurch-st., London, E.C.

Paraffin Wax Manufacturers.

F.—Bougies de Paraffine—Fab. de.
G.—Paraffin Wachs—Fab. von.

Broxburn Oil Co., Ltd., 28, Royal Exchange-sq., Glasgow.

DEE OIL CO., LTD., THE. Works: Saltney, Chester; 49, Lime-st., London, E.C.; & Colonial House, Water-st., Liverpool.

Johnson, George, & Son, 34, Bishopsgate-street-within, London, E.C.

Lorenz, H. (agent), 7–8, Idol-lane, London, E.C.

Windschuegl, C., & Co., 1, Leadenhall-st., London, E.C.

Patent Experts.

F.—Experts de brevets.
G.—Kunstverständige für Patente.

Radford, R. Heber, Son & Squire, 15, St. James's-row, Sheffield.

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F.—Brevets et Marques de fabrique—Agents de
G.—Agenten für Registrirung der Patente Handelsmarken, &c.

Abel & Imray, Birkbeck Bank-chbrs., Southampton-bldgs., Chancery-lane, London, W.C.

Alexander, E. P., & Son, 306, High Holborn, London, W.C.

Allison Bros., 52, Chancery-lane, London, W.C.

Barker, George, F.I.P.A., 77, Colmore-row, Birmingham.

Barker, R. W., Vulcan House, 56, Ludgate Hill, London, E.C.

Barron, C. A., & Lewin, 32, John William-st., Huddersfield.

Bauer & Imrie, 72, Cannon-st., London, E.C.

Beck, W. H., & Co., 115, Cannon-st., London, E.C. (Telephone No. 1519, Central.)

Bottomley & Liddle, 154, St. Vincent-street, Glasgow.

Boughton, H. F., Patent Offices, 114A, Chancery-lane, London, W.C.

Boult, Wade & Tennant, 111 & 112, Hatton Garden, London, E.C.

Brewer & Son, 33, Chancery-lane, London, W.C.

Bromhead & Co. (British & Foreign), 33, Cannon-st., London, E.C.

Brookes, Wm., & Son, 55 & 56, Chancery-lane, London, W.C.

Browne, N., F.C.I.P.A., 73, Cheapside, E.C.

Carpmael & Co., 24, Southampton-buildings, Chancery-lane, London, W.C.

Chapman, J. C., & Co., 70, Chancery-lane, London, W.C.

Chartered Institute of Patent Agents, Staple Inn-bldgs., London, W.C.

Cheesbrough, F. J., 15, Water-street, Liverpool.

Cheetham, Howard, 18, St. Ann's-st., Manchester.

Clark, A. M. & W., F.I.P.A., 53, Chancery-lane, London, W.C.

Clegg, B. W., & Sons, Belinda-st., Hunslet, Leeds.

Cruikshank & Fairweather, 62, St. Vincent-st., Glasgow.

Davies, G., C.E., St. Ann's-square, Manchester.

Davies, G., & Son, 4, St. Anne's-sq., Manchester.

Day, Davies & Hunt, 321, High Holborn, London, W.C.

De Pass, E., 78, Fleet-st., London, E.C.

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(*See also* SCHOOLS, &c., *page* 673.)

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TRAMWAY & RAILWAY WORLD (monthly, 1*s.*; ann. sub., U.K., 25*s.*, post free; foreign, 30*s.*), Amberley House, Norfolk-st., Strand, London, W.C. (Telegs.: "Tramigro, London." Teleph. No. 2948, Gerrard.) *See advt., page* 16.

Tyneside Electrical Pioneer (monthly), Royal Exchange-bldgs., Newcastle-on-Tyne.

UNIVERSAL ELECTRICAL DIRECTORY (*J. A. Berly's*) (annually, price 14*s.*), Sole Proprietors, H. Alabaster, Gatehouse & Co., 4, Ludgate Hill, London, E.C.

Publishers of Electrical & Scientific Books, &c.

F.—Éditeurs de Livres—elec. et scient.

G.—Elek. u. Wissenschaftl. Buchhändler.

Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, London, E.C.

Bell, G., & Sons, York House, Portugal-st., London, W.C.

Biggs & Sons, 139 & 140, Salisbury-court, E.C.

Cambridge University Press Warehouse, Fetter-lane, E.C.

Cassell & Co., Ltd., La Belle Sauvage, Ludgate-hill, London, E.C.

Cassier, Louis, Co., Ltd., 33, Bedford-st., Strand, W.C.

Chapman & Hall, Ltd., 11, Henrietta-st., Covent Garden, London, W.C.

Churchill, J. & A., Great Marlborough-st., London, W.

Commercial Electro-Chemical Analysis Co., Ltd., 15, Queen-st., Cheapside, London, E.C. *See advt., page* 15.

Constable, Archibald, & Co., Ltd., 16, James-st., Haymarket, London, S.W.

Electrical Publishing Co., Ltd., 4, Southampton-row, Holborn, London, W.C.

Engineering & Mining Journal of New York, 20, Bucklersbury, London, E.C.

Publishers of Electrical & Scientific Books, &c.—*continued.*

Griffin, C., & Co., Ltd., Exeter-st., Strand, London, W.C.
Harper & Bros., 45, Albemarle-st., London, W.
Irish Technical Press, Ltd., 18, Fleet-st., Dublin.
Kegan Paul, Trench, Trübner & Co., Ltd., 43, Gerrard-st., London, W.
Kilowatt Publishing Co., Ltd., 203-206, Temple-chbrs., Temple-ave., E.C.
King, P. S., & Son, Orchard House, Westminster, S.W.
Lockwood (Crosby) & Son, 7, Stationers' Hall-court, Ludgate Hill, London, E.C. *See advt., page* 23.
Longmans, Green & Co., 39, Paternoster-row, E.C.; New York, U.S.A.; & Bombay.
Macmillan & Co., Ltd., St. Martin's-st., London, W.C.
Methuen & Co., 36, Essex-st., Strand, London, W.C.
Rebman, Ltd., 129, Shaftesbury-ave., Cambridge Circus, London, W.C.
Rentell, S., & Co., Ltd., 36, Maiden-lane, Strand, W.C.
Sampson Low, Marston & Co., Ltd., Dunstan's House, Fetter-lane, London, E.C.
Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 4, Stationers' Hall-court, London, E.C.
SPON, E. & F. N., LTD., 57, Haymarket, S.W.
Technical Publishing Co., Ltd., 287, Deansgate, Manchester.
Warne, F., & Co., Bedford-st., Strand, W.C.
Whittaker & Co., 2, White Hart-st., Paternoster-sq., E.C.
Williams & Norgate, 14, Henrietta-st., Covent Garden, London, W.C.

Pulley Makers.

F.—Poulies—Fab. de.
G.—Riemscheiben—Fab.

Christopher, J., & Sons, 39, 41 & 43, Clerkenwell-rd., London, E.C.
Clark, Hunt & Co., Ltd., 159 & 160, High-st., Shoreditch, London, E.
Croft & Perkins, Patent Pulley Works, Bradford, Yorks.
Crossley, George, Ltd., Albion Iron Works, Cleckheaton, Yorkshire.
FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C. SPECIALITY: THE FLEMING-GILBERT MAPLE-WOOD SPLIT PULLEY.
Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 523.
Henry, J., Manor-road Foundry, Leeds.
Hudswell, Clarke & Co., Ltd., Railway Foundry, Leeds.
Hunt, R., & Co., Ltd., Atlas Works, Earls Colne, Essex.
Longwood Engineering Co., Ltd., Parkwood Foundry, Longwood, Yorks.
Mackies, Ltd., Berks Iron Works, Reading.

Pulley Makers—*continued.*

Priest, Rowland, Cradley Heath.
St. George's Iron Works, Ltd., Manchester.
SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.
Smith & Grace Screw Boss Pulley Co., Ltd., Thrapston; & 35, Queen Victoria-st., London, E.C.
Thompson & Southwick, Ltd., Tamworth, Staffs.
Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Pump Makers.

F.—Pompe—Fab. de.
G.—Pumpen Macher.

Anderson, Frank L. City office: 1, Furnival-st., London, E.C.
Barclay, Andrew, Sons & Co., Ltd., Caledonia Works, Kilmarnock.
BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.
Carruthers, J. H., & Co., Ltd., Polmadie Iron Works, Glasgow. (Telegrams: "Hoisting, Glasgow." Telephone No. 36, Nat. & Corp.)
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.
EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.
Evans, J., & Sons, Culwell Works, Wolverhampton.
Fairbanks, Morse & Co., 126, Southwark-st., S.E.
Gibson, Arthur L., & Co., 19-21, Tower-st., Upper St. Martin's-lane, London, W.C.
Hall, J. P., & Sons, Ltd., London-rd., Peterborough.
Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.
Haste Pump Co., Crown-ct., Old Broad-st., E.C.
Hayward-Tyler & Co., Ltd., 99, Queen Victoria-st., London, E.C.
Lund, E., Harriett-st., Newbridge-lane, Stockport.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Brick-lane (late 35 & 37, Brick-lane), Whitechapel, London, E.

Pump Makers—*continued.*

POWER PLANT CO., LTD., Temple Bar House, Fleet-st., E.C. (Telegrams: "Biceps, London." Telephone No. 10968, Central.)

PULSOMETER ENGINEERING CO., LTD., Nine Elms Iron Works, Reading, Berks. London offices: 61 & 63, Queen Victoria-st., E.C. Makers of vacuum pumps & electrically driven centrifugal pumps. *See advt., page* 720.

RANKINE PATENT FEED-WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., S.E. (Telegs.: "Shand, London.")

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury; & 14, Gt. St. Thomas Apostle, London, E.C. (Telegrams: "Tubes, Wednesbury;" "Tubes, London.")

WEIR, G. & J., LTD., Cathcart, Glasgow; 77, Billiter-bldgs., E.C.; & Bank-chbrs., Mosley-st., Newcastle-upon-Tyne. (Telegrams: "Giweir, Glasgow;" "Hydrokineter, London;" "Efficiency, Newcastle-upon-Tyne.")

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Worthington Pump Co., Ltd., 153, Queen Victoria-st., London, E.C.

Pushes Makers (Electric Bell).

F.—Boutons pour sonneries.

G.—Druckknöpfe für Electr. Glocken—Fab. von.

Apps, A., 433, Strand, London, W.C.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BONNELLA, D. H., & SON, LTD., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) *See advt., page* 617.

Bromell, J. H., 68, Eglinton-rd., Bow, London, E.

Croggon & Co., Ltd., 16 & 230, Upper Thames-st., E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.

Harcourts, Ltd., 223, Moseley-st., Birmingham.

Pushes Makers (Electric Bell)—*continued.*

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegrams: "Supports, Birmingham." Teleph. No. 83, Handsworth.)

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

MACINTYRE, J., & CO., LTD., Washington China Works, Burslem. (Telegrams: "Macintyre, Burslem." Telephone No. 338, Hanley.) *See advt., page* 653.

North Eastern Novelty Co., 20, Victoria-st., Goole, Yorks.

Schofield, B., Diggle, near Oldham.

TAYLOR, TUNNICLIFF & CO., LTD. (China), Eastwood, Hanley. London agent: C. M. Bradley, 23, Holborn Viaduct, E.C. (Telegrams: "Eastwood, Hanley.") *See advt., page* 17.

Pyrometers—or Heat Gauges.

F.—Pyromètres.

G.—Pyrometer oder Hitzemesser.

CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Carlyle-rd., Cambridge.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

WRIGHT, ALEX., & CO., LTD., Westminster, London, S.W.

Quicksilver Merchants.

F.—Marchands—Mercure.

G.—Quecksilber Händler.

Johnson, Matthey & Co., Ltd., 74 to 81, Hatton-garden, London, E.C.

Rail Bonds.

Forest City Electric Co., manufacturers of "Forest City" Rail Bonds, & "Roll Drop" & Drop-forged Commutator Segments, 13, Cornbrook-rd., Chester-rd., Manchester. (Telegs.: "Roll-drop, Manchester.")

Railway Motor-Trucks (Electric)—Makers of.

F.—Ft. de treuils avec moteurs electriques pour chemin de fer.

G.—Electr. Eisenbahn-Motoren-Gestell.—Fabr. von.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Hurst, Nelson & Co., Ltd., The Glasgow Rolling Stock & Plant Works, Motherwell. London office: 14, Leadenhall-st., E.C. Manchester office: Northern Assurance-bldgs., Albert-sq.; & at Chatsworth Wagon Works, nr. Chesterfield.

Railway Signal Manufacturers.

F.—Signaux de Chemins de fer—Fab. de.

G.—Signale für Eisenbahnen.

Isca Foundry Co., Newport, Mon.; & 16 & 17, Devonshire-sq., Bishopsgate-st., London, E.C.

McKenzie & Holland, Ltd., Worcester.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Railway Signal Co., Ltd., Fazakerly, Liverpool.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Saxby & Farmer, Ltd., 53, Victoria-st., S.W.

Siemens Bros. & Co., Ltd., 12, Queen Anne's-gate; & Queen Anne's-chbrs., Westminster, London, S.W.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

SYKES, W. R., INTERLOCKING SIGNAL CO., LTD., manufacturers of single needle, lock & block, signal & light indicators, galvanometers, large electric bells, the electro-mechanical system, & all kinds of electrical & mechanical signalling instruments for railways. Works: Voltaire-rd., High-st., Clapham, London, S.W. (Telegrams: "Blockish, London." Telephone No. 325, Battersea.) Glasgow office: Atlantic-chbrs., 45, Hope-st.

TYER & CO., LTD., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.

Railway Signal Repeater Contacts.

Pearson Fire Alarm, Ltd., 62, King William-st., London, E.C. (Telegrams: "Sauvetage, London." Telephone No. 5887, Bank.)

Railway & Tramway Engineers.

F.—Chemins de fer et tramways—Ingenieurs pour.

G.—Eisenbahn & Strassenwagen—Ingenieure für.

(*See also* ENGINEERS—ELECTRICITY WORKS.)

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; & 52, Queen Victoria-st., London, E.C.

Barclay, Andrew, Sons & Co., Ltd., Caledonia Works, Kilmarnock.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Collinson, V., 15, Leadenhall-st., E.C.

Crocket, G. H., 49, Farlington-rd., Portsmouth.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Electric Tramway Equipment Co., 89, Glover-st., Birmingham.

HILL, GEO., & CO., Trafford Electric Works, Cornbrook, Manchester. (Nat. Tel. No. 2920.)

Hurst, Nelson & Co., Ltd., The Glasgow Rolling Stock & Plant Works, Motherwell. London office: 14, Leadenhall-st., E.C. Manchester office: Northern Assurance-bldgs., Albert-sq.; & at Chatsworth Wagon Works, nr. Chesterfield.

Kerr, Stuart & Co., Ltd., 1 & 2, Broad-st.-pl., London, E.C. Works: Stoke-on-Trent.

Meredith, W. L., & Son, 7, Midland-rd., Gloucester.

Railway & Tramway Engineers—*contd.*

Mills, W. H., Hill of Howth Electric Railway, Amiens-st. Terminus, Dublin.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

Swinburne, Cooper & Baillie, 82, Victoria-st., S.W. (Telegrams: "Swooper, London." Telephone No. 292, Westminster.)

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

Vickers, T., C.E., 10, Montgomery Mount, Nether Edge, Sheffield. (Consulting.)

WHITE, J. G., & CO., LTD., 9, Cloak-lane, Cannon-st., London, E.C. New York correspondents: J. G. White & Co., 43-49, Exchange-pl.

Railways (Electric)—Makers of & Contractors for.

F.—Chemins de fer électr.—Entrep. & Constr. de.
G.—Electr. Eisenbahnen—Fab. & Unternehmer von.

Acme Motor & Traction Co., 72, Finsbury-pavement, London, E.C. Works: The Ham, Brentford.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., S.W. (Telegrams: "Belliss, Birmingham." Telephone Nos. 4480 & 4481.) *See advt., page* 529.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)

British Columbia Electric Railway Co., Ltd., Threadneedle House, 28/31, Bishopsgate-st. Within, London, E.C.

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., E.C. Works: Beeston, Notts. *See advt., page* 704.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Railways (Electric)—Makers of & Contractors for—*continued.*

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by royal warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TELEPHONE NO. 1253, LONDON WALL.) *See advt., page* 415.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

LAHMEYER ELECTRICAL CO., LTD., 109-111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 715.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

National Electric Construction Co., Ltd., Queen Anne's-chbrs., Westminster, S.W.

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.

SIEMENS BROS. DYNAMO WORKS, LTD., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Railways (Electric)—Makers of & Contractors for—*continued.*

THAMES IRONWORKS, SHIPBUILDING & ENGINEERING CO., LTD. (Electrical Department), Canning Town, E. (Telegrams: "Thames, London." Tel. No. 526, Eastern.)

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

United Electric Car Co., Ltd., Hadley, nr. Wellington, Salop.

Vaux, W., 23, Bank-st.-chbrs., Bradford.

WHITE, J. G., & CO., LTD., 9, Cloak-lane, Cannon-st., London, E.C. New York correspondents: J. G. White & Co., 43–49, Exchange-pl.

Zadig, C. A., & Co., 73, Queen Victoria-st., E.C.

Railways, Tramways, &c.—Manufacturers of Requisites & Appliances for.

F.—Chemins de fer et Tramways électriques, &c.—Fab. d'appareils pour.

G.—Eisenbahn u. Strassenwagen Apparat, &c.—Fabr. von.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; & 52, Queen Victoria-st., E.C.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* Alphabetical Section. *See advts., pages* 434, 448, 641 *&* 708.

Glasgow Railway Engineering Co., Govan, Glasgow.

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Railways, Tramways, &c.—Mafrs. of Requisites & Appliances for—*continued.*

HILL, GEO., & CO., Trafford Electric Works, Cornbrook, Manchester. (Nat. Tel. No. 2920.)

Hudson & Bowring, Ltd., Temple-chbrs., 33, Brazennose-st., Manchester.

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIRE-PROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., W.C. (Telegs.: "Drehstrom, London." Teleph. No. 2822, Gerrard.)

LISTER ELECTRIC MANUFACTURING CO., Dursley, Glos.

Lloyd, F. H., & Co., James Bridge, Wednesbury.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); Corp. 101 & 2.)

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

RANKINE PATENT FEED-WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

Spherical Metallic Packing & Engineering Co., Hendham Vale, Manchester.

TEMPERED SPRING CO., LTD., THE, SHEFFIELD.

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (ebonite & vulcanite), 8, Redcross-st., E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* Ebonite & Vulcanite.

Watlington & Co. Offices: Moorgate Station-chbrs. Stores: 6, New Union-st., Moorfields, London, E.C.

YUILLE, WM. C., & CO., 60, Brown-st., Glasgow.

Railways & Tramways—Electric.

F.—Chemins de fer et Tramways—Electriques.

G.—Electr. Eisenbahnen & Strassenwagen.

(*For particulars, see* Electricity Works.)

Aberdeen Corporation Tramways.

Railways & Tramways—Electric—*contd.*

Accrington Corporation Tramways. *To be converted to electric.*
Airdrie & Coatbridge Tramways.
Aldershot-Farnborough Railway.
Altrincham U.D.C. Light Railway. *Not yet constructed.*
Anstey, Groby & Newtown Linford Light Railway. *Not yet constructed.*
Ashton-under-Lyne Corporation Tramways.
Aston Manor (Warwick) Tramways.
Audenshaw Tramways. *Not yet constructed.*
Avonmouth Light Railway. *Under construction.*
Ayr Corporation Tramways.
Baker-St. & Waterloo Railway.
Barking U.D.C. Tramways.
Barnsley & District Tramways.
Barrow-in-Furness Corporation Tramways.
Barton-upon-Irwell Light Railways. *Not yet constructed.*
Basingstoke & Alton Light Railway. *Order confirmed.*
Bath & Lansdown Light Railway. *Order confirmed.*
Bath Tramways.
Batley Corporation Tramways.
Beckenham U.D.C.
Bedford Corporation Tramways. *Not yet constructed.*
Belfast Corporation Tramways.
Bessbrook & Newry Tramway.
Bexley Urban District Council Tramways.
Bideford, Clovelly & Hartland Light Railway. *Order confirmed.*
Birkdale & Southport Tramways.
Birkenhead Corporation Tramways.
Birmingham (City of) Tramways Co., Ltd.
Birmingham Corporation Tramways.
Birmingham & Midland Tramways.
Birstall & Gomersall Tramway. *To be converted to electric.*
Bishop Auckland, Shildon & Spennymoor (United Kingdom Tramway, Light Railway & Electrical Synd.). *Not yet commenced.*
Blackburn Corporation Tramways.
Blackburn, Whalley & Padiham Light Railway. *Under construction.*
Blackpool Corporation Tramways.
Blackpool & Fleetwood Electric Tramroad Co.
Blackpool & Fylde Light Railway. *Under construction.*
Blackpool & Garstang Light Railway.
Blackpool, St. Anne's & Lytham Tramways.
Blagdon & Pensford Light Railway. *Order confirmed.*
Blyth Tramways.
Bolton Corporation Tramways.
Bonnybridge Tramways.
Bootle Corporation Tramways.
Bournemouth Corporation Tramways.
Bradford Corporation Tramways.
Bray & Enniskerry Railway Co., 52, Westland-row, Dublin. *Under construction.*

Railways & Tramways—Electric—*contd.*

Bredbury & Romiley Tramways. *Leased to & worked by Stockport Corporation.*
Brighton Corporation Tramways.
Brighton & Rottingdean Seashore Electric Tramroad Co.
Brighton & Shoreham Tramways. *To be converted to electric.*
Bristol Tramways & Carriage Co., Ltd.
British Electric Traction Co., Ltd.
Bromsgrove Light Railway. *Not yet constructed.*
Burnley Corporation Tramways.
Burton & Ashby Light Railways.
Burton-on-Trent Corporation Tramways.
Bury Corporation Tramways.
Callington Light Railway. *Not yet constructed.*
Camborne & Redruth Electric Tramways.
Cambridge Street Tramways. *To be converted to electric.*
Canterbury & Herne Bay Light Railway. *Not yet constructed.* Engr., R. Green, A.M.I.C.E.
Cardiff Corporation Tramways.
Carlisle, City of, Tramways.
Cavehill & Whitewell Tramways.
Central London Railway.
Charing Cross, Euston & Hampstead Railway. *Under construction.*
Chatham & District Light Railways.
Cheadle & Gatley Tramways. *Leased to Stockport Corp.*
Cheltenham & District Tramways.
Cheriton U.D.C. *Not yet constructed.*
Chesham Tramways.
Chester Corporation Tramways.
Chesterfield Corporation Tramways.
City & Brixton Railway. *Under construction.*
City & South London Railway.
Clacton-on-Sea Light Railway. *Not yet constructed.*
Clayton-le-Moors Tramways. *Will probably be electrified.*
Clontarf & Hill of Howth Tramroad.
Colchester Corporation Tramways.
Colne & Trawden Light Railway.
Cork, Blackrock & Passage Railway Co. *Not yet constructed.*
Cork Electric Tramways & Lighting Co., Ltd.
County of Hertford Light Railway. *Order confirmed.*
County of Middlesex Light Railway. *Order confirmed.*
Coventry Tramways.
Croydon Corporation Tramways.
Darlington Corporation Tramways.
Dartford U.D.C. Tramways.
Darwen Corporation Tramways.
Derby & Ashbourne Light Railway. *Under construction.*
Derby Corporation Tramways.
Devon South Hams Light Railway. *Order granted.*
Devonport & District Tramway.
Dewsbury, Batley & Birstal Tramways.
Dewsbury Corporation Tramways.

Railways & Tramways—Electric—*contd.*

Doncaster Corporation Light Railway.
Douglas-Ramsey (Manx Electric Railway Co.).
Douglas Southern Tramways.
Dover Corporation Tramways.
Dover, St. Margaret's & Martin Mill Light Railway. *Not yet constructed.*
Droylsden Tramways. *To be leased to Manchester Corp.*
Dublin & Lucan Electric Railway Co.
Dublin United Tramways.
Dudley Corporation Tramways.
Dudley, Stourbridge & District Electric Traction Co., Ltd.
Dumbarton. *Under construction.*
Dundalk Tramway. *Not yet constructed.*
Dundee, Broughty Ferry & District Tramways.
Dundee Corporation Tramways.
Durham & District Light Railways. *Not yet constructed.*
East Ham Corporation Tramways.
Eccles Corporation Tramways. *Leased to Salford Corp.*
Edgware & Hampstead Railway. *Not yet constructed.*
Erdington Tramways. *Leased to the City of Birmingham Tramways Co., Ltd.*
Erith U.D.C. Tramways.
Exeter Corporation Tramways.
Falkirk & District Tramways.
Farnworth District Council Tramways.
Felixstowe Pier Railway.
Folkestone Corporation. *Not yet constructed.*
Gateshead & District Tramways.
Giants' Causeway, Portrush & Bush Valley Railway & Tramway.
Glamorgan County Council Light Railway. *Not yet constructed.*
Glasgow Corporation Tramways.
Glossop Tramways.
Gloucester Corporation Light Railways.
Gorton U.D.C. Tramways. *Not yet constructed.*
Gosport & Fareham Tramways.
Gourock Tramways. *Leased to Greenock & Port Glasgow Tramways Co.*
Gravesend & Northfleet Tramways.
Great Grimsby Tramways.
Great Northern & City Railway.
Great Northern, Piccadilly & Brompton Railway.
Great Western & Hammersmith & City Railways. *Under construction.*
Greenock & Port Glasgow Tramways.
Grimsby & District Light Railways. *Order confirmed.*
Guernsey Railway.
Guildford Tramways.
Halifax Corporation Tramways.
Hamilton, Motherwell & Wishaw Tramways.
Handsworth U.D.C. Tramways. *To be converted to electric.*
Hartlepool Tramways.
Hastings Tramways.
Hebburn. *Tramways under consideration.*

Railways & Tramways—Electric—*contd.*

Heckmondwike Urban District Council Tramways.
Herne Bay Pier Electric Railway.
Heysham, Morecambe & Lancaster Railway. *To be electrified.* Engineer-in-chief, Mr. Worthington.
Heywood Corporation Tramways.
Hill of Howth Tramroad. (Great Northern Railway Co. (Ireland).)
Hindhead Tramways.
Horsforth U.D.C. *Leased to Leeds Corp.*
Houghton-le-Spring & District Tramways.
Hove & Worthing Tramways. *Not yet constructed.*
Huddersfield Corporation Tramways.
Hull Corporation Tramways.
Hurst, Lancashire, U.D.C. Tramways. *Leased to Ashton-under-Lyne.*
Hyde Tramways. (Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board.)
Ilford Corporation Tramways.
Ilkeston Tramways.
Ipswich Corporation Tramways.
Isle of Thanet Electric Tramways.
Jarrow & South Shields Light Railways.
Kearsley Tramways. *Worked by Farnworth D.C.*
Keighley Corporation Tramways.
Kidderminster & Stourport Electric Tramway.
Kilmarnock Corporation Tramways.
Kinver Light Railway.
Kirkcaldy Corporation Tramways.
Lanarkshire Tramways Co.
Lancashire Light Railways.
Lancashire & Yorkshire Railway (Liverpool-Southport).
Lancaster Corporation Tramways.
Leamington & Warwick Tramways.
Leeds Corporation Tramways.
Leicester Corporation Tramways.
Leith Corporation Tramways.
Leyton D.C. Tramways.
Limerick Electric Tramways. *Not yet constructed.*
Lincoln Corporation Tramways.
Linthwaite Electric Tramways.
Littleborough U.D.C. *To be reconstructed & leased to Rochdale Corp.*
Liverpool Corporation Tramways.
Liverpool Overhead Railway.
Llandilo & Lampeter Light Railway. *Not yet constructed.*
Llandudno & Colwyn Bay Light Railway. *Will probably be in operation by Easter*, 1907.
Llanelly & Dis. Light Railway. *Not constructed.*
London County Council Tramways.
L. & N.W. Railway. *Portion from Manchester to Eccles & Patricroft to be converted to electric.*
L. & N.W. Railway. *It is proposed to construct a new electric line between Euston & Watford.*
London United Tramways (1901), Ltd.
Londonderry-Moville Electric Railway. *Not yet constructed.*
Loughborough & District Light Railway. *Not yet under construction.*
Lowestoft Corporation Tramways.

Railways & Tramways—Electric—*contd.*

Lucan & Leixlip Electric Railway.
Luton Corporation Tramways. *Not yet constructed.*
Maidenhead Corporation Tramways.
Maidstone Corporation Light Railway.
Manchester Corporation Tramways.
Manchester & Liverpool Electric Railway. *Not yet constructed.*
Manchester Southern Tramways Co. *Not yet constructed.*
Manchester, West, Light Railway. *Order confirmed.*
Mansfield & District Tramways.
Manx Electric Railway.
Matlock Tramways. *To be converted to electric.*
Mersey Railway.
Merthyr Electric Traction & Lighting Co., Ltd.
Metropolitan District Railway.
Metropolitan Electric Tramways, Ltd.
Metropolitan Railway.
Mexborough, Swinton & Rawmarsh Tramways.
Middlesbro', Stockton & Thornaby Tramways.
Middleton & District Light Railways.
Moss Side Tramways. *Leased to Manchester Corp.*
Musselburgh Tramways.
Nelson Corporation Tramways.
New St. Helen's & District Tramways Co., Ltd. *St. Helen's Corporation Tramways leased to & worked by Co.*
Newark & District Light Railway. *Order confirmed.*
Newcastle-on-Tyne Corporation Tramways.
Newport (Mon.) Corporation Tramways.
North East London Railway. *Not yet constructed.*
North Eastern Railway. *Tynemouth & Ponteland electric portion.*
North Lindsey Light Railway. *Order confirmed.*
North Metropolitan Tramways. *Transferred to L.C.C.*
North & South Shields Railway. *Not yet constructed.* Engineers, H. H. Dalrymple Hay & C. H. Gadsby.
North Staffordshire Tramways Co., Ltd.
North Wales & District Light Railway. *Not yet constructed.*
North-West London Railway. *Under construction.*
Northampton Corporation Tramways.
Norwich Electric Tramways.
Nottingham Corporation Tramways.
Nuneaton & District Light Railway. *Not yet constructed.* Engineer, A. Wiseman.
Oldham, Ashton-under-Lyne & Hyde Tramways.
Oldham Corporation Tramways.
Oxford Tramways. *To be reconstructed by the National Electric Construction Co.* Consulting engineers, Geo. Hopkins & Son.
Padstow, Bedruthan & Mawgan Light Railway. *Not yet constructed.*
Paisley District Tramways.
Penmachno, Corwen & Bettws-y-Coed Light Railway Co. *Not yet constructed.*
Perth Corporation Tramways.

Railways & Tramways—Electric—*contd.*

Peterborough Tramways.
Plymouth Corporation Tramways.
Plymouth, Stonehouse & Devonport Tramways.
Pontypridd Urban District Tramways.
Poole & District Light Railway.
Portmadoc, Beddgelert & Snowdon Railway.
Portsdown & Horndean Light Railway.
Portsmouth Corporation Tramways.
Portsmouth & Hayling Light Railway. *Not yet constructed.* Electrical adviser, A. G. Hansard.
Potteries Electric Tramways.
Prescot Electric Tramways.
Preston Corporation Tramways.
Prestwich D.C. Tramways. *Leased to Salford Corp.*
Quarry Bank, Brierley Hill & Rowley Regis Light Railway. *Negotiations proceeding.*
Queensbury Tramways. *Worked by Bradford & Halifax Corps.*
Radcliffe Tramways. *Worked by Bury Corp.*
Reading Corporation Tramways.
Redditch Light Railway. *Not yet constructed.*
Rhyl & Prestatyn Light Railway. *Not yet constructed.*
Ripon & District Light Railway. *Not yet constructed.*
Rochdale Corporation Tramways.
Rochester Tramways. *Worked by the Chatham & District Light Railways Co., Ltd.*
Rossendale Valley Tramways. *To be electrified.*
Rotherham Corporation Tramways.
Rothesay Tramways.
Rowley Regis Tramways.
Rugby & District Light Railway. *Not yet constructed.* Engineer, R. Green, A.M.I.C.E.
Ryde Pier Railway.
Ryhope, Seaham, Murton & South Hetton Light Railways. *Not yet constructed.*
St. Helens Corporation Tramways.
Salford Corporation Tramways.
Scarborough Tramways.
Seaforth & Sefton Junction Railway. *Not yet constructed.*
Sheerness Tramways.
Sheffield Corporation Tramways.
Shipley Urban District Council Tramways.
Sleaford & Kirkstead Light Railway. *Not yet constructed.*
Smethwick Tramways.
Snaefell Mountain Railway.
Soothill Nether U.D.C. Tramways. *Not yet constructed.*
South Lancashire Tramways.
South Shields Corporation Tramways.
South Staffordshire Tramway (Lessee) Co., Ltd.
South-Western & Isle of Wight Junction Railway. *Not yet constructed.*
Southampton Corporation Tramways.
Southend Corporation Pier Electric Railway.
Southend & Colchester Light Railway. *Not yet constructed.*
Southend-on-Sea Corporation Light Railway.
Southport & Birkdale Tramways.
Southport Corporation Tramways.

Railways & Tramways—Electric—*contd.*

Southport & Lytham Tramways. *Not yet constructed.*
Southport Pier Electric Railway.
Spen Valley & Morley Tramways.
Stalybridge, Hyde, Mossley & Dukinfield Tramways.
Stirling & Bridge of Allan Tramways. *Acquired by the National Electric Construction Co. To be converted to electric.*
Stockport Corporation Tramways.
Stretford Light Railway. *Order confirmed.*
Stretford Tramways. *Leased to Manchester Corp.*
Stroud & District Tramways. *Not yet constructed.*
Sunderland Corporation Tramways.
Sunderland District Tramways.
Sutton & Howth Electric Tramway.
Swansea Corporation Tramways.
Swindon Corporation Tramways.
Taff Vale Railway. *Not yet constructed.*
Tarporley Light Railway. *Order confirmed.*
Taunton Tramways.
Torquay Corp. Tramways.
Trafford Park Estates, Ltd., Tramways.
Tynemouth & Whitley Tramways.
Tyneside Tramways.
Underground Electric Railways of London.
Volk's Electric Railway.
Wakefield & District Light Railway.
Wallasey Urban District Council Tramways.
Walsall Corporation Tramways.
Walthamstow District Council Tramways.
Walthamstow Light Railway. *Order confirmed.*
Walton-on-the-Naze Pier Electric Railway.
Warrington Corporation Tramways.
Warrington & Northwich Light Railways. *Not yet constructed.*
Waterloo & City Railway.
Waterloo-with-Seaforth Tramways. *Leased to the Liverpool Overhead Railway Co.* 500 *v.*, 160 *K.W.* Engr., S. B. Cottrell, M.I.C.E.
Watford & Edgware Railway. *Not yet constructed.*
Wednesbury & West Bromwich Tramways.
Wellingborough Tramways (British Electric Traction Co., Ltd.). *Not yet constructed.*
Wemyss & District Tramways.
West Bromwich Corporation Tramways.
West Cumberland Tramways. *Not yet constructed.*
West Ham Corporation Tramways.
West Hartlepool Tramways.
Weston-super-Mare Tramways.
Whitechapel & Bow Railway.
Wigan Corporation Tramways.
Wimbledon Borough Council Tramways.
Wirral Railway. *To be converted to electric.*
Withington District Council Tramways. *Leased to the Manchester Corporation.*
Woking & Bagshot Light Railway. *Not yet constructed.*
Wolverhampton Corporation Tramways.
Wolverhampton District Electric Tramways.
Worcester Tramways.
Wrexham Tramways.

Railways & Tramways—Electric—*contd.*

Yarmouth Corporation Tramways.
Yarmouth & Gorleston Tramways.
Yorkshire District Light Railway. *Not yet constructed.*
Yorkshire (Woollen District) Tramways.

Rangefinders.

F.—Télémètres.
G.—Telemeter.

BARR & STROUD, patentees & manufacturers of rangefinders & order & range telegraphs, as supplied to British & Foreign governments for naval & military use. Also of high vacuum pumps, helm position indicators, electric clocks, &c. Anniesland, Glasgow, W. (Telegrams: "Telemeter, Glasgow." P.O. Teleph No. W9; Nat. No. 122, Hillhead.)

Recording Instruments—Makers of.

F.—Instruments enregistreurs—Fab. d'.
G.—Registrirende Instrumente—Fab. von.

Bailey, W. H., & Co., Ltd., Essex-st., Salford, Manchester.
Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.
Bristol Recording Instruments. *See* J. W. & C. J. Phillips.
CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Carlyle-rd., Cambridge.
Crosby Steam Gage & Valve Co., 147, Queen Victoria-st., London, E.C.
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.
ELLIOTT BROS., Century Works, Lewisham, London. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)
Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, London, N.W. Inkless Recorders—entirely new principle. *See advt., page* 633.
Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.
Hodges, Cecil, & Co., Balfour House, Finsbury Pavement, London, E.C.
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Jennings, George, Ltd., 65 & 67, Lambeth Palace-rd., London, S.E.
Kelvin & James White, Ltd., 18, Cambridge-st. Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; Nat., 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Tel. No. 725, Westminster.)

Recording Instruments—Makers of—*continued.*

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

Phillips, J. W. & C. J., 23, College Hill, London, E.C. Bristol's recording instruments for pressure, temperature & electricity.

PITKIN, J., & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegrams: "Barograph, London." Telephone No. 11273, Central.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Rectifiers.

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

Snowdon, H., Balfour House, Finsbury Pavement, London, E.C. (Telegs.: "Snowdrift, London." Teleph. No. 9950, London Wall.) Works: Millwall.

Reflector & Shade Manufacturers—Glass, Metal & Silk.

F.—Reflecteurs et abatjours—en verre et en métal et en soie.

G.—Reflectoren & Schirme—Glas, Metall u. Seide.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington.

Baird, John, Ltd. (glass), 99, Milton-st., Port Dundas, Glasgow.

Baxendale & Co. (metal) (makers), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BERRY, SKINNER & CO. (glass & metal), 78, Upper Thames-st., E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braulik, G. (glass & metal), 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BURMAN, R. H. (metal), Windmill-st., Horse Fair, Birmingham. (Telegrams: "Reflection, Birmingham." Telephone No. 3455.)

Burtles, Tate & Co. (glass), Poland-st. Glass Works, Oldham-rd., Manchester.

Cardiff Tin Stamping & Enamel Co., Ltd. (metal), Rosebery-bldgs., 83, John Bright-st., Birmingham.

Clark, T. & C., & Co. (*enamelled metal*), Shakespeare Foundry, Wolverhampton.

Reflector & Shade Manufacturers—Glass, Metal & Silk—*continued.*

Cohen, A. & E. (glass), 2, Bury-st., St. Mary Axe, London, E.C.

Dernier, Louis, & Co. (silk), 78, Newman-st., London, W.

Diamond Reflector Syndicate (metal), Dock House, Billiter-st., E.C.

DORMAN & SMITH (metal), Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Ellis & Saunders (metal), 3 & 4, St. Martin's-ct., Ludgate Hill, E.C.

Fecher, M. J. (porcelain), 1, James-st., Old-st., London, E.C.

Garnier & Co. (enamelled iron), 86, Farringdon-st., Ludgate Circus, London, E.C. (Telegrams: "Enduring, London." P.O. Telephone No. 547, Central.)

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Telephone Nos. 594 & 595, Hop.) *See advt., page* 24.

Goodyers, 198 & 174, Regent-st., London, W.

Imperial Enamel Co., Ltd. (metal), Watery-lane, Birmingham.

Iron & Copper Enamelling Co. (metal), 61, Farringdon-rd., E.C.

Jones Bros. & Co. (Wolverhampton), Ltd. (metal), Ablow-st., Wolverhampton.

Kensington Stamping Co., Ltd. (metal), Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)

LONDON ELECTRICAL FITTINGS CO., LTD., THE (glass), Roberts Works, Hampstead-rd., N.W. (Telegrams: "Filosofone, London." Telephone No. 441, North.) Showrooms: St. Andrews Mansions, 15, Newman-st., London, W. (Telephone No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Mange & Co., 21, Finsbury-st., London, E.C.

Orme, Evans & Co., Ltd. (metal), Elgin Works, Wolverhampton.

Parks, F. (silk), 26, Nassau-st., Mortimer-st., London, W.

Permanent Enamel Co., Ltd. (metal), Pelly-rd., Plaistow, London, E.

Prismatic Shade Co., West Bridge, Leicester.

Reed, W. H., & Son (silk), 180, Wardour-st., London, W.

Richardson, H. G., & Sons (glass), Wordsley, nr. Stourbridge.

Robinson, Wm., & Co., Ltd. (metal), Stafford-st., Wolverhampton.

Schölzig, Oscar (metal), 9, New Broad-st., London, E.C.

Selinger, M. (glass), 8, Nicholas-st., London, E.

Reflector & Shade Manufacturers—Glass, Metal & Silk—*continued.*

SUN ELECTRICAL CO., LTD. (metal), 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Syer, E., 45, Hatton Garden, London, E.C.

Taylor & Co. (silk), 40, Hatton Garden, E.C.

Thomas, R. Morris, & Co. (glass), 7, Ely-pl., Holborn Circus, London, E.C.

Tiffin, F. J., "Everbrite" silvered glass reflectors, 3, Great Winchester-st., London, E.C. (Telephone No. 1993, Central.)

WALSH, JOHN WALSH (glass). Works: Lodge-rd., Birmingham. (Telegrams: "Vesta, Birmingham." Telephone No. 63.)

West, G. (silk), 4, Soho-st., Oxfordst., London, W.

Refrigerating Machinery Manufacturers.

Pulsometer Engineering Co., Ltd., The, Nine Elms Ironworks, Reading, Berks; & 61 & 63, Queen Victoria-st., E.C. Makers of ice-making machinery & refrigerating plant. *See advt., page* 720.

Regulators—Makers of.

F.—Régulateurs—Fab. de.

G.—Regulatoren—Fab. von.

ANGLO-SWISS (H. CUÉNOD) CONSTRUCTION CO., Thury regulators & electric motors, 21, Finsbury-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) "Perfecta" starters, regulators & controllers. "Emsea" resistance units.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

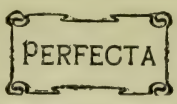
Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

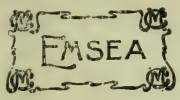
Resistance Apparatus.

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) Motor



Resistance Apparatus

starters, regulators, controllers for direct current & polyphase.



Switches.
Current Breakers.
Resistance Units.

Resistance Coil & Frame Makers.

F.—Bobines et cadres de resistence—Fab. de.

G.—Wiederstands Spulen und Gestelle—Fab. von.

ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., E.C. (Telegs.: "Voltarcon, London." Teleph. No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 *&* 406.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Donovan & Co., 12, Barwick-st., Birmingham.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) *See advt., page* 386.

Hodges, Cecil, & Co., Balfour House, Finsbury Pavement, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

OFFORD & CO., 97 & 98, Woodcock-st., Birmingham. (Telegs.: "Offord, Woodcock-st., Birmingham." Nat. Teleph. No. 2229.)

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page* 608.

Resistance Coil & Frame Makers—*contd.*

PHŒNIX ELECTRIC HEATING CO., LTD., 3, HOLBORN-PL., HIGH HOLBORN, LONDON, W.C.

Sanders, W., & Co., Falcon Electrical Works, Wednesbury.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Resistance Wires—Makers of.

F.—Fil de résistance—Fab. de.

G.—Wiederstehende Drähte—Fab. von.

Brunton, W. N., & Son, Musselburgh, Scotland.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

HECKFORD, ARTHUR E., Birmingham Metal Works, Birmingham. Hecnum non-corrosive wire, 30 times resistance of copper.

Johnson, Richard, & Nephew, Ltd. (iron), Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 732.

JOHNSTONE, BENJAMIN & CO., LTD., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. Manufacturers of covered wires of all descriptions for electrical instruments, dynamo machines, electric lighting, bell & house work, &c. Specially prepared wires, cords & cables for telephone work. *See advt. facing inside back cover.*

Rheostats.

F.—Rhéostats.

G.—Rheostate.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. No. 7123, Central.)

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Rheostats—*continued.*

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

GEIPEL & LANGE, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) EUROPEAN AGENTS FOR WARD LEONARD RHEOSTATS. *See advt., page* 24.

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) "Perfecta" starters, regulators & controllers. "Emsea" resistance units.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegs.: "Movedor, London.") *See advt., page* 693.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. Varley & other carbon rheostats. *See advt., page* 608.

Phœnix Electric Heating Co., Ltd., 3, Holborn-pl., High Holborn, London, W.C.

Potter, F. W., & Co., Phipp-st., London, E.C. (Telegs.: "Wirework, London." Teleph. No. 1169, Wall.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Rock Drill Manufacturers—Electric.

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Rolling Mills & Rolled Metal Merchants.

F.—Laminoirs.

G.—Walzwerke.

Bolton, Thomas, & Sons, Ltd. (Copper & Brass), Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Röntgen Apparatus—Makers & Dealers.

F.—Appareils Röntgen—Fabricants et Marchands d'.

G.—Röntgen Apparat—Fabrikanten von und Händler in.

Apps, A., 433, Strand, London, W.C.

Röntgen Apparatus—Makers & Dealers —*continued.*

COSSOR, A. C., original maker in England of "X-ray" Tubes; Coils & other apparatus made & supplied, 54, Farringdon-rd., London, E.C. (Teleph. No. 10547, Central.)

Cox, Harry W., Ltd., 1A, Roseberry-ave., & 15–21, Laystall-st., London, E.C.

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

JOHNSON, MATTHEY & CO., LTD. (Fluorescent Screens), 74–81, Hatton Garden, London, E.C.

Miller, Leslie, A.M.I.E.E., 93, Hatton Garden, London, E.C.

Muirhead & Co., Ltd., Elmers End, Kent. (Telegs.: "Muirheads, Elmers-End." Teleph. No. 50, Bromley.) Show-rooms: 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (Telegs.: "Muirheads, London." Teleph. No. 779, Westminster.) *See advt., page* 609.

Peto & Radford, Ltd., 100, Hatton Garden, E.C.

Peto & Radford, Ltd., successors to Sutherland & Marcuson, 61, Chandos-st., Strand, W.C.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Roofs (Iron)—Makers of.

F.—Toits en fer—Fab. de.

G.—Eiserne Dächer—Fab. von.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 523.

Glasgow Steel Roofing Co., 52, St. Enoch-sq., Glasgow.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Rope Makers—Manilla & Hemp.

F.—Cordage (Manilla et Chanvre)—Fab. de.

G.—Tau (Manilla und Hanf)—Fab. von.

KENYON, WILLIAM, & SONS, Chapel Field Ropery, Dukinfield, Cheshire.

Rope Makers—Wire.

Brunton, W. N., & Son, Musselburgh, Scotland.

Rotary Converters.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Rotary Converters—*continued.*

DICK, KERR & CO., LTD. Head office: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Rustless Iron Manufacturers.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow. (Telegrams: "Braby, Glasgow." Nat. Telephone Nos.: 4130 & 4131, Royal; Corp., S2, S3 & S58.)

Salammoniac.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")

Bayley, F. S., Clanahan & Co., 79, Mosley-st., Manchester.

Brunner Mond & Co., Ltd., Winnington, Northwich.

Sharon Chemical Co., Ltd., Little Chester, Derby.

Schools of Electrical Engineering, Telegraphy, &c.

F.—Ecoles pour ingénieurs électr. et télégr.

G.—Schulen für Electr. Ingenieure, Telegr., &c.

Acton & Chiswick Polytechnic, Bedford Park, London, W. Electricity & magnetism, F. J. Edgar, A.I.E.E.

Altrincham Technical School, Altrincham, Cheshire. Electricity & magnetism, R. R. Rothwell.

Armstrong College, Newcastle-on-Tyne. Physics, Prof. Henry Stroud, M.A., D.SC., F.PH.S.L., M.I.E.E.; electrical engineering, W. M. Thornton, D.SC., M.ENG., M.I.E.E., & W. W. Firth, M.SC.

Aston Manor Technical School, Aston, Birmingham. Electricity & magnetism, Chas. A. White, M.SC.; electric light & power distribution, T. N. Riley, B.SC.

Atherton Technical School. Electricity & magnetism & chemistry, Alex. Reid.

Bablake School of Science, Coventry. Electrical engineering & physics, D. H. Patrick, F.C.S., A.I.E.E.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Barrow-in-Furness Technical School. Electricity & magnetism, E. Thornton, A.I.E.E.

Bath Technical School, Bath. Electrical engineering, C. E. Kemp, B.SC., & C. Vickery; telegraphy & telephony, C. E. Kemp, B.SC.

Battersea Polytechnic, Battersea, S.W. Physics, W. Thomson, M.A., B.SC.; electrical engineering, A. W. Ashton, M.SC.

Belfast Municipal Technical Institute, Belfast. Lecturer in physics & electrical engineering, R. Stanley, B.A., A.M.I.E.E.

Birkbeck College, Breams-bldgs., Chancery-lane, London, E.C. Experimental physics, A. Griffiths, D.SC.

Birkdale Technical School, Birkdale. Electricity & magnetism, H. Bentham, M.I.E.E.

Birkenhead School of Art. Principal & lecturer on magnetism & electricity, J. E. Lloyd Barnes, M.I.M.E.

Birmingham Municipal Technical School. Principal & head of physical dept., W. E. Sumpner, D.SC., M.I.E.E.

Blackburn Municipal Technical School. Physics: A. Gow, B.A., B.SC., principal.

Bolton Municipal Technical Schools. Lecturer in elec. eng., G. A. Pearson, A.M.I.E.E.

Bootle Municipal Technical School, Bootle, Lancs. Teacher of electricity, Laurence Small, B.SC.

Borough Polytechnic Institute, 102, Borough-rd., London, S.E. Lecturer in electrical engineering, J. Henderson, D.SC., F.R.S., &c.

Bournemouth Science, Art & Technical School, Poole Hill, Bournemouth.

Bradford, City of, Technical College, Bradford. Professor of engineering, G. F. Charnock, A.M.I.C.E., M.I.M.E.

Brighton Municipal Technical College, Brighton. H. H. Broughton, electrical engineering.

British School of Telegraphy, 179, Clapham-rd., S.W. Principal, Wm. Lynd, lecturer on wireless telegraphy & science.

Bury Technical School, Bury, Lancs.

Carlisle Municipal Technical Institute, Carlisle. Electricity & physics, G. E. Argyle, B.SC.

Cass, Sir John, Technical Institute, Jewry-st., Aldgate, E.C. Principal, C. A. Keane, M.SC., PH.D., F.I.C. Head of Department of Physics & Mathematics: R. Smith Willows, D.SC. (Lond.), M.A. (Cantab.).

Chester School of Science & Art, Chester. Electricity & magnetism & physics, John A. McMichael, B.A., B.SC.

City & Guilds Central Technical College, Exhibition-rd., London, S.W. W. E. Ayrton, F.R.S., professor of physics & electrical engineering; chief assistant, T. Mather, WH.SC., F.R.S.

City & Guilds of London Institute (Sir J. Watney, Hon. Sec.; A. L. Soper, Asst. Sec.). Head office: Gresham College, London, E.C.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

City & Guilds of London Technical College, Leonard-st., Finsbury, London, E.C. Professor of applied physics & electrical engineering, Silvanus P. Thompson, D.SC. (*principal*); senior demonstrator, H. H. Simmons, A.M.I.E.E.

City of London College, White-st. & Ropemaker-st., Moorfields, E.C. Electricity & magnetism, I. S. Scarf, F.I.C., F.C.S.; C. A. West, B.SC., A.R.C.S., F.I.C.; & T. Scott, M.A.

Coatbridge Technical School, Coatbridge, N.B. Electrical engineering, Robt. Renkin.

Cockburn High School, Leeds. Electricity & magnetism, Wm. Wallace, M.A., F.R.S.E., A.I.E.E.; & A. Mackenzie, M.A., B.SC., A.R.C.S.

College of Science & Technology, 53, Frederick-st., Edinburgh.

Coventry Municipal Technical Institute, Earl-st., Coventry.

Crawford Municipal Technical Institute, Cork. E. A. O'Keeffe, B.E., M.I.E.E., F.R.S. (London), science.

Croydon Polytechnic. Dept. of Elec. Engineering: lecturer, A. Blok, B.SC.

Crystal Palace Company's School of Practical Engineering, &c., Crystal Palace, S.E. Principal, J. W. Wilson, M.I.C.E., M.I.MECH.E.

Darlington Technical College. Director, A. C. Boyde, M.A., LL.B.

Darwen Municipal Technical Institute, Darwen. Electricity & physics, A. G. Walker, B.SC.

Derby Municipal Technical College. Physics & electrical engineering, F. W. Shurlock, B.A., B.SC. (Lond.) (principal).

Devonport Municipal Science, Art & Technical School. Electricity, I. H. D. Millett.

Dover School of Science, Art & Technology Electricity & magnetism, physics & chemistry, G. D. Thomas, B.SC.

Dublin Municipal Technical School. Principal L. E. O'Carroll, B.A.

East London College, People's Palace, Bow & Bromley Branch, Railway Station, Bow-rd., London, E.C.

East London Technical College, People's Palace, Mile End-rd., London, E. Professor in electrical engineering, J. T. Morris, A.M.I.E.E.; physics, R. A. Lehfeldt, B.A.

Electrical Engineer Institute of Correspondence Instruction, 13, Southampton-st., High Holborn, W.C.

Gamble Institute Municipal Technical School, St. Helen's, Lancs. Electrical engineering, J. W. Warr, A.M.I.E.E.

Glasgow & West of Scotland Technical College, Electrical engineering, Prof. Magnus Maclean, M.A., D.SC.; mechanics, Prof. J. G. Longbottom, A.R.C.S.; chemistry, Prof. G. G. Henderson, M.A., D.SC.; technical chemistry, Prof. T. Gray, D.SC., PH.D.

Gordon College, Aberdeen. Head master, Chas. Stewart, M.A.; mechanical science, Jas. W. Thomson, A.M.I.MECH.E.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Hackney Technical Institute, Dalston-lane, N.E. A. Hay, D.SC. (Edin.), M.I.E.E., physics & electrical engineering.

Halifax Municipal Technical College, Halifax. Electrical engineering, W. H. F. Murdoch, B.SC., A.M.I.E.E.

Harris Institute & Victoria Technical School, Preston. Teachers of electricity, G. E. Gittins, A.I.E.E., A. W. Holden, INT.B.SC., & A. Smith, INT.B.SC.

Harrogate Technical School, Harrogate. Electricity & magnetism, physics & chemistry, E. Morris, A.R.C.S., A.R.S.M.

Hartley University College, Southampton. Department of Physics & Electrical Engineering: Spencer Wm. Richardson, D.SC., B.A., principal.

Heriot-Watt College, Edinburgh. Applied physics & electrical engineering, Prof. F. G. Baily, M.A., F.R.S.E.

Heywood Municipal Technical School, Heywood, Lancs. Magnetism & electricity, James Ashton.

Huddersfield Technical College, Huddersfield. Physics & elec. eng., W. R. Bower, A.R.C.S.

Hull Municipal Technical School, Hull. Lecturer in electrical engineering, G. A. Pearson, A.M.I.E.E.

Hyde Technical School, Hyde. (Nat. Teleph. No. 5.) Electricity & magnetism, J. F. Heald, B.SC.

Johnston Technical School, Durham. Electricity & magnetism, S. Whalley, B.SC., A.R.C.S.

King's College, 160, Strand, London, W.C. Professors: physics, H. A. Wilson, D.SC., F.R.S., H. S. Horn, M.A., D.SC., E. P. Harrison, PH.D.; chemistry, J. M. Thomson, F.R.S., F.I.C., H. Jackson, F.I.C.; electrical engineering, E. Wilson, M.I.E.E.

Kingston Municipal Science & Art School & Technical Institute, Kingston Hall-rd., & Polytechnic, Fife-rd., Kingston-upon-Thames. Electricity, J. Coxon, A.I.E.E.

Leeds Institute Technical School, Cookridge-st., Leeds. Magnetism & electricity, J. E. Tindall, B.A., B.SC.

Leicester Municipal Technical School. Electrical engineering, E. E. Brooks, B.SC.

Leigh Technical School. Electricity & magnetism, W. Daniels; physics & chemistry, J. W. Saville.

Leyton Technical Institute, Leyton, London, E. Electrical engineering, E. Smith, B.SC., A.R.C.S.

Limerick Municipal Technical Schools. Electricity & magnetism & mathematics, E. P. O'Dowd, A.R.C.SC.

Liverpool Municipal Technical School, Liverpool. Electrical engineering, J. E. Lloyd Barnes, M.I.M.E.; electricity & magnetism, S. S. Richardson, B.SC.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

London Telegraph Training College, Morse House, Earl's Court, S.W. Wireless telegraph & technical department, M. Child; submarine cable, G. P. Grenfell; & inland, F. Percival.

Londonderry Municipal Technical School. Electricity, O. S. Spokes, WH.EX., A.I.E.E.

Lurgan Technical School. Physics & electrical engineering, W. J. Lark.

Manchester Municipal School of Technology (Department of Physics & Electrical Engineering: Prof. A. Schwartz, A.K.C., A.M.I.C.E., M.I.E.E., M.SC.TECH., Prof. W. W. Haldane Gee, B.SC. (Lond.), F.C.S., A.M.I.E.E., M.SC.TECH., A. Adamson, A.R.C.S., & C. F. Smith, WH.SCH., A.M.I.C.E., A.M.I.E.E.), Sackville-st., Manchester.

Merchant Venturers' Technical College, Bristol. Professor in electrical engineering & applied physics, D. Robertson, B.SC., A.I.E.E.

Newport Borough Technical Institute, Newport, Mon. Electricity, J. J. Stewart, M.A., B.SC., G. R. Bennett, B.SC., & W. L. Thain.

Newry Municipal Technical School. Electricity & magnetism, & engineering & physics, D. Paton Grubb, B.SC., A.R.S.M.

Northampton & County Modern & Technical School, Northampton. Electricity, G. L. Bradley, R.A.

Northampton Institute, Clerkenwell, London, E.C. Electrical engineering & applied physics department, R. Mullineux Walmsley, D.SC., F.R.S.E., principal; associate head of department, C. V. Drysdale, D.SC.

Northern Polytechnic Institute, Holloway-rd., London, N. Head of physics & electrical engineering department, V. A. Mundella, M.A., B.SC., F.PH.S.L., A.M.I.E.E.; lecturers in physics, A. Giles, J. Charlesworth, B.SC., & O. W. Griffiths, B.SC.

Norwich Municipal Technical Institute. Electric light & power, W. S. Brooks, M.SC.

Ordnance College, Woolwich. Electricity, H. T. Davidge, B.SC., M.I.E.E.

Paisley Technical College. Electricity & physics, Angus McLean, B.SC.

Peterborough (Soke of) County Technical School. Electricity & magnetism, mathematics, physics & chemistry, Wm. Barbour.

Plymouth Municipal Technical School. Magnetism & electricity, F. R. Talbot, B.SC.; electrical engineering, T. A. Locke, A.I.E.E.

Polytechnic, The (teacher of electricity, W. Hibbert, F.I.C., A.M.I.E.E.), 309 & 311, Regent-st., W.

Portsmouth Municipal Technical School. Electric light & power, telegraphy & telephony, H. Davies, B.SC.

Postal Telegraph Schools (L. D. Barclay, asst. supt. in charge), G.P.O. West, London, E.C.

Queen's College, Belfast. Professor of natural philosophy, W. B. Morton, M.A.; demonstrator, John Wylie, B.A.

Queen's College, Cork. Professor of engineering, C. W. O. D. Alexander, B.E., M.SC., A.M.I C.E.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Queen's College, Galway. Demonstrator in electrical engineering, F. Alwyn Haigh, B.SC., A.I.E.E.

Rawtenstall Technical School. Electricity & magnetism, J. R. Hardman.

Redruth School of Mines & Art. Electricity & magnetism, H. C. Ridding, A.R.S.M., F.I.C.

Robert Gordon's College, Schoolhill, Aberdeen.

Rochdale Municipal Technical School, Rochdale. Physics & electrical engineering department, J. R. Ashworth, D.SC.

Royal Albert Memorial College, Exeter. Electricity, W. S. Charlton, B.SC.

Royal College of Science, South Kensington, S.W. Professors: mechanics & mathematics, J. Perry, M.E., D.SC., LL.D., F.R.S.; physics, H. L. Callendar, LL.D., F.R.S.; asst., W. Watson, D.SC., F.R.S., A.R.C.S.

Royal College of Science for Ireland, Dublin. Physics & electricity, Prof. Barrett, F.R.S., M.I.E.E., F.R.S.E.; lecturer on electro-technology, W. Brown, B.SC.

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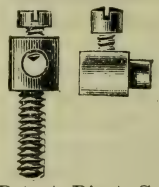

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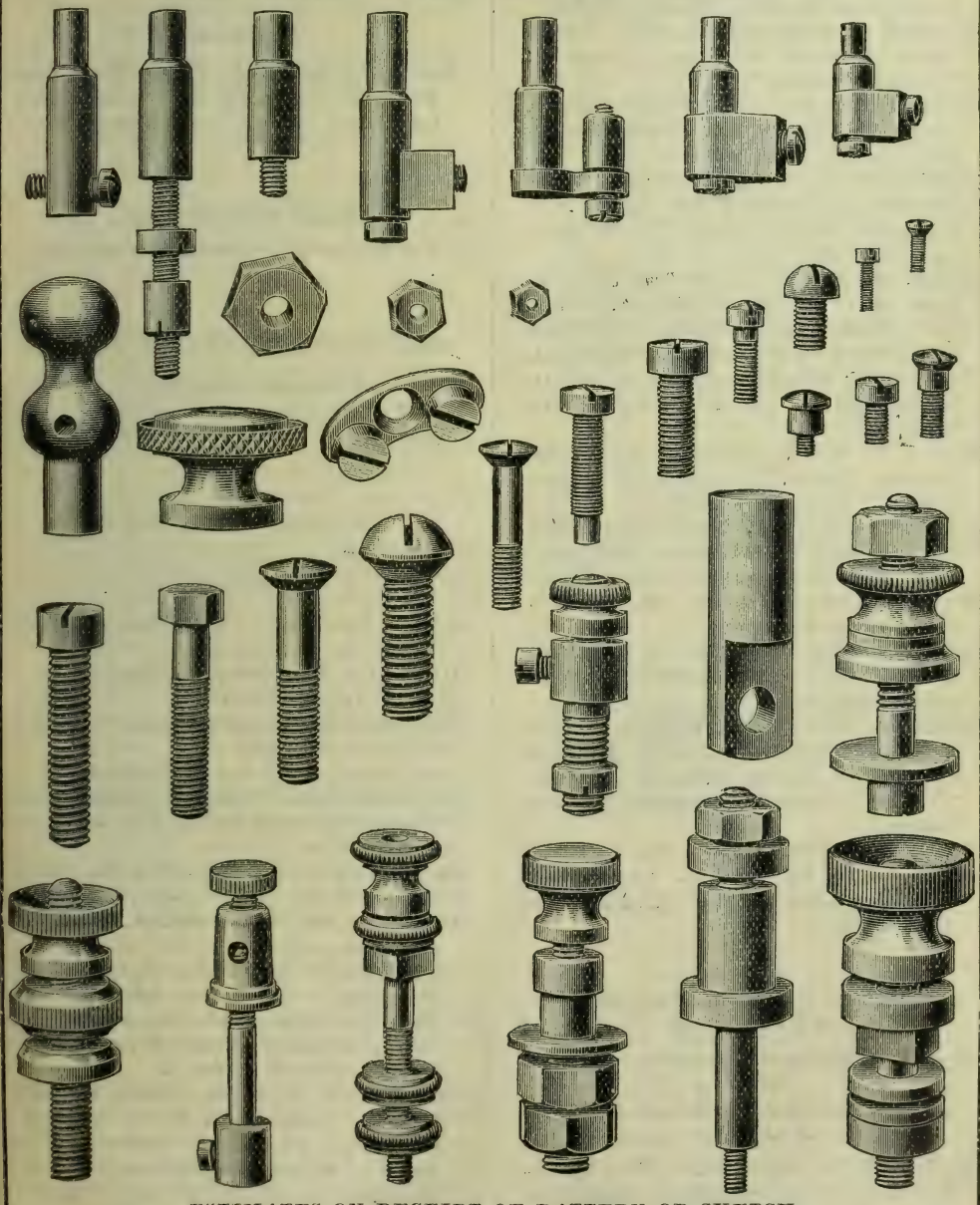

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G.—Schiefer Schmelzarbeiter.

Braby, E. & C., Bangor Wharf, Belvedere-rd., Lambeth, S.E. (Telegrams: "Marble, London." Telephone No. 825, Hop.)

CONGDON & POWELL, Bravington-rd. Works, Harrow-rd., W. (Tel. No. 1507, Paddington.)

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. No. 2475.) *See advt.* IN NEXT COLUMN.

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt.* OPPOSITE.

JONES, INIGO, & CO., Tudor Slate Works, Groeslon, R.S.O., N. Wales. *See advt.* ABOVE.

LEE, ARTHUR, & BROS., LTD., Hayes, Middlesex. (Telegrams: "Lee, Hayes, Middlesex." P.O. Telephone No. 11.) Wharves & factories: Cumberland-rd., Bristol.

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SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt.* OPPOSITE.

Slate & Slate Slab Merchants & Manufacturers.

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Braby, E. & C., Bangor Wharf, Belvedere-rd., Lambeth, S.E. (Telegrams: "Marble, London." Telephone No. 825, Hop.)

CONGDON & POWELL, Bravington-rd. Works, Harrow-rd., W. (Tel. No. 1507, Paddington.)

Davies Bros. (Newport), Ltd., London Wharf, Newport, Mon.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegrams: "Mantel, Birmingham." Telephone No. 2475.) *See advt.* IN NEXT COLUMN.

Slate & Slate Slab Merchants & Manufacturers—*continued.*

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CONGDON & POWELL, Bravington-rd. Works, Harrow-rd., W. (Tel. No. 1507, Paddington.)

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JONES, INIGO, & CO., Tudor Slate Works, Groeslon, R.S.O., N.Wales. *See advt.* OPPOSITE.

Perrin, W., Steam Slate & Marble Works, 153, Lower Kennington-lane, Kennington-cross, London, S.E.

Portmadoc Slate Co., The, Portmadoc, N. Wales.

Richardson, A. & W. T., Brunswick-wharf, Vauxhall, S.W.

Roberts, Adlard & Co., 11, Queen-st., Cheapside, E.C.; & 25 & 26, Bermondsey Wall, S.E.

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Sherard Cowper-Coles & Co., Ltd., Grosvenor Mansions, 82, Victoria-st., S.W.

Williams, Foster & Co., & Pascoe Grenfell & Sons, Ltd., Morfa & Middle Bank Copper Works, & Upper Bank Spelter Works, Swansea. Warehouse: 5, Creechurch-lane, Leadenhall-st., London, E.C. Office: Leadenhall-bldgs., E.C.

Societies—Learned, Scientific & Technical.

F.—Sociétés Savantes, Scientifiques, et tech.

G.—Vereine—Gelehrte Wissenschaft. u. Tech.

Association of Technical Institutions. Hon. sec., S. H. Wells, principal Battersea Polytechnic, London, S.W.

Societies—Learned, Scientific & Technical—*continued.*

Board of Education, S. Kensington, London, S.W.

British Association for the Advancement of Science, Burlington House, London, W.

Chartered Institute of Patent Agents (H. Howgrave Graham, sec. & reg.), Staple Inn-bldgs., London, W.C.

Chemical Society, Burlington House, Piccadilly, W.

Civil & Mechanical Engineers' Society, 25, Victoria-st., London, S.W.

Electrical Fittings Manufacturers' Association, 112, Edmund-st., Birmingham.

Electrical Standardizing Testing & Training Institution, Faraday House, 62-70, Southampton-row, W.C.

Faraday Society. Lord Kelvin, president; F. S. Spiers, secretary, 82, Victoria-st., S.W.

Institute of Chemical Technology & Analytical Laboratory, Hackin's Hey, Dale-st., Liverpool.

Institute of Scientific Research, 20, Easy-row, Birmingham.

Institution of Civil Engineers, The, Great George-st., London, S.W.

Institution of Civil Engineers of Ireland, 35, Dawson-st., Dublin.

INSTITUTION OF ELECTRICAL ENGINEERS (LATE THE "SOCIETY OF TELEGRAPH ENGINEERS & ELECTRICIANS," G. C. Lloyd, Sec.), 92, VICTORIA-ST., LONDON, S.W.

Institution of Engineers & Shipbuilders in Scotland, 207, Bath-st., Glasgow.

Institution of Heating & Ventilating Engineers, 99, Fonthill-rd., Finsbury Park, N.

Institution of Mechanical Engineers, Storeys' Gate, St. James' Park, Westminster, S.W.

Institution of Mining Engineers, Neville Hall, Westgate-rd., Newcastle-on-Tyne.

Institution of Mining & Metallurgy, Salisbury House, E.C.

Iron & Steel Institute, 28, Victoria-st., London, S.W.

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JUNIOR INSTITUTION OF ENGINEERS, INCORPORATED (Founded 1884), 39, Victoria-st., London, S.W. (Telephone No. 912, Central.)

Liverpool Engineering Society (R. C. F. Annett, hon. sec.), Royal Institution, Colquitt-street, Liverpool.

Liverpool University Physical Society, Liverpool.

Manchester Association of Engineers, Manchester.

Manchester Section of the Institution of Electrical Engineers. Hon. secretary, H. W. Wilson, 19, Brasenose-st., Manchester.

Midland Counties Institution of Engineers. Secretary, G. A. Lewis, M.A., Albert-st., Derby.

North of England Institute of Mining & Mechanical Engineers (J. H. Merivale, president; M. Walton Brown, secretary), Newcastle-upon-Tyne.

Northampton Institute Engineering Society, Northampton Institute, St. John-st., Clerkenwell, E.C.

Nottingham Guild of Mechanical & Electrical Engineers. Secretary, F. A. W. Taylor, 2, Ashforth-st., Nottingham.

Physical Society of Glasgow University. *See* ALPHABETICAL SECTION.

Physical Society of London, Royal College of Science, South Kensington, London, S.W.

Röntgen Society, C. V. Boys, F.R.S., president; F. H. Low, hon. secretary, 2, Henrietta-st., Cavendish-sq., London, W.

Royal Astronomical Society, Burlington House, Piccadilly, London, W.

Royal Engineers Institute, Chatham.

Royal Geographical Society, 1, Savile-row, Burlington-gardens, London, W.

Royal Institution of Great Britain, 21, Albemarle-street, London, W.

Royal Meteorological Society, 70, Victoria-st., Westminster, London, S.W.

Royal Microscopical Society, 20, Hanover-square, London, W.C.

Royal Physical Society, India-bldgs., Edinburgh.

Royal Society, Burlington House, Piccadilly, W.

Royal Statistical Society, 9, Adelphi-terrace, Strand, London, W.C.

Society of Arts, 18 & 19, John-st., Adelphi, London, W.C.

Society of Chemical Industry, Palace-chbrs., 9, Bridge-st., Westminster, London, S.W.

Society of Engineers, 17, Victoria-st., London, S.W.

Society of Model Engineers, 37, Minard-rd., Hither Green, S.E.

WHOLESALE TRADERS' ASSOCIATION, THE, for (the protection & promotion of) the HARDWARE, FURNISHING & METAL INDUSTRIES, LTD. (Electrical Trades Section), 26, Corporation-st., Birmingham; 3, Barbican, London, E.C.; & 3, East Parade, Sheffield.

Societies & Associations—Commercial & Social.

Association of Engineers-in-charge, St. Bride's Foundation Institute, Bride-lane, E.C. Hon. sec., Hy. Capsey, 112, Melbourne-grove, East Dulwich, S.E.

Belfast Engineering Employers' Association. Sec., J. Hind, jun., 8, Ulster-chbrs., Belfast.

Birmingham Association of Mechanical Engineers. Sec., L. O'Brien, 31, Palmerston-rd., Sparkbrook, Birmingham.

British Electrical Friendly Society, Donington House, Norfolk-st., W.C.

British Electrical Superannuation Fund, Donington House, Norfolk-st., W.C.

Central Technical College Old Students' Association. Hon. sec., Dr. E. Frankland Armstrong, 55, Granville Park, Lewisham, S.E.

Electrical Contractors' Association, Incorp. Head office: 20, Bucklersbury, London, E.C. Hon. sec., L. G. Tate.

Electrical Wiremen's Association, 79, Hubert-grove, Clapham, S.W.

Faraday House Old Student's Association, Faraday House, Southampton-row, W.C.

Incorporated Association of Municipal & County Engineers, 11, Victoria-st., S.W.

Incorporated Municipal Electrical Association. Secretary, C. McArthur Butler, Staple Inn-bldgs. (South), Holborn, London, W.C.

Machinery Users Association (Incorp.), 22 & 23, Laurence Pountney-lane, Cannon-st., London, E.C.

National Electrical Manufacturers' Association (Incorp.), 2, Queen Anne's Gate, Westminster, London, S.W.

North-East Coast Institution of Engineers & Shipbuilders, 4, St. Nicholas'-buildings-west, Newcastle-on-Tyne.

P. & O. Batti-Wallahs' Society, 20, Bucklersbury, E.C.

Solder Manufacturers & Merchants.

F.—Soudure—Fab. et Marchands de.
G.—Löth-blei—Fab. & Händler von.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegrams: "Metalcibles, London." Telephone No. 993, Hop.) City office: 53, Gracechurch-st. (Telegrams: "Soldeerpan, London." Telephone No. 1572, Avenue.) Birmingham office: Guildhall-bldgs., Navigation-st. (Telegrams: "Metalcibles, Birmingham." Telephone No. 4604, Central.)

Beanland, Perkin & Co. (Flux), School Close Works, Neville-st., Leeds.

Bolton, Thomas, & Sons, Ltd. (manufacturers), Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Solder Manufacturers & Merchants—
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Chew, James, & Co., Brookhouse Brass & Copper Works, & Albion Works, Blackburn. (Telegs.: "Chew, Blackburn." Teleph. No. 163.)

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Hughes, John & Joseph, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)

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Moeller & Condrup, Ltd., 78, Fore-st., London, E.C.

Solenoid Motor Starters.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Specialities Makers—Electrical.

F.—Spécialités électriques—Fab. de.
G.—Elektrische Specialitäten—Fab.

Apps, A., 433, Strand, London, W.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

British Ever Ready Electrical Co., Ltd., Ever-Ready Works, Emerald-st., Theobald's-rd., W.C.

Buck & Hickman, Ltd., 2 & 4, Whitechapel-rd., London, E.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester (PATENT PORCELAIN SPECIALITIES); & 194, Charing Cross-rd., London, W.C. (Telegs.: "Current, Manchester;" "Prefix, London." Teleph. Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Specialities Makers—Electrical—
continued.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Light Electric Motor Co., Ltd., Seven Kings Electric Works, Ilford, Essex.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

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MOSSES & MITCHELL, 68, 69, 70 & 71, Chiswell-st., London, E.C. Vulcanized Fibre & the Blake insulating staples. *See advt., page* 723.

Robertson & Co., 95, Bath-st., Glasgow.

Stiff, James, & Sons, London Pottery, Lambeth, London, S.E. (Telegs.: "Stiff, London." Teleph. No. 627, Hop.) *See advt., page* 10.

TAYLOR, TUNNICLIFF & CO., LTD. (China), Eastwood, Hanley. London agent: C. M. Bradley, 23, Holborn Viaduct, E.C. (Telegrams: "Eastwood, Hanley.") *See advt., page* 17.

Terrey, C. A., 114, Lambeth-rd., London, S.E.

WALSALL ELECTRICAL CO., LTD., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Speed Indicator Makers.

F.—Indicateurs de Vitesse—Fab. de.
G.—Tachometer Fabr.

Anderson, Frank L. City office: 1, Furnival-st., London, E.C.

Apps, A., 433, Strand, London, W.C.

Carlaw, David, & Sons, 11, Finnieston-st., Glasgow.

Cowey Engineering Co., Ltd., Kew Gardens Rly. Station, S.W.

Speed Indicator Makers—*continued.*

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Dobbie, McInnes, Ltd., 45, Bothwell-st., Glasgow; & 113, Fenchurch-st., London, E.C.

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 633.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Harding, Richardson, Rhodes & Co., Ltd., Tower Works, Leeds.

Hendry Bros., 28–32, Robertson-st., Glasgow.

King, Arthur, Pinxton, Alfreton.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Spelter Manufacturers.

F.—Zinc—Fab. de.

G.—Zink—Fab. von.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegrams: "Metalcibles, London." Telephone No. 993, Hop.) City office: 53, Gracechurch-st. (Telegrams: "Soldeerpan, London." Telephone No. 1572, Avenue.) Birmingham office: Guildhall-bldgs., Navigation-st. (Telegrams: "Metalcibles, Birmingham." Telephone No. 4604, Central.)

BENNETT, WALTER, 60, Gracechurch-street, London, E.C. (Telegrams: "Benefit, London." P.O. Telephone No. 770, Central.)

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352 to 364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

Chew, James, & Co., Brookhouse Brass & Copper Works, & Albion Works, Blackburn. (Telegrams: "Chew, Blackburn." Teleph. No. 163.)

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

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F.—Ressorts pour boutons de sonneries—Fab. de.

G.—Federn für Druckknöpfe—Fab. von.

Harris, A. E., & Co., 95, Camden-st., Birmingham

Sterne, L., & Co., Ltd., Crown Iron Works, Glasgow.

Springs—General.

F.—Ressorts—en général.

G.—Federn im allgemeinen.

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F.—Étampes.

G.—Stampfer.

Armstrong, Stevens & Son, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

CROSIER, STEPHENS & CO., 2, Collingwood-st., Newcastle-on-Tyne. (Telegrams: "Cromil, Newcastle-on-Tyne." Nat. Telephone No. 1461.) Stamped eyebolts, double eyes, levers, spanners, box spanners, &c.

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Jenks, A. E., & Cattell, Heath Town, Wolverhampton.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. No. 83, Handsworth.)

Kirlew Bros., Ltd., 215, Pentonville-rd., London, N.

Tomkins, W. A., 132, De Beauvoir-rd., Kingsland, London, N.

Vaughton Bros., Livery-st., Birmingham.

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F.—Tôles découpées pour armatures, transformateurs, &c.

G.—Stanzen für Armaturen, Transformatoren, &c.

Aldred & Bevan, Cheadle, Manchester.

Armstrong, Stevens & Son, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

Evans, J. W., 54 & 55, Albion-st., Birmingham.

JENKS, A. E., & CATTELL, Heath Town, Wolverhampton. (Telegrams: "Washers, Wolverhampton." Telephone No. 104.) Discs, Tips, Pole-pieces & Washers a speciality.

Melling, J., 9, New Broad-st., London, E.C.

Roy, A. W., 151, Shields-rd., Heaton, Newcastle-on-Tyne.

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SANKEY, JOSEPH, & SONS, LTD. (R. Jenkins, agent), 88, Bishopsgate-st. Within, London, E.C. (Telegrams: "Permeable, London." Telephone No. 8205, Central.)

Turner Bros., 134, Upper Thames-st., London, E.C. (Telegrams: "Sheetiron, London." P.O. Telephone No. 355, Central.)

Valor Co., Ltd., Rocky-lane, Aston, Birmingham.

Webb, C., & Son, Ltd., 80, William-st., Lozells, Birmingham.

Steam Engine & Boiler Fittings Manufacturers.

(*See* BOILER & STEAM ENGINE FITTINGS MFRS.)

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F.—Manomètres—Fab. de.

G.—Manometer—Fabr.

Dobbie, McInnes, Ltd., 45, Bothwell-st., Glasgow. (Telegrams: "Compass, Glasgow." Nat. Telephone No. 1545, Argyle.) London office: 113, Fenchurch-st., E.C.

Salter, G., & Co., 101, Leadenhall-st., London, E.C. Works: West Bromwich.

Stewart, C. & A., 14, Victoria-st., Glasgow.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Steam Packing Manufacturers.

F.—Garnitures de joints de machines à vapeur—fab. de.

G.—Liederungsdeckel-Fabrikanten.

ATTWATER & SONS, HOPWOOD-ST. MILL, PRESTON. (TELEGRAMS: "ATTWATER, PRESTON." NAT. TELEPHONE NO. 45.)

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Combination Metallic Packing Co., Ltd., Hillgate, Gateshead-on-Tyne.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C. CANVAS CORE, ANTI-FRICTION & CARBONATED PACKINGS.

Frictionless Engine Packing Co., Ltd., Hendham Vale Works, Harpurhey, Manchester.

Haines & Co., 33, Minories, London, E.C.

Haughton's Patent Metallic Packing Co., 6, Lombard-ct., London, E.C.

Steam Packing Manufacturers—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Sutcliffe Bros., Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

United States Metallic Packing Co., Ltd., Soho Works, Thornton-road, Bradford.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.), (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Wheeler, E. H., & Co., 8 & 9, South Parade, Deansgate, Manchester; & Lloyd's-ave. House, London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Steam Separators.

Holden & Brooke, Ltd., Sirius Works, 47, Heywood-st., West Gorton, Manchester (Telegrams: "Influx, Manchester." Telephone No. 3663); & 110, Cannon-st., London, E.C.

Steam Traps.

Holden & Brooke, Ltd., Sirius Works, 47, Heywood-st., West Gorton, Manchester (Telegrams: "Influx, Manchester." Telephone No. 6363); & 110, Cannon-st., London, E.C.

Steel Armoured Cables.

F.—Cables armé d'acier.

G.—Stahl gepanzerte Kabel.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

Steel Armoured Cables—*continued.*

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Steel Castings—Makers of.

Beesley, W. T., & Co., Ltd., Attercliffe-rd., & Effingham-st., Sheffield.

Jessop, Wm., & Sons, Ltd., Brightside Works, Sheffield; & 54, Cannon-st., London, E.C.

Manchester Steel Castings Co., Trafford Park, Manchester.

Steel Chimneys.

Piggott, T., & Co., Ltd., 63, Queen Victoria-st., London, E.C.

Steel Forged Shafts & Shaftings.

F.—Arbres de Transmissions en acier forgé.

G.—Stahl Wellen—geschmiedete.

Clark, Hunt & Co., Ltd., 159, 160, High-st., Shoreditch, London, E.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Turner Brothers, 134, Upper Thames-st., London, E.C. (Telegrams: "Sheetiron, London." P.O. Telephone No. 355, Central.)

Steel for Magnets.

F.—Acier pour Aimants.

G.—Stahl für Magnete.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; 52, Queen Victoria-st., London, E.C.

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Hickman, Alfred, Ltd. (R. Jenkins, agent), 88, Bishopsgate-st. Within, London, E.C. (Telegrams: "Permeable, London." Telephone No. 8205, Central.)

Steel for Magnets—*continued.*

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., E.C.

Steel Manufacturers, Converters & Refiners.

F.—Fab., Convertisseurs et Raffineurs (Acier).

G.—Stahl—Umförmer, Fab. u. Läuterer.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; London, 52, Queen Victoria-st., E.C.

Eadon, Moses, & Sons, President Works, Sheffield; & 204, Bethnal Green-rd., London, N.E.

Ibbotson Brothers & Co., Ltd., 7, Victoria-st., S.W.; & Globe Steel Works, Sheffield.

Lancashire Steel Co., Ltd., Motherwell, N.B.

Lee, Arthur, & Sons, Ltd., Crown Steel & Wire Mills, Sheffield.

Meadows, C., & Co., Ltd., Sheffield.

Steel Surfacers.

F.—Acier—polisseurs d'.

G.—Stahlpolirer.

Cattell, S. A., & Son, 1, Dorset-bldgs., Salisbury-sq., London, E.C.

Steeplejacks.

Tosh, D., & Son, 77, Queen-st., Glasgow. Works: 12, Houston-st., Greenock. (Telegs.: "David Tosh, Greenock." Teleph. No. 256.)

Stoker Makers—Mechanical.

F.—Tiseurs mécaniques—Fab. de.

G.—Mechanische Schürer—Fabr. von.

Henderson, Thomas, 6, Trueman-st., Liverpool.

Hodgkinson, James (Salford), Ltd., Ford-lane Works, Pendleton, Manchester.

Underfeed Stoker Co., Ltd., Coventry House, South-pl., E.C.

Union Ironworks Co., Ltd., Ryecroft-st., Ashton-under-Lyne.

Vicars, T. & T., Earlestown, Lancs.; & 20, Bucklersbury, London, E.C.

Storage Battery Analysts.

Commercial Electro-Chemical Analysis Co., Ltd., 15, Queen-st., Cheapside, London, E.C. *See advt., page* 15.

Storage Battery Experts.

Commercial Electro-Chemical Analysis Co., Ltd., 15, Queen-st., Cheapside, London, E.C. *See advt., page* 15.

Street Light Fittings.

IMPROVED ELECTRIC SUPPLIES CO., LTD., 7, Great Newport-st., St. Martin's-lane, W.C.

OLIVER & CO., LTD., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Submarine Cables—Makers of.

F.—Cables sousmarins—Fab. de.

G.—Ueberseeische Kabel—Fab. von.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 431.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Western Electric Co., 171, Queen Victoria-st., E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Sulphate of Alumina Manufacturers.

F.—Sulfate d'Alumine.

G.—Schwefelsaure Thonerde.

Pochin, H. D., & Co., Ltd., Willington-quay, Newcastle.

Sulphate of Ammonia Manufacturers.

F.—Sulfate d'Ammoniaque—Fab. de.

G.—Schwefelsäures Ammonium.

Sharon Chemical Co., Ltd., Little Chester, Derby.

Sulphate of Copper Manufacturers.

F.—Sulfate de Cuivre—Fab. de.

G.—Kupfervitriol.

Chapman, Spencer, & Messel, Ltd., 36, Mark-lane, E.C.; & Silvertown, E.

Dennis, James H., & Co., Ltd., Widnes, Lancs.

HUES, GEORGE J., & CO., LTD., Widnes. (Telegrams: "Hues, Widnes.")

Liverpool Silver & Copper Co., Widnes; & Liverpool.

McKechnie Bros., Widnes.

Sulphuric & Sulphurous Acid Manufacturers.

F.—Acide sulfurique—Fab. d'.

G.—Schwefelsäure.

BERK, F. W., & CO., LTD., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, E. (Telegs.: "Berk, London." A.B.C. Code. Teleph. No. 4013, Avenue.) Sole manufacturers of BAA., especially prepared Acid for Accumulators & Batteries. *See advt., page* 389.

Boake, A., Roberts & Co., Ltd., Stratford, London, E.

Chapman Spencer, & Messel, Ltd., 36, Mark-lane, E.C.; & Silvertown, London, E.

GRIFFITHS BROS. & CO., Bermondsey, London, S.E. Sole manufacturers of "Anti-Sulphuric" Enamel, for lining batteries & coating any material subject to the action of acid fumes, spray, &c. *See advt., page* 18.

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Nicholson, J., & Sons, Ltd., Hunslet, Leeds.

Sharon Chemical Co., Ltd., Little Chester, Derby.

West Ham Chemical Works (W. C. Bacon & Co.), 14, Mincing-lane, E.C.

Sundriesmen—Electrical.

F.—Appareils divers électr.—Fab. de.

G.—Sortiments Geschüfte—Electr.

Apps, A., 433, Strand, London, W.C.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Burns, David, & Co., 18, Lowther-st., Whitehaven.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Sundriesmen—Electrical—*continued.*

Caplatzi, T. D., 18, Radipole-rd., Fulham, S.W.

Croager Bros., Link-st. Works, Homerton, London, N.E.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Electrical Sundries Manufacturing Co., The, 84, Ashton Old-rd., Manchester.

Evans, Ed. A., Willows-rd., Birmingham.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Hayesmoore Co., The, 56, Beechdale-rd., Brixton Hill, London, S.W.

Headworth, H. H., 79, Upper North-st., London, E.

Huddleston, P., & Co., 72, Finsbury Pavement, E.C.; & Electric Auction Sale Rooms, Dalling-rd., Hammersmith.

LITTAUER, JAMES. Offices: 72, Finsbury Pavement, E.C. Stores: 4, Cross-st., Finsbury, E.C. SPECIALITIES: CABLES & WIRES, PURE RUBBER & VULCANIZED FLEXIBLE CORDS, WOOD BLOCKS, FANS, MOTORS, RESISTANCES, AMMETERS, VOLTMETERS & TESTING INSTRUMENTS. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD EKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

Nolan & Rowell, 503, Cambridge-rd., Hackney, E.

Reynolds & Wadsworth, Market Hill, Barnsley.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low voltage lamps, high voltage lamps, fancy & battery lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 603.

Ruston, F. T., & Son, St. Ives, Hunts.

Sundriesmen—Electrical—*continued.*

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Symes & Co., Ltd., 14, Hardmann-st., Liverpool.

Universal Electric Supply Co., 60, Brook-st., C.-on-M., Manchester.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Specialities in Ebonite or Vulcanite.) (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts., pages* 478 *&* 722.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

Whitney, E., 117, City-rd., London, E.C.

Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Superheaters—Makers of.

Burnet, Lindsay, & Co., Moore Park Boiler Works & Burnet's Siding (goods), Govan, Glasgow.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.

Supplies (Electrical)—Dealers in.

F.—Fournitures électr.—March. de.
G.—Bedarfsartikel Elektr.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Barnes, E., 15, Charterhouse-st., Holborn Circus, E.C.

Bartlett, E. A., 7, High-st., Leamington.

Baxendale Bros., 96, Whitechapel, Liverpool.

Bell Bros. & Co. (London), Ltd., 72, Bishopsgate-st. Within, London, E.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Supplies (Electrical)—Dealers in—*contd.*

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Byrt, A., jun., 47, High-st., Shepton Mallet, Somerset.

Cars, B., 124–130, Tabernacle-st., Finsbury, London, E.C.

Central Electric Co., 26 & 28, Queen-st., Albert-sq., Manchester.

City Importing Co., 53, Curtain-rd., London, E.C.

Civil Service Supply Association, Ltd., 138, Queen Victoria-st., E.C.; & Bedford & Chandos-sts., Strand, W.C.

Clark, Hunt & Co., Ltd., 159, 160, High-st., Shoreditch, London, E.

Cleave, W. H. R., 6, Bristol Bridge, Bristol.

DAVIES, KENT & STEWART, LTD., 17, Berners-st., Oxford-st., W. (Telegs.: "Polarizing, London." Teleph. No. 6150, Gerrard.)

Donovan & Co., 12, Barwick-st., Birmingham.

Down, Fred J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Dublin Electrical Supply Stores, 41, Fleet-st., Dublin.

Electric Supply Stores, 77, Fore-st., London, E.C.

Empire Electrical Co., Muscovy House, Trinity-sq., London, E.C.

Fletcher & Phillipson, 10, Lower Baggot-st., Dublin.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Hawkins, Alex., 125–128, London-rd., London, S.E. (Telegrams: "Alexander Hawkins, London." Telephone No. 1202, Hop.)

Hodkinson, R., 19, South John-st., Liverpool.

Huddleston, P., & Co., 72, Finsbury Pavement, E.C.; & at Electric Auction Sale Rooms, Dalling-rd., Hammersmith.

Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Johnston, G., & Co., 110, Cannon-st., London, E.C.

Kay, H., 15A, Watling-st., Manchester.

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

London Import Co., 10, South-st., Finsbury, E.C.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REG° LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Supplies (Electrical)—Dealers in—*contd.*

Mellis, Wyllie, 47, Oswald-st., Glasgow.

Morrison, W. G., & Co., 59, St. Vincent-st., Glasgow.

Nicholls & Clarke, Ltd., High-st., Shoreditch, E.

Nicholls, T., & Son, 258, Kingsland-rd., N.E.

Pickering & Co., 95, 99 & 101, Broughton-st., Edinburgh.

POPE'S ELECTRIC LAMP CO. Works: Hythe-rd., Willesden, N.W. (Teleph. No. 70, Harlesden); 5, Arthur-st., Oxford-st., W. (Teleph. No. 3000, Gerrard); & at Liverpool & Glasgow. *See advt., page* 602.

Rands, Robson & Co., Dacre House, Victoria-st, S.W.

REEDS ELECTRICAL CO., 128, Southwark-st., London, S.E. (Telegrams: "Rigoletto, London." Telephone No. 1304, Hop.)

ROBERTS, ERNEST, 6, Holborn-pl., London, W.C. (Telegrams: "Roborant, London." Telephone No. 1642, Holborn.)

Roy, A. W., 151, Shields-rd., Heaton, Newcastle-on-Tyne.

Smith, A. F., 58–68, Duncan-rd., Gillingham, Kent.

Spir, A., 416, Ecclesall-rd., Sheffield.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

Stone, T. J., & Co., 20, High-st., Marylebone, W.

Suter, T. W., 107, The Parade, Bruce Grove, Tottenham, N.

Tyneside Supply Co., 1, St. Nicholas-bldgs., Newcastle-on-Tyne.

Vaughan & Marriott, 32 & 34, St. George's-rd., Southwark, S.E.

Verey, A., & Co., Dover.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

White, Wm., & Co., 3, Budge-row, Cannon-st., E.C.

Wilson & Briggs, 3, Town Hall-bldgs., Brighouse, Yorks.

Yuille, Wm. C., & Co., 60, Brown-st., Glasgow.

Supplies (Electrical)—Makers of.

F.—Fournitures électriques—Fab. de.
G.—Bedarfsartikel—Electrische—Fabr.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.

ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; 114, Warrington.)

Baxendale & Co. (& merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Supplies (Electrical)—Makers of—*contd.*

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

CROGGON & CO., LTD. (makers), 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegs.: "Current, Manchester;" "Prefix, London." Teleph. Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) *See advt., page* 386.

KNOWLES, C. S., 7, Victoria-st., London, S.W. (Telegs.: "Sevenarch, London.")

LUNDBERG, A. P., & SONS, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N.

REGD EKTRIK TRADE MARK

Inventors, patentees & manufacturers of Lundbergs' electric light accessories. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

Supplies (Electrical)—Makers of—*contd.*

MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

Peschek, J., 44, Wellington-rd., Old Charlton, S.E. Works: West-st., Charlton, S.E. (Telephone No. 222, Woolwich.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SIMPLEX CONDUITS, LTD., THE. Head office: 8, Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; & at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; 165A, West George-st., Glasgow; & 11, Queen Victoria-st., London, E.C.

See advts., pages 445 & 446.

Slater, W. H., & Co., Eagle Works, 52, Blackstock-rd., London, N.

Starkey, T. H., Rosebery-bldgs., 83, John Bright-st., Birmingham.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

THOMAS, BERTRAM, Cornbrook Telegraph Works, Worsley-st., Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) All sizes main & other switchboards.

TUCKER, J. H., & CO., Sampson-rd. North, Birmingham. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Ward & Goldstone, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

Watson, A., & Co., Edward-st. Parade, Birmingham.

William, H., & Co., Pembroke Works, Pembroke-sq., W.

Supplies for Cable Ships & Stations.

F.—Bateaux pour mise de câbles et stations—Fournitures pour.

G.—Schiffe zum Kabellegen—Materialien für.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

"Surprise" Pendants for Electric Light.

Best & Lloyd, Ltd., Cambray Works, Handsworth, Birmingham. Show-rooms: London, 11, Bartlett's-bldgs., Holborn Circus, E.C.; Paris, 23, rue d'Hauteville.

Swedish Charcoal Iron.

Turner Bros., 134, Upper Thames-st., London, E.C. All sizes, flats, rounds & squares in stock.

Switch Board Handles & Bushes.

HUNT & HESS, manufacturers of Litholite, The Grove, Hackney, London, N.E. (Telegrams: "Ferrules, London." Telephone No. 1492, North.) *See advt., page* 613.

Switch Manufacturers—Electric.

(*See also* CUT-OUTS.)

F.—Commutateurs élec.—Fab. de.

G.—Schalter—Fabr.—Elektrische.

ADAMS MANUFACTURING CO., LTD., THE, 147, Queen Victoria-st., London, E.C.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. No. 7123, Central.)

Apps, A., 433, Strand, London, W.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Switch Manufacturers—Electric—*contd.*

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Bullers, Ltd. (porcelain). London office: 3, Laurence Poutney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

CALDERBANK, H. W., 78, King-st., Manchester. (Telephone No. 08610.)

"Cantie" Switch Manufacturing Co., 69, Mount-st., Nottingham.

DEWHURST, ED., Mount-st. Electrical Works, Preston.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. PATENT PORCELAIN SWITCHES, FUSES, LAMP-HOLDERS, &c. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

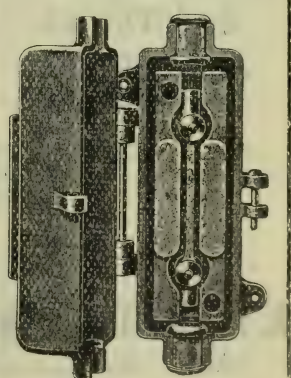
DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

DUGDILL, JOHN, & CO. (combined in fittings), Failsworth, nr. Manchester.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney-lane, E.C. (Telegrams: "Fullmage, London." Telephone No. 3186, London Wall.) Starting, regulating, reversing. *See advt., page* 471.

IRONCLAD SWITCHES & FUSEBOXES.
SWITCHBOARDS.
AUTOMATIC CIRCUIT BREAKERS.
MORDEY PATENT FUSES.
MOVING COIL MEASURING INSTRUMENTS.
RHEOSTATS. MOTOR STARTERS.
RESISTANCES.
SCREWS, NUTS, BOLTS & TURNED PARTS.
STAMPINGS & PRESS TOOLS.
ERNEST F. MOY, Ltd.,
GREENLAND PLACE, CAMDEN TOWN,
LONDON, N.W.



Switch Manufacturers—Electric—*contd.*

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) *See advt., page* 386.

Hare, H., & Co. (panel), Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 683.

Hart Manufacturing Co., 25, Victoria-st., London, S.W.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

HOLLAND HOUSE ELECTRICAL CO., LTD., 9, HOLLAND-PL., & 121A, St. Vincent-st., GLASGOW. (Telegs.: "Electrical, Glasgow." Teleph. Nos.: Nat., 167; Corp., 2190.)

Switch Manufacturers—Electric—*contd.*

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-square, London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

INTERNATIONAL ELECTRICAL ENGINEERING CO., Clun House, Surrey-st., Strand, W.C.

ISHERWOOD, W. H., & CO., Carlton Mills, Leeds.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegrams: "Lampaient, London." Telephone No. 5026, Gerrard.) *See advt., page* 589.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

LUNDBERGS'

ELECTRIC LIGHT ACCESSORIES

Nearly 30 years' experience in design and manufacture. **SIX MEDALS AWARDED.**

INVENTORS, PATENTEES, AND MANUFACTURERS OF THE

"DOT" and "UNIVERSAL" H.V. WALL CONNECTIONS, "IMPROVED PIONEER," "PIVOT," "DUPLEX," & "PRESTO" SWITCHES, and OTHER SPECIALITIES.

ORIGINAL DESIGNS IN SWITCH & FUSE BOARDS; WALL, FLOOR, TABLE OR CARPET CONNECTIONS; CUT-OUTS, CEILING ROSES, ADAPTERS TWIN WALL CONNECTIONS, &c.

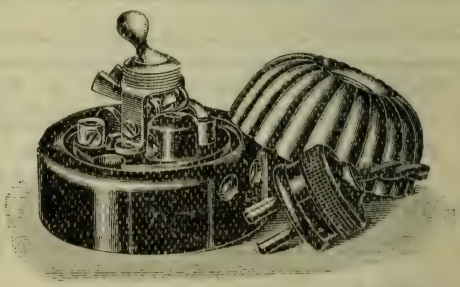
SPECIAL WORK UNDERTAKEN FOR CONSULTING ENGINEERS, ARCHITECTS AND THE TRADE.

BRANCH SWITCHES AND OTHER FITTINGS FOR HIGH VOLTAGE CIRCUITS WATERTIGHT & WORKSHOP SWITCHES & CONNECTIONS.

THE HALL MARK FOR ELECTRICAL ACCESSORIES.

BY ROYAL WARRANT

TO H.M. THE KING.



"PIVOT COMBINATION" for "DOT" & "UNIVERSAL" Gauges of 2 Pin Plugs. Arranged for Various Adaptations.

A. P. LUNDBERG & SONS,

Telegrams: "LUNDBERG, LONDON."
Telephone No. 1746, NORTH.

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

PIONEER ELECTRICAL WORKS,
477 TO 487, LIVERPOOL ROAD, LONDON, N.

Switch Manufacturers—Electric—*contd.*

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., N.W. (Telegrams: "Filosofone, London." Telephone No. 441, North.) Show-room: St. Andrews Mansions, 15, Newman-st., London, W. (Telephone No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Lumly, C. M., & Co., 6, Castle-st., Kingsland, N.

LUNDBERG, A. P., & SONS, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. Inventors, patentees & manufacturers of Lundbergs' electric light switches. Latest specialities: The "Pivot" & "Duplex." *See also* COMBINED SWITCH & WALL SOCKET MAKERS. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advts., OPPOSITE *& on lower outside edges.*

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 388.

Mayes, A. H., Hurstpierpoint, Sussex.

Monté-Callow & Co., Ipswich. (Telegs.: "Otstuph, Ipswich." Teleph. No. 50 Y., Ipswich.) "Perfecta" Starters, Regulators & Controllers. "Emsea" Resistance Units. Main Switches & Fuses.

Moores, Martin & Co., 37, Blackfriars-st., Manchester.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

Palatine Engineering Co., 10, Blackstock-st., Liverpool.

Peschek, J., 44, Wellington-rd., Old Charlton, S.E. Works: West-st., Charlton, S.E. (Telephone No. 222, Woolwich.)

Reyrolle, A., & Co., Ltd., Hebburn-on-Tyne; 8, Howland-mews W., Fitzroy-sq., London, W.; & 61, Pollok-st., Pollokshaws, Glasgow.

Switch Manufacturers—Electric—*contd.*

ROYCE, LTD., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Nat. Teleph. No. 4831.)

SANDERS, W., & CO., Falcon Electrical Works, Wednesbury.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SIMPLEX CONDUITS., LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See inset advt., pages* 445 *&* 446.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

TUCKER, J. H., & CO., Sampson-rd. North, Birmingham. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Ward & Goldstone, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester.") Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, "RELIANCE" switch fuses, regulating switches, special switchboards, Molesworth-st., Rochdale. (Teleph. No. 52 Y.)

White, Wm., & Co., 3, Budge-row, Cannon-st., E.C.

Telegrams: "SWITCHBOARD, LONDON."

WALTHAM'S 46, York Street, Buckingham Gate, S.W.

ARTISTIC SWITCHES BELL PUSHES, &C.

Switchboards—Makers of.

F.—Tableaux—Fabr. de.

G.—Schalttafeln—Fabr.

Apps, A., 433, Strand, London, W.C.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegrams: "Rapidolite, London." Telephone Nos. 3463 & 4, Gerrard.)

Berry Bros., Birch-lane, Longsight, Manchester.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Birmingham Electrical Fittings Co., Baskerville Electrical Works, Broad-st., Birmingham.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegrams: "Asteroidal." Telephone Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Brook, Hirst & Co., Northgate Electrical Works, Victoria-rd., Chester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head offices: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

DEWHURST, ED., Mount-st. Electrical Works, Preston.

Donovan & Co., 12, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. MAIN & BRANCH SWITCH & DISTRIBUTION BOARDS. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Switchboards—Makers of—*continued.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)

Ferguson, Jas., M.I.E.E., 61, Pollok-st., Pollokshaws, Glasgow.

FOXCROFT & DUNCAN, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 *&* 633.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph Nos. 594 & 595, Hop.) *See advt., page* 24.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.) *See advt., page* 386.

HARRIS, J. F. & G. (wood blocks & boards). Offices & mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

INTERNATIONAL ELECTRICAL ENGINEERING CO., Clun House, Surrey-st., Strand, W.C.

Isherwood, W. H., & Co., Carlton Mills, Leeds.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Jones Bros., Bangor Slate Works, Semley-pl., Buckingham Palace-rd., London, S.W.

Switchboards—Makers of—*continued.*

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O., 4519, Central; Nat., 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Tel. No. 725, Westminster.)

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

Lumly, C. M., & Co., 6, Castle-st., Kingsland, London, N.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. Switches & fittings in ivory. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 694 & on lower outside edges.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); Corp. 101 & 2.)

MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Telephone No. 2414, Gerrard.) *See advt., page* 388.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Moores, Martin & Co., 37, Blackfriars-st., Manchester.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, N.W. (Telegrams: "Movedor, London.") *See advt., page* 693.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 634.

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

OFFORD & CO., 97 & 98, Woodcock-st., Birmingham. (Telegrams: "Offord, Woodcock-st., Birmingham." Telephone No. 2229.)

Partington, W. E., & Co., Farmside-pl., Levenshulme, Manchester. (Telegs.: "Partington, Levenshulme." Teleph. No. 0112, H.M.)

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; 8, Howland-mews W., Fitzroy-sq., London, W.; & 61, Pollok-st., Pollokshaws, Glasgow.

ROBERTS, ADLARD & CO. (slate), 11, Queen-st., Cheapside, London, E.C.; & 25 & 26, Bermondsey Wall, S.E.

Switchboards—Makers of—*continued.*

SANDERS, W., & CO., Falcon Electrical Works, Wednesbury.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

SIEMENS BROS. DYNAMO WORKS, LTD., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; & at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; 165A, West George-st., Glasgow; & 11, Queen Victoria-st., London, E.C. *See advts., pages* 445 & 446.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., W. *See advt., page* 30.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Taylor, T. H., 181, Queen Victoria-st., London, E.C.; & Dodsworth, Yorkshire.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

THOMAS, BERTRAM. Works: Worsley-st., Hulme, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) Switchboards, Switches & Circuit-breakers.

TUCKER, J. H., & CO., Sampson-rd. North, Birmingham. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Universal Electrical Mfg. Co., 14, Station Parade, Queen's-rd., Peckham, S.E.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, "RELIANCE" switch fuses, regulating switches & special switchboards, Molesworth-st., Rochdale. (Teleph. No. 52 Y.)

White, Wm., & Co., 3, Budge-row, Cannon-st., E.C.

WOOLNOUGH, F., St. Stephen's, Norwich.

WRIGHT & WOOD, Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. No. 499.) *See advt., page* 640.

Switchboards, Bases & Covers Manufacturers.

F.—Tableaux, bases et plateaux—Fabr. de.
G.—Schalttafeln, Brette u. Deckel—Fabr.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) *See advt., page* 617.

Switchboards, Bases & Covers Manufacturers—*continued.*

BRABY, E. & C., SLATE & MARBLE MERCHANTS; MANUFACTURERS OF SWITCHBOARDS, INSULATORS, BASES, &c., IN MARBLE PLAIN OR ENAMELLED SLATE. BANGOR WHARF, BELVEDERE ROAD, LONDON, S.E. (Telegs.: "Marble, London." Telephone No. 825, Hop.)

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

CONGDON & POWELL, Bravington-rd. Works, Harrow-rd., W. (Teleph. No. 1507, Paddington.)

Consolidated Supply Co., Ltd. Office: Northampton Park. Works: Northampton Grove, Canonbury, London, N.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. No. 2475.) *See advt., page* 682.

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 683.

HARRIS, J. F. & G. (wood blocks & boards). Office & mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

INTERNATIONAL ELECTRICAL ENGINEERING CO., Clun House, Surrey-st., Strand, W.C.

JONES, INIGO, & CO., Tudor Slate Works, Groeslon, R.S.O., N. Wales. *See advt., page* 682.

Le Carbone (formerly Lacombe & Co.). Carbon contact pieces in X & A42 qualities. Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 & 470.

Macintyre, J., & Co., Ltd., Washington China Works, Burslem. (Telegrams: "Macintyre, Burslem." Telephone No. 338, Hanley.) *See advt., page* 653.

Moore, M. & R., 64, Pentonville-rd., W.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 634.

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt., page* 683.

TAYLOR, TUNNICLIFF & CO., LTD. (china), Eastwood, Hanley. London agent: C. M. Bradley, 23, Holborn Viaduct, E.C. (Telegrams: "Eastwood, Hanley.") *See advt., page* 17.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Switchboards, Bases & Covers Manufacturers—*continued.*

WALTHAM & CO., artists in metals, 46, York-st., Buckingham Gate, S.W. (two minutes from Army & Navy Stores). (Telegrams: "Switchboard, London." Telephone No. 1103, Victoria.) *See advt., page* 695.

Table Sockets & Plugs—Makers of.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD EKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.*

Tachometers & Tachographs.

BÖVING, J. O., 72, Victoria-st., Westminster, London, S.W.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

ESCHER WYSS & CO. (agent, Jens Orten-Böving), 72, Victoria-st., Westminster, S.W.

Thomas, Geo., & Co., 72A, Deansgate, Manchester.

Tallow Merchants.

F.—Suif—Marchands de.

G.—Talg-Händler.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegrams: "Bolyanson, London." Telephone Nos. 1 & 209, Battersea. A.B.C. Code.)

ROSE, SIR W. A., & CO., 66, Upper Thames-st., London, E.C.; & Rose's Wharf, Millwall, E.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Tank & Cistern Makers.
Iron & Slate.

F.—Reservoirs en fer et ardoise—Fab. de.

G.—Behälter u. Cisternenfab—Eisen u. Schiefer.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

Tank & Cistern Makers—*continued.*

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 109, Oxford-st., W. Electrically Heated Tanks in all metals. For information regarding our manufactures, *see page* 74.

CONGDON & POWELL, Bravington-rd. Works, Harrow-rd., W. (Teleph. No. 1507, Paddington.)

FALKIRK IRON CO., 67, Upper Thames-st., London, E.C. Works: Falkirk, N.B.

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 683.

Jennings, George, Ltd., 65 & 67, Lambeth Palace-rd., London, S.E. (Telegrams: "Jennings, London." Telephone No. 680, Hop.)

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Mather, Manchester;" & "Sprinkler, London." Nat. Teleph. Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

ROBERTS, ADLARD & CO. (slate), 11, Queen-st., Cheapside, London, E.C.; & 25 & 26, Bermondsey Wall, S.E.

SAXON ENGINEERING CO., LTD., Fenton, Stoke-on-Trent. *See advt., page* 476.

Tapes—Fire-resisting.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Tapes—Insulating.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

Taping Machine Manufacturers.

F.—Machines à envelopper le fil par des rubans—Fab. de.

G.—Ueberspinnung Maschinen—Fabr. von.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Washington & Co., Ltd., Sowerby-bridge, Yorks. (Telegrams: "Washington, Sowerby-bridge.")

Tar & Pitch Manufacturers.

Catchpole, E., & Son, Plough Bridge, Rotherhithe, London, S.E.

Telegraph Agents.

F.—Agents de télégraphie.

G.—Telegraphen-Agenten.

Comtelburo, Ltd., 11, Tokenhouse-yard, London, E.C.

Howell, W. W., representative in England of the Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange, 2, Mincing-lane, E.C.; & 24, Hop Exchange, S.E.

Nielsen, F. C. C., Great Northern Telegraph Co., Ltd., 3, St. Helen's-pl., Bishopsgate-st.-within, London, E.C.

Press Association, Ltd., 14, New Bridge-st., E.C.

Telegraph Apparatus Makers.

F.—Télégraphes—Fab. d'appareils de.

G.—Telegr. Apparate—Fab.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGRAMS: "STANDARD.")

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Le Carbone (formerly Lacombe & Co.) (CARBONS & BATTERIES FOR). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *& 470.*

Lodge-Muirhead Wireless & General Telegraphy Synd., Ltd., 12, Carteret-st., Queen Anne's Gate, London, S.W.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." P.O. Teleph. No. 12367, Central.)

Muirhead & Co., Ltd., Elmers-End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 609.

Nussbaum, G. A., C.E. (agent for the Société Industrielle des Téléphones, late La Société Générale des Téléphones, manufacturers & contractors for telephonic & telegraphic appliances), contractor to the War Office, Woolwich Arsenal, N. T. Co., Ltd., &c., 29, Ludgate Hill, London, E.C.

Phœnix Bolt & Nut Co., Handsworth, Birmingham.

Telegraph Apparatus Makers—*continued.*

Plutte, Schcele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Reid Bros., 12, Wharf-rd., N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 567.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Telegraph & Cable Companies.

F.—Télégraphes et Cables—Compagnies de.
G.—Telegr. u. Kabel-Gesellschaften.

African Direct Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, H. E. Plank; managing director, the Hon. A. G. Brodrick.

African Trans-Continental Telegraph Co., Ltd., 2, London Wall-bldgs., London, E.C. Acting secretary, D. E. Brodie.

Amazon Telegraph Co., Ltd., Moorgate Station-chbrs., London, E.C. Secretary, Edmund Petley, F.C.I.S.; general manager & engineer, F. E. Nosworthy.

Anglo-American Telegraph Co., Ltd. General office: 26, Old Broad-st., London, E.C. Secretary, T. H. Wells; manager, J. H. Carson.

Black Sea Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Managing director, Sir J. Denison-Pender, K.C.M.G.; secretary, A. R. Hardie.

Commercial Cable Co. General offices: 55 & 56, Bishopsgate-st. Within, London, E.C. Secretary, Albert Beck; electrician, Chas. Cuttriss, New York; consulting electrician, John Gott, London; manager in England, Fred Ward. For other addresses, *see* ALPHABETICAL ENTRY.

Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange, London, E.C.

Cuba Submarine Telegraph Co., Ltd., 58, Old Broad-st., London, E.C. Secretary, Jas. Scott.

Direct Spanish Telegraph Co., Ltd., 66, Electra House, Finsbury Pavement, London, E.C. Secretary, F. T. Preddle; electrician, Walter Judd.

Direct United States Cable Co., Ltd. General offices: 50, Old Broad-st., London, E.C. General manager & secretary, T. Finnis; consulting electricians, Clarke, Forde & Taylor.

Direct West India Cable Co., Ltd., 33, Old Broad-st., London, E.C. Secretary, O. Rochs; general manager, J. Rippon.

Eastern Extension Australasia & China Telegraph Co., Ltd., Electra House, Moorgate, London, E.C. Secretary & manager, F. E. Hesse.

Eastern & South African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Managing director, Sir J. Denison-Pender, K.C.M.G.

Telegraph & Cable Companies—*continued.*

Eastern Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Managing director, Sir J. Denison-Pender, K.C.M.G.

Europe & Azores Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, Geo. R. Neilson; electrician-in-chief, Walter Judd.

Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, London, E.C. Managing director, Wilfred King; electrical engineer, Fredk. Higgins.

Globe Telegraph & Trust Co., Ltd., Electra House, Finsbury Pavement, E.C. Secretary, Sidney Collett.

Great Northern Telegraph Co., Ltd., The, of Copenhagen, 3, St. Helen's-pl., Bishopsgate, E.C. Managing director, Commodore E. Suenson, D.R.N.; London representative, F. C. C. Nielsen.

Halifax & Bermudas Cable Co., Ltd., 33, Old Broad-st., London, E.C. Secretary, O. Rochs; general manager, J. Rippon.

Indo-European Telegraph Co., Ltd., 18, Old Broad-st.; 6 & 8, Lime-st.-sq.; & 10 & 11, Mincing-lane, London, E.C. Secretary, John I. Bethell; managing director, T. W. Stratford Andrews.

London Platino-Brazilian Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C. Secretary, E. Steer Hodson.

Marconi International Marine Communication Co., Ltd., 18, Finch-lane, London, E.C. Secretary, H. W. Allen, F.C.I.S.

Marconi's Wireless Telegraph Co., Ltd., 18, Finch-lane, Threadneedle-st., London, E.C. Secretary, H. W. Allen, F.C.I.S.

P. Q. Cable Co., 24, Royal Exchange; 2, Mincing-lane; 5, New Bridge-st.; The Baltic & Shipping Exchange; & 24, Hop Exchange, E.C.

Pacific & European Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, F. L. Robinson.

Reuter's Telegram Co., Ltd., 24, Old Jewry, London, E.C. Secretary, W. F. Bradshaw.

River Plate Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.; & 142, St. Vincent-st., Glasgow. Secretary, E. Steer Hodson.

South American Cable Co., Ltd. Offices: 106, Cannon-st., London, E.C. Secretary, J. Jeffery.

Spanish National Submarine Telegraph Co., Ltd., 98, Cannon-st., London, E.C. Secretary, E. March Webb, M.I.E.E.

Submarine Cables Trust, Electra House, Finsbury Pavement, E.C. Secretary, Sidney Collett.

West African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, Jno. Cambrook; managing director, Sir J. Denison-Pender, Bart., K.C.M.G.

West Coast of America Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, F. L. Robinson.

Telegraph & Cable Companies—*continued.*

West India & Panama Telegraph Co., Ltd., Dashwood House, 9, New Broad-st., London, E.C. Secretary & manager, R. T. Brown.

Western Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, E. Steer Hodson.

Western Union Telegraph Co., 21, Royal Exchange, London, E.C. (Telegrams: "Western Union, London;" & "Unpack." Telephone No. 41, Avenue); & Liverpool; Bristol; Bradford; Dundee; Edinburgh; Glasgow; Leith; Manchester; & Newcastle-on-Tyne. Secretary, A. R. Brewer.

Telegraph Cable Making Machine Manufacturers.

F.—Machines à fabriquer les Câbles télégraphiques.
G.—Maschinen für Telegraphen-Kabel—Fab.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

LARMUTH, T., & CO., Salford, Manchester.

Vulcan Foundry, Ltd., Newton-le-Willows.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Telegraph Cables—Makers of.

F.—Câbles télégraphiques—Fab.
G.—Telegr. Kabel—Fab.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein, Germany. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Telegraph Cables—Makers of—*continued.*

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Newall, R. S., & Son, Ltd., Linacre, Liverpool.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Telegraph Constructors.

F.—Télégraphes—Constructeurs.
G.—Telegr.—Constructeure.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Dixon & Corbitt, & R. S. Newall & Co., Ltd., Rope Works, Gateshead-on-Tyne; & 130, Strand, London, W.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.

Telegraph Engineers of Railway Companies (Official).

F.—Télégraphes (Ingenieurs de chemins de fer)
G.—Telegraphenbau Ingenieure für Eisenbahnen.

Andrew, John R., Telegraph Department, London & N.W. Railway Co., Chester.

Burnham, R. H., S. E. & C. Railway, Tonbridge, Kent.

Clement, A. F., N. British Railway, Edinburgh.

Ellison, C. H., M.I.E.E., N. Eastern Rly, York.

Hollins, F. T., M.I.E.E., Great Eastern Railway Co., Liverpool-st. Station, London, E.C.

Houghton, E. J., M.I.E.E., L. B. & S. C. Railway Co., London Bridge Station, S.E.

Ireland, T., Gt. Northern Rly. Co., Retford.

Jackson, H., M.I.E.E., telegraph superintendent, L. & Y. Railway, Glenthorn, Horwich.

Johnson, A. H., A.M.I.E.E., London & South-Western Railway, Wimbledon Station, S.W.

Leonard, William, South Eastern & C. Railway Co., Tunbridge, Kent.

Telegraph Engineers of Railway Companies (Official)—*continued.*

Munro, J., Highland Railway, Inverness.
Neale, Geo. A., M.I.E.E., Hull & Barnsley Railway Co., Alexandra Dock, Hull.
Pryce, H. J., North London Railway Co., Bow-road Works, London, E.
Russell, G., Glasgow & S. W. Rly. Co., St. Enoch Station, Glasgow.
Sayers, J., M.I.E.E., Midland Railway, Derby.
Stevenson, W., M.I.E.E., Caledonian Railway, Glasgow.

Telegraph Instrument Ink Makers.

F.—Télégraphes—Fab. d'Encre pour instr. de.
G.—Telegr. Instrumenten Tinte—Fab. von.

Walters, P., & Co., 249 & 251, Kensal-rd., W. (P.O. Telephone No. 653, Western.)
Winstone, B., & Sons, Ltd., 100, Shoe-lane, E.C.

Telegraph Instrument Manufacturers.

F.—Instrumentes télégraphiques—Fab. de.
G.—Telegraphische Instrumente—Fab.

Apps, A., 433, Strand, London, W.C.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.
Bruce, J., & Son, 60, South Castle-st., Liverpool.
Chadburn's (Ship) Telegraph Co., Ltd., Cyprus-rd., Bootle.
ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*
Lumly, C. M., & Co., 6, Castle-st., Kingsland, London, N.
Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." P.O. Teleph. No. 12367, Central.)
Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 609.
Paul, Robt. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page* 608.

Telegraph Instrument Manufacturers—*continued.*

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.
Richardson & Co., Nelson-st., Stretford-rd., Manchester. (Telegrams: "Fuses, Manchester." Telephone No. 25x, Manchester.)
SIEMENS BROS. & CO., LTD., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.
SPAGNOLETTI, JAS. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.
Stiff, James, & Sons, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) Stoneware, porcelain & porous ware only. *See advt., page* 10.
TYER & CO., LTD., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.
United Electrical Co., Ltd., 67, Aldersgate-st., E.C.
Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)

Telegraph Iron & Steel Buoy Makers.

F.—Bouées en fer et acier pour la télégraphie.
G.—Bojen für telegraphische Kabel.

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*
Jukes, Coulson, Stokes & Co., 11-12, Clement's-lane, London, E.C.

Telegraph Paper Makers.

F.—Papier télégraphique—Fab. de.
G.—Papier für Telegraphie.

Colley's Patents, Ltd., 3-12, Marine-st., Bermondsey, London, S.E.
Hudson & Kearns, 83, Southwark-st., London, S.E.
Paper Cutting & Toilet Requisite Co., Ltd., 26, Grove Park, Camberwell, London, S.E.
Steen, J., & Co., Ltd., Wolverhampton.
Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)
Waterlow & Sons, Ltd., 27, Great Winchester-street, London, E.C.

Telegraph & Telephone Cable Manufacturers.

(*See* CABLE MANUFACTURERS.)

Telegraph & Telephone Instrument Case Manufacturers.

(*See* CASE MAKERS.)

Telegraph & Telephone Pole Manufacturers (Iron).

F.—Poteaux télég. et téléph. en fer.
G.—Eiserne Telegraph u. Telephon-Pfosten.

Bayliss, Jones & Bayliss, Ltd., Cannon-st.-bldgs., 139, Cannon-st., London, E.C.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Bruce, Alex., & Co., Bothwell-st., Glasgow.

Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

FALKIRK IRON CO., 67, Upper Thames-st., London, E.C. Works: Falkirk, N.B.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Moreton & Foster, St. Leonard's Iron Works, Bromley-by-Bow, London, E.

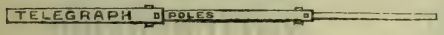
Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.

Russell, J., & Sons, Ltd., Crown Tube Works, Wednesbury.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Smith, E., Brunswick Tube Works, Globe-street, Wednesbury.

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury. (Telegrams: "Tubes, Wednesbury;" "Tubes, London.") Makers of iron & steel telegraph poles of all kinds.



Thomson, D. F., & Co., 17, Victoria-st., Westminster, S.W.

WADE, RICHD., SONS, & CO., LTD., Hull; & West Hartlepool. *See advt., page* 15.

Walters, P., & Co., 249 & 251, Kensal-rd., London, W. (P.O. Telephone No. 653, Western.)

Telegraph & Telephone Supplies.

F.—Téléphones et Télégraphes—Fournitures pour.
G.—Teleph. & Telegr. Materialen.

Bullers, Ltd. London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 *& 723.*

Telegraph & Telephone Supplies—*continued.*

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *& 708.*

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

PRIVATE WIRE & TELEPHONE INSTALLATION CO., LTD., 78, Queen-st., Cheapside, London, E.C. (Telephone No. 1243, London Wall.)

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTERN ELECTRIC CO., Bridge-chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *& 705.*

Telegraph Works & Stores.

F.—Usines télégraphiques.
G.—Telegraphen-Fabrik u. Laden.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 431.

FELTEN & GUILLEAUME LAHMEYERWERKE ACT. GES., MÜLHEIM AM RHEIN. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Postal Telegraph Factory, Mount Pleasant, Clerkenwell, London, E.C.

Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-street, London, E.C.

TYER & CO., LTD., Ashwin-st., Dalston Junction, London, E.; & Metcalfe-st., Carlisle.

Telegraphy & Electrical Engineering—Courses in.

(*See* SCHOOLS.)

Telephone Apparatus Makers.

F.—Appareils téléphoniques—Fab. d'.
G.—Telephon-Apparate—Fab.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom, Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., E.C.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.

BERLINER TELEPHONE MANUFACTURING CO. *See* The Sterling Telephone & Electric Co.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt.* BELOW.

Brittan, Thomas, 21, Hermes-st., & 34, Risinghill-st., Pentonville-rd., London, N.

Telephone Apparatus Makers—*continued.*

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Cox-Walkers, Ltd., Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 29.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; 2, Bixteth-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 487.

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 & 633.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 & 708.

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London; 67, High Bridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 62, Bath-st., Bristol. (Telegs.: "Lodestone, Leicester;" & "Knifeedge, London." Teleph. No. 151, Leicester.) *See advts.,* 441 & 706.

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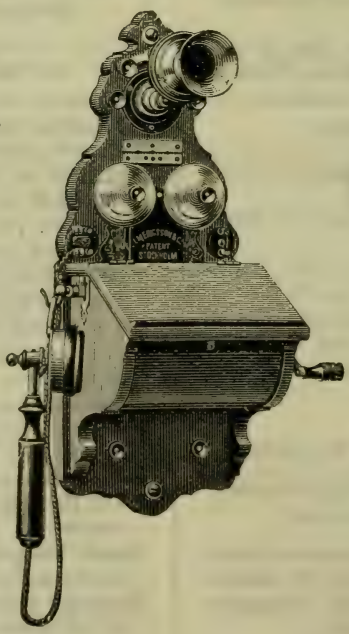

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Telephone Apparatus Makers—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

INTERNATIONAL ELECTRIC CO. (sole depôt of Mix & Genest, Ltd.), 55, Red Cross-st., Barbican, London, E.C. Manufacturers of all kinds of telephones, multiple switchboards & telephone exchange equipment. *See advt., page* 29.

Le Carbone (formerly Lacombe & Co.), MICROPHONE CARBONS & BATTERIES FOR. Works: Levallois-Perret, Paris; 17, Waterlane, E.C. (Telegrams: "Lacombe, London.") *See advts., pages* 469 *&* 470.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." P.O. Teleph. No. 12367, Central.)

MUIRHEAD & CO., LTD., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 609.

Telephone Apparatus Makers—*continued.*

Nussbaum, G. A., C.E., agent for the Société Industrielle des Téléphones, late La Société Générale des Téléphones, manufacturers & contractors for telephonic & telegraphic appliances; contractor to the War Office, Woolwich Arsenal, N. T. Co., Ltd., &c., 29, Ludgate Hill, London, E.C.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

STERLING TELEPHONE & ELECTRIC CO., THE (late The Berliner Telephone Manufacturing Co.), 200, Upper Thames-st., London, E.C. (Telegs.: "Cucumis, London." Teleph. Nos.: 6089, Bank; & 12716, Central.)

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2292 & 2289, Gerrard.) *See advt., page* 588.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

WESTERN ELECTRIC COMPANY,

171, Queen Victoria Street, LONDON, E.C.

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WESTERN ELECTRIC COMPANY.

Telegrams: "RELAY, LONDON." Telephone Nos.: 418, Bank; 2389, Central; & 549, East.

Telephone Apparatus Makers—*continued.*

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) All kinds of fittings, in ebonite or vulcanite. *See advts., pages* 478 *&* 722.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTERN ELECTRIC CO., Bridge-chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Telephone Cables—Makers of.

F.—Cables Téléphoniques—Fab.
G.—Telephon Kabel—Fabr.

ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; 114, Warrington.)

Telephone Cables—Makers of—*continued.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Donovan & Co., 12, Barwick-st., Birmingham.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Geoffroy & Delore (London manager, Mr. A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Teleph. No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

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JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

NORTHERN ELECTRIC WIRE CO., SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

Nussbaum, G. A., St. Martin's House, 29, Ludgate Hill, London, E.C.

O'Gorman & Cozens-Hardy (experts to), 82, Victoria-st., Westminster, S.W.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

WESTERN ELECTRIC CO., Bridge - chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Telephone Companies.

F.—Compagnies de Téléphones.

G.—Telephon-Gesellschaften.

Anglo-Portuguese Telephone Co., Ltd., 31, Budge-row, London, E.C. (Secretary, Fredk. A. Bagnall, F.C.I.S.)

Chili Telephone Co., Ltd. (Edmund Petley, F.C.I.S., secretary), 42, Old Broad-st., London, E.C.

China & Japan Telephone & Electric Co., Ltd., Alderman's House, Alderman's Walk, Bishopsgate, E.C. (Secretary, Alex. B. Chalmers.)

Ecuador Telephone Co., Ltd. (Edmund Petley, sec.), 42, Old Broad-street, London, E.C. (Telegrams: "Chiliadal, London." Telephone No. 9343, London Wall.)

Ericsson Bell Telephone Co., Baltic-chbrs., 50, Wellington-st., Glasgow.

Monte Video Telephone Co., Ltd., 340, Dashwood House, New Broad-st., London, E.C.

Telephone Companies—*continued.*

National Telephone Co., Ltd. (Albert Anns, secretary). Head office: Telephone House, Victoria Embankment, London, E.C. (Telegrams: "National Telephone, London.")

Oriental Telephone & Electric Co., Ltd., Alderman's House, Alderman's Walk, Bishopsgate, London, E.C.

Peru Telephone Co., Ltd. (Edmund Petley, F.C.I.S., sec.), 42, Old Broad-st., London, E.C.

Spanish Telephone Co., Ltd., 39, Lombard-st., E.C.

Telephone Co. of Egypt, Ltd., Alderman's House, Alderman's Walk, Bishopsgate, E.C. (Telegs.: "Oakenpin, London." Teleph. No. 2188, London Wall.) Sec., A. B. Chalmers.

United River Plate Telephone Co., Ltd., 340, Dashwood House, Old Broad-st., London, E.C. Secretary, David Smith.

Venezuela Telephone & Electrical Appliances Co., Ltd., 3, Copthall-bldgs., London, E.C.

Telephone Exchanges—Equippers of.

F.—Téléphones—Constr. de Bureaux de.

G.—Teleph. Amter-Einrichtungen von.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

INTERNATIONAL ELECTRIC CO. (sole depôt of Mix & Genest; H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. *See advt., page* 29.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." P.O. Teleph. No. 12367, Central.)

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

WESTERN ELECTRIC CO., Bridge - chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Telephone Experts.

Electrical Engineering & Maintenance Co., 49, Lime-st., London, E.C.

Telephone & Telegraph Wire Coverers.

(*See* WIRE COVERERS.)

Telephones—Makers of.

F.—Téléphones—Fab. de.

G.—Teleph.—Fab. von.

BERLINER TELEPHONE MANUFACTURING CO. *See* The Sterling Telephone & Electric Co.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bonnella, D. H., & Son, 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, E.C. (Telegrams: "Boncinello, London." Telephone No. 1882, Gerrard.) *See advt., page* 617.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

Electric & Ordnance Accessories Co., Ltd., Stellite Works, Cheston-rd., Aston, Birmingham (Telegs.: "Stellite, Birmingham." Nat. Teleph. Nos. 176 & 179, Aston; & P.O. No. 9); & 32, Victoria-st., London, S.W.

Telephones—Makers of—*continued.*

Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* BELOW.

INTERNATIONAL ELECTRIC CO. (H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. *See advt., page* 29.

McGeoch, William, & Co., Ltd., 28, West Campbell-st. (late 108, Argyle-st.), Glasgow. (Telegs.: "McGeoch, Glasgow." Teleph. Nos.: Nat. 2181 (4 lines); Corp. 101 & 2.) Sole agents for Scotland for The Sterling Telephone & Electric Co., 200, Upper Thames-st., London, E.C.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." P.O. Teleph. No. 12367, Central.)

Mix & Genest, 55, Red Cross-st., Barbican, E.C.

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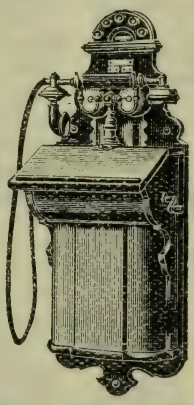

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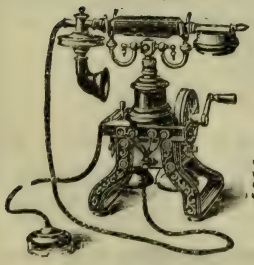

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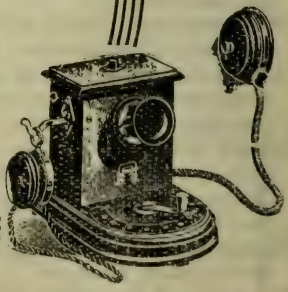

Telephones—Makers of—*continued.*

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Deutsche Telephonwerke, Berlin. *See advt., page* 9.

Power, Herbert, manufacturer of telephones & telephone apparatus, &c., 34, Evanston-ave., Cardigan Fields; & 8, Park Cross-st., Leeds. (Telephone No. 59 Y.)

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W. MAKERS OF LOUD-SPEAKING TELEPHONES.

STERLING TELEPHONE & ELECTRIC CO., THE (late The Berliner Telephone Manufacturing Co.), 200, Upper Thames-st., London, E.C. (Telegrams: "Cucumis, London." Telephone No. 6089, Bank.)

Thomson-Davis Telephone System, Ltd., 66, Victoria-st., Westminster, S.W.

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Peto & Radford, Ltd., successors to Sutherland & Marcuson, 61, Chandos-st., Strand, London, W.C.

Testing Instrument Makers—Electrical.

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G.—Probierinstrumente für Elektricität.

Apps, A., 433, Strand, London, W.C.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Current & potential indicators, &c. *See advt. inside front cover.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegrams: "Current, Manchester;" "Prefix, London." Telephone Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., S.W.; & Collindale Works, Hendon, London, N.W. Insulation & resistance sets. *See advt., page* 633.

Testing Instrument Makers—Electrical. —*continued.*

Evershed & Vignoles, Ltd., Acton-lane Works, Chiswick, London, W.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.

Hodges, Cecil, & Co., Balfour House, Finsbury Pavement, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O., 4519, Central; Nat., 172, Douglas); & 66, Victoria-st., London, S.W. (Telegs.: "Mho, London." Tel. No. 725, Westminster.)

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

NALDER BROS. & CO., 12, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *See* ALPHABETICAL. *See advt., page* 608.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walters, P., & Co., 249 & 251, Kensal-rd., W. (P.O. Telephone No. 653, Western.)

Testing Machines for Wire—Makers of.

F.—Machines à essayer les fil—Fab. de.
G.—Probiermaschinen für Draht—Fabr.

GREENWOOD & BATLEY, LIMITED, Albion Works, Leeds; & 16, Great George-street, Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Textile Machinery Controlling Apparatus.

Tetley & Co., Falcon Works, Poland-st., Oldham-rd., Manchester.

Thermostats (Electric) & Gas Regulators —Makers of.

F.—Thermostats et Régulateurs électr. de gaz—Fab.
G.—Electr. Wärme & Gas Regulatoren.

Pearson Fire Alarm, Ltd., 62, King William-st., London, E.C. (Telegrams: "Sauvetage, London." Telephone No. 5887, Bank.) Patentees & manufacturers of open & closed-circuit thermostats.

Third-Rail Insulators.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Burslem, Staffs.; Rowley Regis, Staffs.; Smethwick, Staffs.; St. Helens, Lancs.; Paisley, N.B. Depôts: Birmingham, Liverpool, Manchester, Glasgow & Paris. Head office: Lambeth, London, S.E. *See advt., page* 429.

Timber Merchants.

(*See* MAHOGANY, HARDWOOD & TIMBER MERCHANTS.)

Time Balls—Electric.

F.—Indicateurs de temps.
G.—Elektrische Zeitsemaphoren.

Smith & Sons, The Clerkenwell Steam Clock Works, St. John's-sq., London, E.C. Inventions Exhibition, London, 1885. Only medal for above awarded.

Time Check (Electric) Manufacturers.

F.—Instruments pour l'échec du temps.
G.—Zeitzähler—elek—Fabr.

Anglo-American Time Register Co., 62, St. Martin's-lane, London, W.C.

Gent & Co., Ltd., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; 67, High Bridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 26, Bath-st., Bristol. (Telegs.: "Lodestone, Leicester;" & "Knifeedge, London." Teleph. No. 151, Leicester.) *See advts., pages* 441 *&* 706.

Howard Bros., 40, Paradise-st., Liverpool; & 100B, Queen Victoria-st., London, E.C.

Time & Date Stamp Makers.

Warwick's Time Stamp Co., 134, Highbury Hill, N. Patentees of the "Facile" time stamps.

Time Switches—Automatic.

OFFORD & CO., 97 & 98, Woodcock-st., Birmingham. (Telegs.: "Offord, Woodcock-st., Birmingham." Teleph. No. 2229.)

Tin & Lead Foil Manufacturers.

F.—Feuilles d'étain et de plomb—Fab. de.
G.—Zinn und Bleiblätter—Fab.

Bousquet, I., & Co., 28, Barbican, London, E.C.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Grosvenor, Henry, 6, Golden-lane, London, E.C.

Quirk, Barton & Co., 9, Gracechurch-st., E.C.

Woollacott & Friederich, 5 & 4, Brickhill-lane, Upper Thames-st., London, E.C.

Tin Merchants.

F.—Marchands—étain.
G.—Zinn-Händler.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Chew, James, & Co., Brookhouse Brass & Copper Works, & Albion Works, Blackburn. (Telegs.: "Chew, Blackburn." Teleph. No. 163.)

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Tin Wire Drawers.

F.—Etirage du fil d'étain.
G.—Zinndrahtfabrik.

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Teleph. No. 13259, Central.) Tin wire drawers for fuses. *See advt., page* 594.

Tool Manufacturers & Merchants.

F.—Outils—Fab. et Marchands.
G.—Werkzeuge—Fabr. u. Händler.

Watlington & Co. Offices: Moorgate Station-chbrs. Stores: 6, New Union-st., Moorfields, London, E.C.

Torpedo Manufacturers.

F.—Torpilles—Fab. de.
G.—Torpedo-Fabriken.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W. Submarine Mines.

Whitehead & Co., Weymouth, Dorset.

Traction Engineers—Electric.

F.—Traction électr.—Ingénieurs de.

G.—Electr. Zugapparate—Ingenieure von.

Bailie, J. D., Messrs. C. A. Parsons & Co., Peacocks-bldgs., Park-row, Leeds. (Telegrams: "Turbo, Leeds." Telephone No. 1194.)

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 529.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Tel. Nos. 766 & 767, Westminster.)

British Electric Equipment Co., The, 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

British Electric Traction Co., Ltd., Donington House, Norfolk-st., Strand, London, W.C.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegrams: "Asteroidal." Telephone Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Chadwell, C., C.E., Richmond-chbrs., Blackburn.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Eck, Justus, M.A. (Cantab.), M.I.E.E., 53–57, Park-st., Southwark, S.E.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. SUBSCRIBED CAPITAL: £90,158. CITY OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGRAMS: "STORAGE, LONDON." TELEPHONE NO. 1253, LONDON WALL.) *See advt. page* 415.

Elieson, C. P., 75, Edith-road, West Kensington, London, W.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Hird, M., G. B. Surface Contact Co., Hamilton House, Bishopsgate-st. Without, E.C.

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; 28, Victoria-st., London, S.W.; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 715.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Miller, T. L., & Wilson, 19, Brazenose-st., Manchester (Telegrams: "Kinematic, Manchester." Telephone No. 5020, Manchester); & 7, Tower-bldgs., Water-st., Liverpool. (Telegrams: "Kinetic, Liverpool." Telephone No. 6216.)

PEEBLES, BRUCE, & CO., LTD., Edinburgh. (Telegrams: "Peebles, Edinburgh.")

Power & Traction, Ltd., 79, Palace-chbrs., Westminster, S.W.

Redditch District Light Railway Co., 34, Waterloo-st., Birmingham.

Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 567.

Salter, A. J., Suffolk House, Laurence Pountney Hill, E.C.

Swinburne, Cooper & Baillie, 82, Victoria-st., S.W. (Telegrams: "Swooper, London." Telephone No. 292, Westminster.)

Traction Generators.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C.; & Chelmsford. *See advt. inside front cover.*

Train Signalling Apparatus—Makers of.

F.—Signaller les Chemins de fer—Fab. d'appareils pour.

G.—Eisenbahn Signale—Fab. von.

Benjamin, Edgar L., A.M.I.C.E., "C.I.R.H." Electrical Works, 177, High Holborn, W.C.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., London, W. *See advt., page* 30.

White, Wm., & Co., 3, Budge-row, Cannon-st., E.C.

Tramcar Engines (Electric)—Makers of.

F.—Tramways—Fab. de machines élect. pour.

G.—Strassenwagen Maschinen (Electr.)—Fab. von.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Telephone Nos. 4480 & 4481.) *See advt., page* 529.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Tramcars.

F.—Voitures de tramways.

G.—Strassenbahn—Wagen.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Midland Railway Carriage & Wagon Co., Ltd., Midland Works, Birmingham; Abbey Works, Shrewsbury; & 5, Laurence Pountney Hill, E.C.

United Electric Car Co., Ltd., Strand-rd., Preston.

Tramway "Lay-Outs."

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Tramway Systems—Electric.

(*See* RAILWAYS & TRAMWAYS—ELECTRIC.)

F.—Systèmes de Tramways électriques.

G.—Elektrische Strassenbahnsysteme.

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, E.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Tramways—Electric.

(*See* RAILWAYS & TRAMWAYS—ELECTRIC.)

Tramways (Electric)—Makers of & Contractors for.

F.—Tramways élec.—Fab. et entrepr. de.

G.—Elek. Strassenbahnen.—Fabr. u. Unternehm.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)

British Electric Equipment Co., Ltd., 265, Strand, London, W.C. (Telegs.: "Beecom, London." Teleph. Nos. 6740 & 12039, Central.) *See advt., page* 648.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegrams: "Asteroidal." Telephone Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.

CROMPTON & CO., LTD., Salisbury House, London Wall, E.C.; & Chelmsford. Tramways fitted complete. *See advt. inside front cover.*

Cumberland Construction Co., Ltd., 13, Springgdns., Manchester.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Tramways (Electric)—Makers of & Contractors for—*continued.*

Dutilh-Smith, McMillan & Co., 29, Great St. Helens, E.C.

Estler Bros., 25, Laurence Pountney-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Fell, John, 25, Victoria-st., S.W.

Finnegan, R., East Park, Northampton.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney-lane, E.C. (Motors for). (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 471.

"G. B." (Griffiths Bedell) Surface Contact Co., Hamilton House, Bishopsgate-st. Without, E.C.

Hadfeld's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Imperial Tramways Co., Ltd., Clare-st. House, Bristol.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., W.C. (Telegs.: "Drehstrom, London." Teleph. No. 2822, Gerrard.)

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 715.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Meredith Bros., Gloucester.

Mountain & Gibson, Ltd., Elton Fold Works, Bury. (Telegs.: "Traction, Bury." Teleph. No. 184, Bury.)

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Thermit, Ltd., 27, Martin's-lane, Cannon-st., London, E.C.

Tudor Accumulator Co., Ltd., 119, Victoria-st., S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

YUILLE, WM. C., & CO., 60, Brown-st., Glasgow.

Transformers—Makers of.

F.—Transformeurs—Fab. de.
G.—Transformatoren—Fab. von.

ARC LAMPS, LTD. (W. J. Davy Arc Lamps), Crown-bldgs., 62, Old Broad-st., E.C. (Telegrams: "Voltarcon, London." Telephone No. 220, North.) Works: St. Paul's-cres., St. Paul's-rd., Camden Town, N.W. *See advts., pages* 405 & 406.

Bailie, J. D., Messrs. C. A. Parsons & Co., Peacock-bldgs., Park-row, Leeds. (Telegrams: "Turbo, Leeds." Telephone No. 1194.)

Transformers—Makers of—*continued.*

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

BURNAND, W. E., & CO., Lowfield Works, Chippinghouse-rd., Heeley, Sheffield. (Teleph. No. 1671.)

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 431.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney-lane, E.C. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) Single, 3-phase & rotary. *See advt., page* 471.

Home & Rowland, Troughton-rd., Charlton, London, S.E.

INTERNATIONAL ELECTRICAL ENGINEERING CO., Clun House, Surrey-st., Strand, W.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegrams: "Drehstrom, London." Telephone No. 2822, Gerrard.)

Miller, Leslie, A.M.I.E.E., 93, Hatton Garden, London, E.C. High tension & Tesla Transformers a Speciality.

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

SIEMENS BROS. DYNAMO WORKS, LTD., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Transformers—Makers of—*continued.*

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Transmission of Power—Electric.

F.—Transmission de la force—électrique.

G.—Gesellschaften für elektrische Uebertragung der Kraft.

Acme Motor & Traction Co., 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

Apps, A., 433, Strand, London, W.C.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham; & 8, Victoria-st., London, S.W. (Telegrams: "Belliss, Birmingham." Telephone Nos. 4480 & 4481.) *See advt., page* 529.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

BLACKWELL, ROBERT W., & CO., LTD., Parliament-chbrs., 14, Great Smith-st., Westminster, London, S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54, Rugby; London office, 379, Bank.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., THE, Westinghouse Works, Trafford Park, Manchester.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Clifton Junction, nr. Manchester; 39, Victoria-st., Westminster; & Standard-bldgs., City-sq., Leeds. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 391.

CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

CORLETT ELECTRICAL ENGINEERING CO., LTD., Wigan; & Union-bldgs., St. John-st., Newcastle-on-Tyne.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Electro motors, &c., for the transmission of power. *See advt. inside front cover.*

Transmission of Power—Electric—*continued.*

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 527.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 31.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRICAL CO., LTD., THE. Head offices: 121–125, Charing Cross-rd., W.C. Cable & Fittings Dept.: 162, Shaftesbury-ave., London, W.C. For branches, &c., *see* ALPHABETICAL SECTION, or *advt., page* 519.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Hall, J. P., & Co., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-square, London, W.; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

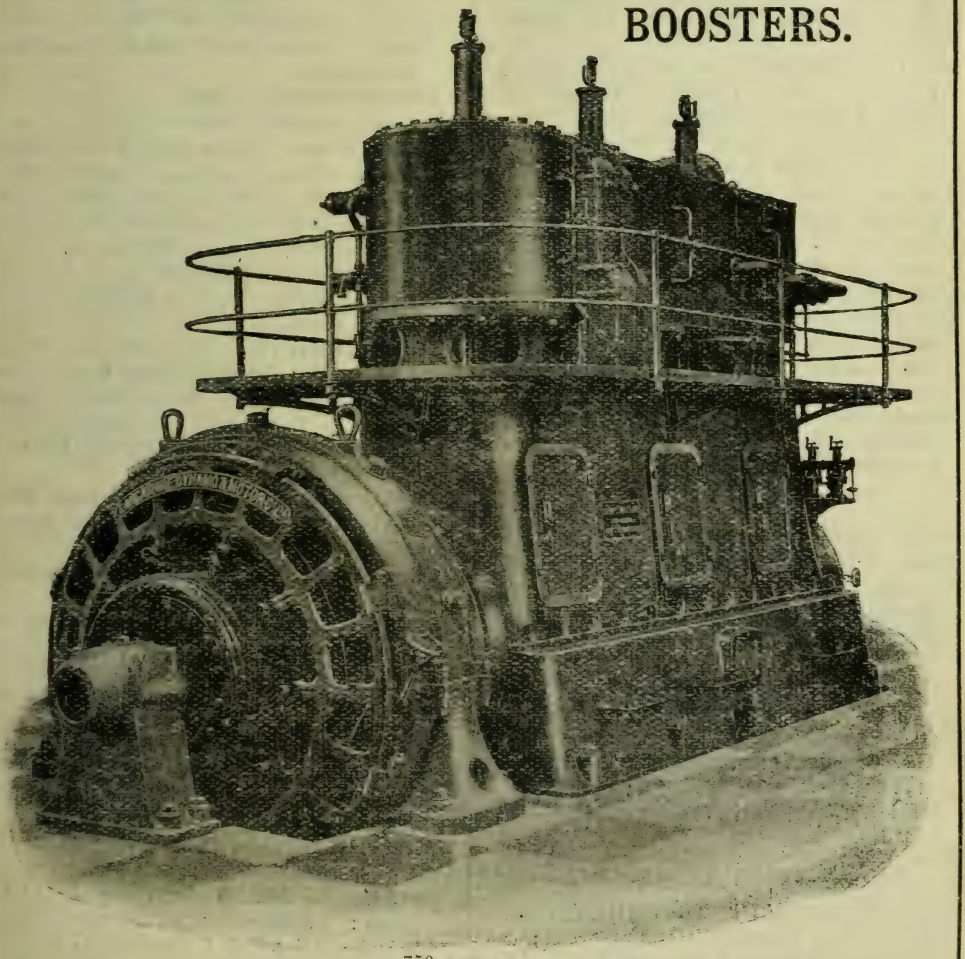
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Key Engineering Co., Ltd., The, 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester. Works: Trafford Park, Manchester.

THE LANCASHIRE DYNAMO AND MOTOR CO., LTD.

DYNAMOS & ALTERNATORS.
CONTINUOUS & POLYPHASE MOTORS.
THE "LANCASHIRE" AUTOMATIC REVERSIBLE BOOSTERS.



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REGISTERED OFFICE & WORKS - TRAFFORD PARK, MANCHESTER.
Telegrams: "IRONCLAD, MANCHESTER." Teleph. Nos. 6430 & 6431.

LONDON - - VICTORIA MANSIONS, 28, VICTORIA STREET, S.W.
Telegrams: "UMFORMER, LONDON." Nat. Teleph. No. 839, Westminster.

GLASGOW - - - - - CALEDONIAN CHBRS., 87, UNION STREET.
Telegrams: "IRONCLAD, GLASGOW." Nat. Teleph. No. 1404, Royal.

NEWCASTLE - STAR BUILDINGS, NORTHUMBERLAND STREET.
Telegrams: "IRONCLAD, NEWCASTLE." Teleph. No. 1923.

CARDIFF - - - PRUDENTIAL BUILDINGS, ST. MARY STREET.
Telegrams: "DYNAMO, CARDIFF." Nat. Teleph. No. 1024.

BIRMINGHAM - - - - - - - - - - 3, NEW STREET.
Telegs.: "GENERATOR, BIRMINGHAM." Teleph. No. 4406, Central.

Transmission of Power—Electric—*continued.*

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

PARKER, THOMAS, LTD., Wolverhampton. (Telegrams: "Coils, Wolverhampton." Telephone No. 34, Wolverhampton.)

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 567.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 393.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Trolley Wire—Makers of.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Troughing, Bitumen.

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

Troughs, Asphalt.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester; & Parliament Mansions, Victoria-st., S.W.

Tube Expanders.

F.—Tubes—Expansion de.
G.—Röhren Erweiterer.

Wallach Bros. (tube cleaners), 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Tube Expanders—*continued.*

Wilkes, J., Sons & Mapplebeck, Ltd., 9, New Broad-st., London, E.C.; & Liverpool-st., Birmingham.

Tube Makers—Aluminium.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Tube Makers—Brass.

F.—Tubes—Laiton.
G.—Röhren—Messing.

Benton & Stone, Aston Brook Tube Mills, Birmingham.

Birmingham Battery & Metal Co., Ltd., Selly Oak, Birmingham.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Booth, James, & Co., Ltd., Sheepcote-st. Tube & Rolling Mills, Birmingham.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Elliott's Metal Co., Ltd., Selly Oak Works, Birmingham; Pembrey Copper Works, Burry Port, R.S.O., Llanelly, South Wales; Leadenhall-bldgs., London, E.C.; 14, Brown-st., Manchester; 9, Irwell-st., Liverpool; Paris; & Newcastle.

Everitt, Allen, & Sons, Ltd., Kingston Metal Works, Smethwick, nr. Birmingham. London office: 118, Cannon-st., E.C.

Grice, Grice & Son, Ltd., Sheepcote-st., Birmingham.

Hudson, Edmunds & Co., Ltd., Sheepcote-st., Birmingham.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

United Flexible Metallic Tubing Co., Ltd., 112, Queen Victoria-st., London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Tube Makers—Copper.

F.—Tubes—Cuivre.
G.—Röhren—Kupfer.

Barwell, C. J. W., Norton-st., Hockley, Birmingham.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Tube Makers—Copper—*continued.*

Booth, James, & Co., Ltd., Sheepcote-st. Tube & Rolling Mills, Birmingham.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740, Hop.) *See advt. facing inside front cover.*

Tube Makers—Ebonite, Vulcanite & Vulcanized Fibre.

F.—Tubes—Ebonite Vulcanite, et fibre Vulcanisé.
G.—Röhren—Ebonite Vulcanit u. Vulcanfieber.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

MOSSES & MITCHELL, 68–71, Chiswell-street, London, E.C. (Telegrams: "Insulator, London.") Vulcanized hard fibre tubing sheets, rods & sticks. *See advt., page* 723.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Tube Makers—Glass.

F.—Tubes en verre.
G.—Röhren—Glas.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

Forster & Sons, Ltd., St. Helens.

Schölzig, Oscar, 9, New Broad-st., London, E.C.

Tomey & Sons, Tay Glass Works, Perth. (Telegrams: "Tomey, Perth.")

Tube Makers—Iron.

F.—Tubes—Fer.
G.—Röhren—Eisen.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

British Mannesmann Tube Co., Ltd., The, 110, Cannon-st., London, E.C.

Eadie, Jas., & Sons, Clydesdale Tube Works, Rutherglen, Glasgow. (Steel tubes.)

FALKIRK IRON CO., 67, Upper Thames-st., London, E.C. Works: Falkirk, N.B.

Foster Bros., Ltd., Lea Brook Tube Works, Wednesbury.

Guthrie, J. B., & Son, 96-98, Leadenhall-st., London, E.C.

Imperial Tube Co., Birmingham.

Tube Makers—Iron—*continued.*

Lambert Bros., Alpha Tube & Fitting Works, Walsall.

Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.

Lewis, Edwin, & Sons, Wolverhampton, Staffs.

Metallic Seamless Tube Co., Wiggin-st., Birmingham.

NEW BROTHERTON TUBE CO., LTD., THE, Excelsior Works, Commercial-rd., Wolverhampton.

Olrick, L., & Co., Palmerston House, Bishopsgate-st., E.C. (Telegrams: "Olrick, London.")

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless Steel Conduits. *See advt., page* 447.

Richmond, D., & Co., Ltd., City Tube Works, 35, Rose-st., Glasgow.

Russell, John, & Co., Ltd., Alma Tube Works, Walsall; 145, Queen Victoria-st., E.C.; Bristol; Manchester; & Leeds.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See advts., pages* 445 *&* 446.

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury; 14, Great St. Thomas Apostle, London, E.C. (Lap or butt welded) for gas

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Staffordshire Tube Co., 134, Edmund-st., Birmingham.

Stewarts & Lloyd, Ltd., 41, Oswald-st., Glasgow.

Turner Bros., 134, Upper Thames-st., London, E.C.

Tube Makers—Lead.

F.—Tubes—Plomb.
G.—Röhren—Blei.

Glover, W T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Grey & Marten, Ltd. (& tin), Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Tube Makers—Steel.

F.—Tubes—Acier.
G.—Röhren—Stahl.

Aird, Joseph, Great-bridge, Staffs.; & 46, Queen Victoria-st., London, E.C.

ARMORDUCT MANUFACTURING CO., LTD., 6, Farringdon-ave., London, E.C.; & 17, Eldon-sq., Newcastle-on-Tyne. Works: Warrington. (Telegs.: "Armorduct," London, Newcastle-on-Tyne or Warrington. Teleph. Nos.: 1394, Holborn; 2827, Central, Newcastle; 114, Warrington.)

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

CONDUIT & INSULATION CO., LTD., Conduit Works, Summers Town, S.W. (Telegrams: "Conduits, London.") *Makers of Steel Armoured Insulating Conduit.*

Foster Bros., Ltd., Lea Brook Tube Works, Wednesbury.

Hildick & Hildick, Walsall Tube Works, Pleck-road, Walsall.

Howell & Co., Ltd., Sheffield; & 18, Queen Victoria-st., E.C. Zeitz & Co., London agents.

Needham, J., & Sons, 16, Old Millgate, Manchester.

NEW BROTHERTON TUBE CO., LTD., THE, Excelsior Works, Commercial-rd., Wolverhampton.

Oriental Tube Co., Ltd., West Bromwich, Staffs.

PERFECTA SEAMLESS STEEL TUBE & CONDUIT CO., LTD., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 86, Charing Cross-rd., London, W.C. Manufacturers of all kinds of conduits & accessories. Speciality: Seamless Steel Conduits. *See advt., page 447.*

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Schölzig, Oscar, 9, New Broad-st., London, E.C.

Tube Makers—Steel—*continued.*

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See advts., pages 445 & 446.*

Turner Bros., 134, Upper Thames-st., London, E.C.

Washington & Co., Ltd., Sowerby Bridge, Yorkshire. (Telegrams: "Washington, Sowerby Bridge.")

Weldless Steel Tube Co., 303 & 304, Icknield Port-road, Birmingham. (Steel & iron.)

Turbine Water Wheel Makers.

F.—Turbines Roues hydrauliques—Fab.
G.—Turbinen Wasserräder—Fabr.

Armfield, J. J., & Co., 20, Mark-lane, London, E.C.; & Vale of Avon Ironworks, Ringwood, Hampshire.

BÖVING, J. O., 72, Victoria-st., Westminster, London, S.W.

Cadle, C., 39, Wellington-quay, Dublin.

Carrick & Ritchie, Waverley Engineering Works, Norton Park, Edinburgh.

CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

Clarke, R., & Co., Union Iron Works, Queen's-rd., Manchester.

Dell & Son, 26, Mark-lane, London, E.C.

ELLIS, W. I., M.I.C.E., 49, Deansgate, Manchester.

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GILKES, GILBERT & CO., LTD., Canal Ironworks, Kendal. (Telegrams: "Gilkes, Kendal." Telephone No. 28.)

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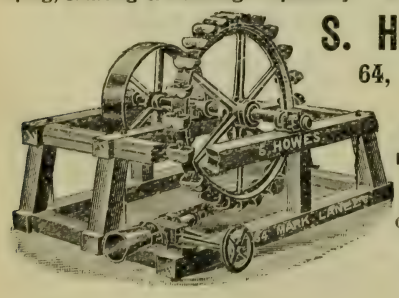

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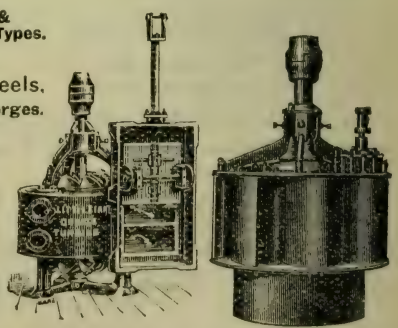

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Hanna, Donald & Wilson, Abbey Works. Offices: 23, New Sneddon-st., Paisley, N.B.

HOWES, S., CO., 64, Mark-lane, London, E.C. (Telegrams: "Barbeau, London." Telephone No. 1924, Avenue.) *See advt.* OPPOSITE.

Invincible Manufacturing Co., 37 & 38, Seething-lane, E.C.

Lord, J. C. & W., 52, Leadenhall-st., London, E.C.

Macdonald, J., & Co., Bridge Turbine Works, Pollokshaws, Glasgow.

Marx, J., & Co., 133-139, Finsbury Pavement, E.C.

Pitman, P., Bosbury, Ledbury.

Schiele Union Engineering Co., Ltd., Pollard-st.-east, Ancoats, Manchester; & 22, Walbrook, London, E.C.

STEIGER, ALPH., M.I.C.E., 28, Victoria-st., Westminster, S.W.

Thomson, Son, & Co., Ltd., Dundee.

Turnbull, J., jun., & Sons, Canal Basin Foundry, Dobbies Loan, Glasgow.

Turbines—Steam.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Greenwood & Batley, Ltd., Albion Works, Leeds; 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Turbo Electric Generators—Makers of.

F.—Fab. de Generateurs—turbo-electr.
G.—Turbo-elek. Generatoren—Fab. von.

Bailie, J. D., Messrs. C. A. Parsons & Co., Peacocks-bldgs., Park-row, Leeds. (Telegrams: "Turbo, Leeds." Telephone No. 1194.)

BÖVING, J. O., 72, Victoria-st., Westminster, London, S.W.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. Head office: Victoria Works, Belvedere-rd., London, S.E. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

ESCHER WYSS & CO. (agent, Jens Orten-Böving), 72, Victoria-st., Westminster, S.W.

GREENWOOD & BATLEY, Albion Works, Leeds; & 16, Great George-st., Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st.; & Queen Anne's-chbrs., Westminster, London, S.W.

Turners.

(*See* IVORY & WOOD TURNERS.)

Underground Cable Systems.

F.—Câbles souterrains—Systèmes de.
G.—Untererdische Kabel Systeme.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester; & Parliament Mansions, Victoria-st., S.W.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Reid Brothers, 12, Wharf-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 567.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts, pages* 429 *&* 705.

Underground Electric Mains.

F.—Conduites souterraines pour Cables.
G.—Untererdische Electr. Haupt Leitungen.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Underground Electric Mains—*continued.*

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

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JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIRE-PROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

O'Gorman & Cozens-Hardy (experts on), 82, Victoria-st., Westminster, S.W.

Reid Brothers, 12, Wharf-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 567.

Shaw, John, & Co., Maryhill Ironworks, Glasgow.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Underground Electric Mains—*continued.*

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Vacuum Pumps.

F.—Pompes à vide.
G.—Vakuumpumpen.

BARR & STROUD, patentees & manufacturers of high vacuum pumps & of rangefinders & order & range telegraphs, as supplied to British & Foreign governments for naval & military use, helm position indicators, electric clocks, &c., Anniesland, Glasgow, W. (Telegs.: "Telemeter, Glasgow." Teleph. Nos.: P.O. W9; Nat. 122, Hillhead.)

EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.

Pal, Michael, & Co., Parliament Mansions, Victoria-st., London, S.W.

Pulsometer Engineering Co., Ltd., makers of High Class Vacuum Pumps for exhausting incandescent lamps & other purposes, Nine Elms Iron Works, Reading, Berks. (Telegrams: "Pulsometer." Telephone No. 583.) London offices: 61 & 63, Queen Victoria-st., E.C. *See advt.* BELOW.

Rose Vacuum Pump, Ltd., 30, Cheapside, London, E.C.

Pulsometer Engineering Co. Ltd.

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for all purposes where a high vacuum is required. In use for exhausting and flashing purposes in nearly every Electric Light Factory throughout the World.

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F.—Évaluateurs—élec. et méc.
G.—Taxatoren—Electr. u. mech.

(*See also* AUCTIONEERS & ARBITRATORS.)

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Fuller, Horsey, Sons & Cassell, 11, Billiter-sq., London, E.C.
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Mountain, C. G., 50, Bickerton-rd., Highgate, London, N.; & 305, Broad-st., Birmingham.
Shepherd & Haward, 369, Birkbeck Bank-chbrs., Holborn, W.C.
Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., Queen Victoria-st., London, E.C.
Smethurst, H., & Co., 37, Ommaney-rd., New Cross, S.E.
WHEATLEY KIRK, PRICE & CO., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegrams: "Indices, London." Telephone No. 5077, Bank.) *See advt., page* 411.
WOOD & NEWLAND, 42, Spring-gardens, Manchester. (Telegrams: "Certificate, Manchester." Telephone No. 08586.)

Valve Manufacturers.

F.—Valvules—Fab. de.
G.—Klappe—Fab. von.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advts., pages* 610 & 723.
Cowburn Safety Valve Co., Ambrose-st., West Gorton, Manchester.
Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester.
Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.
Lunken Valve Co., 35, Great Dover-st., London, S.E.
Marchant, G. M., Albert-st., Huddersfield.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
MOSSES & MITCHELL, 68-71, Chiswell-st., London, E.C. (Telegrams: "Insulator, London.") THE ORIGINAL VULCANIZED FIBRE VALVES. *See advt., page* 723.
Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Bricklane (late 35 & 37, Brick-lane), Whitechapel, London, E.
Reid, W., & Co., 112, Fenchurch-st., London, E.C.
Shaw, Joseph, & Son, Ltd., Albert Works, Huddersfield.
Templer & Ranoe, Ltd., Foleshill-rd., Coventry.

Valve Manufacturers—*continued.*

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Varnishes.

(*See* LACQUER & VARNISH.)

Ventilator Manufacturers.

(*See* ENGINEERS—VENTILATING.)

Vices Parallel—Wrought & Cast Iron.

F.—Etaux—Paralleles—fer forge et de fonte.
G.—Schraubstöcke (Parallel)—Schmied u. Gusseisen.

Kain, Ed., & Co., Sheffield.
SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 628.

Voltmeters—Makers of.

F.—Voltmètres—Fab. de.
G.—Voltmesser—Fab. von.

BECKETT & PARKER, Tenby-st., Birmingham.
BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.
Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.
CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*
Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. *See advt., page* 24.
EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.
Electrical Instrument Manufacturers, Ltd., Freezywater, Waltham Cross, N.
ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)
Everett, Edgcumbe & Co., Ltd., 87, Victoria-st., London, S.W.; & Collindale Works, Hendon, London, N.W. *See advt., page* 633.
EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.
FOXCROFT & DUNCAN, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.") *See advts., pages* 404 & 633.
GEIPEL & LANGE, Vulcan Works, 72A, St. Thomas-st., London, E.C. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Voltmeters—Makers of—*continued.*

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-square, London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow. (Telegrams: "Holmes, Newcastle-on-Tyne;" "Vermilionette, London;" "Compound, Manchester;" & "Efficiency, Glasgow.")

ISENTHAL & CO., 85, Mortimer-st., London, W. *See advt., page* 600.

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; Nat., 172, Douglas); & 66, Victoria-st, London, S.W. (Telegs.: "Mho, London." Tel. No. 725, Westminster.)

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. (Telegrams: "Litterula, London." Telephone No. 12045, Central.)

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 68, High Holborn, London, W.C. *Ayrton & Mather's Patent Electrostatic & Electromagnetic Voltmeters. See* ALPHABETICAL. *See advt., page* 608.

PITKIN, J., & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegrams: "Barograph, London." Telephone No. 11273, Central.)

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents). *See advt., page* 9.

Rene, L., & Co., Ltd., 8, Plum Tree-ct., Farringdon-st., E.C.

SPAGNOLETTI, J. E., & CO., Goldhawk Works, Goldhawk-rd., W. *See advt., page* 30.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See inset advt., pages* 611 *&* 612.

Vulcanite Manufacturers.

F.—Vulcanite—Fab. de.
G.—Hart Gummi-Fabriken.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., page* 610 *&* OPPOSITE.

VULCANITE.

VULCANITE WORKS, Dr. HEINR. TRAUN & SONS, London Agency

(Formerly HARBURG INDIARUBBER C. CO.).

LONDON MANAGER: F. WINTER,

8, REDCROSS STREET, E.C.

Telegrams: "INSTANTLY, LONDON."
Telephone No. 3186, Central.

EBONITE.

Vulcanite Manufacturers—*continued.*

Carson & Evans, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegrams: "Irishism, London." Telephone No. 2507, Avenue.)

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

HILL, FREDK. A., & CO., 108, Bishopsgate-st. Within, London, E.C. (Telegs.: "Blasting, London." Teleph. No. 9905, Wall.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

MOSSES & MITCHELL, 68–71, Chiswell-street, London, E.C. (Telegrams: "Insulator, London." Telephone No. 437, London Wall.) *See advt.* OPPOSITE.

Neville, Williams & Co. (factors), 11 & 13, Southwark-st., London, S.E.

Sangster, J., 34, Moorfields, London, E.C.

Scottish Vulcanite Co., Ltd., Edinburgh.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegs.: "Instantly, London." Teleph. No. 3186, Central.) *See advts., page* 478 *&* IN PREVIOUS COLUMN.

Vulcanized Bitumen Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Vulcanized Fibre Manufacturers.

F.—Fibre vulcanisé—Fab. de.
G.—Vulcanfieber—Fab.

American Hard Fibre Co. (F. Winter, agent), 8, Redcross-st., London, E.C. (Telegs.: "Instantly, London." Teleph. No. 3186, Central.)

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., page* 610 *&* OPPOSITE.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

MOSSES & MITCHELL'S

Original Vulcanized Fibre

SHEETS, RODS, TUBES, INSULATORS.

Also the TUFFARINE VALVE,

INSULATING SADDLE STAPLES

AND

BLAKE INSULATING STAPLES.

Write for Samples and Prices.

68/71, CHISWELL ST., LONDON, E.C.

Vulcanized Fibre Manufacturers—
continued.

Carson & Evans, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegrams: "Irishism, London." Telephone No. 2507, Avenue.)

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C.

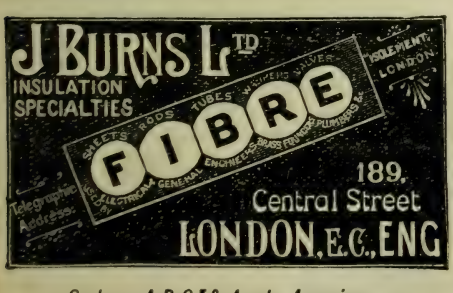
HILL, FREDK. A., & CO., 108, Bishopsgate-st. Within, London, E.C. (Teleph. No. 9905, Wall.)

Hobdell, Way & Co., Ltd., 63, Crutched Friars, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

KNOWLES, C. S., 7, Victoria-st., London, S.W. (Telegs.: "Sevenarch, London.")

MOSSES & MITCHELL, 68, 69, 70 & 71, Chiswell-st., London, E.C. (Telegrams: "Insulator, London." Telephone No. 437, London Wall.) SOLE MAKERS OF THE ORIGINAL & ONLY GENUINE VULCANIZED FIBRE. *See advt.* ABOVE.



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Vulcanized Fibre Manufacturers—
continued.

Rhynox Sheet Fibre Co., 55, Chancery-lane, W.C.

Wallach Bros., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Telephone Nos. 737 & 740 Hop.) *See advt. facing inside front cover.*

Vulcanized Indiarubber Wires & Cables.

F.—Fil et cables caoutchouc vulcanisé.
G.—Vulkanisirte Gummi Drähte und Kabel.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Donovan & Co., 12, Barwick-st., Birmingham.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein, Germany.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Tel. Nos. 594 & 595, Hop.) *See advt., page* 24.

Geoffroy & Delore (London manager, Mr. A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Teleph. No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, London, N.W. *See advt., page* 432.

LITTAUER, JAMES, 72, Finsbury Pavement, E.C. Sole agent for Kabelfabrik Actien-Gesellschaft, Vienna-Austria & Pressburg-Hungary. Large London stock. (Telegs.: "Litterula, London." Teleph. No. 12045, Central.)

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 432.

Vulcanized Indiarubber Wires & Cables—*continued.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Wall Plugs, Sockets, or Connectors.

F.—Douilles, tampons ou connections.
G.—Steckkontakte u. Anschlussdosen.

BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. No. 1882, Gerrard.) *See advt., page* 617.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

Bullers, Ltd. (porcelain). London office: 3, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegrams: "Bullers, London." Telephone No. 575, Bank.) *See advt., page* 31.

"Clincher" Patent Plug Co., 115–117, Cannon-st., E.C.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester; & 94, Charing Cross-rd., London, W.C. (Telegs.: "Current, Manchester;" "Prefix, London." Teleph. Nos.: 1741, Manchester; 4761, Gerrard, London.) Agents: Scottish, Andrews, Davidson & Co., 126, Bothwell-st., Glasgow; Australasian, Oswald Haes, 56, Margaret-st., Sydney. *See advt., page* 21.

Improved Plug Co., 75, Edmund-st., Birmingham.

LONDON ELECTRICAL FITTINGS CO., LTD., THE, Roberts Works, Hampstead-rd., N.W. (Telegrams: "Filosofone, London." Teleph. No. 441, North.) Show-rooms: St. Andrews Mansions, 15, Newman-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 587 *&* 596.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North. Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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By Royal Warrant to H.M. the King.

See advt., page 694 *& on lower outside edges.* *See* also under COMBINED SWITCH & WALL SOCKET MAKERS.

Wall Plugs, Sockets, or Connectors—*continued.*

Patent Plug Co., Ltd., 11, Carteret-st., S.W.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; 8, Howland Mews W., Fitzroy-sq., London, W.; & 61, Pollok-st., Pollokshaws, Glasgow.

TETLEY & CO., Falcon Works, Poland-st., Oldham-rd., Manchester.

Wall Tube Makers—Stoneware.

Price, Powell & Co., Bristol, Manufacturers. (Telegs.: "Pottery, Bristol." Nat. Tel. No. 279.)

Washers & Rivets—Makers of.

F.—Rivets et Rondelles—Fab. de.
G.—Scheiben u. Niet Fabrikanten.

Armstrong, Stevens & Son, Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

JENKS, A. E., & CATTELL, Heath Town, Wolverhampton. (Telegrams: "Washers, Wolverhampton." Telephone No. 104.) All kinds of washers, bright & black.

PARTRIDGE, C. B., & SONS, 128–138, Northwood-st., Birmingham. Our Plant & Machinery are thoroughly up to date. (Nat. Telephone No. 1639.)

Watchman's Recording Clock Manufacturers.

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; 67, High Bridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 26, Bath-st., Bristol. (Telegs.: "Lodestone, Leicester;" & "Knifeedge, London." Teleph. No. 151, Leicester.) *See advts., pages* 441 *&* 706.

Water-Cooling Towers.

Balcke & Co., 27, Clement's-lane, London, E.C.

Ferbeck Chimney Construction Co., 222, Finsbury Pavement House, London, E.C. *See advt., page* 440.

Water-Level Apparatus Makers—Electrical.

F.—Niveau d'eau électr.—Fab. de.
G.—Elektr. Apparate zur Bemessung des Wasserhöhestandes—Fab. von.

Apps, A., 433, Strand, London, W.C.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 704.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegs.: "Davis, Derby." Teleph. No. 240, Derby.)

Water-Level Apparatus Makers—Electrical—*continued.*

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; 67, High Bridge, Newcastle-on-Tyne; 16, Rosemary-st., Belfast; & 26, Bath-st., Bristol. (Telegs.: "Lodestone, Leicester;" & "Knifeedge, London." Teleph. No. 151, Leicester.) *See advts., pages* 441 *&* 706.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside back cover.*

International Electric Co. (H. Oppenheimer, manager), 55, Red Cross-st., Barbican, London, E.C. *See advt., page* 29.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Water Purifying (Feed Water)—Makers of Apparatus for.

Defries, J., & Sons, Ltd., 146 & 147, Houndsditch, London, E.C.

Water Purifying Plant.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Pulsometer Engineering Co., Ltd., The, Nine Elms Iron Works, Reading, Berks.; & 61 & 63, Queen Victoria-st., London, E.C. Manufacturers of the "Torrent" Filter & "Criton" Water Softening Apparatus. *See advt., page* 720.

Water Tanks.

Piggott, T., & Co., Ltd., 63, Queen Victoria-st., London, E.C.

Water Tube Boiler Makers.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Watertight Fittings.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 694 *& on lower outside edges.*

Watertight Fittings—*continued.*

Santoni, D., & Co. (1906), Ltd., 15–17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

Watt Hour Meters.

Chamberlain & Hookham, Ltd., New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") *See advt., page* 490.

GEIPEL & LANGE, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Welded & Riveted Steel Pipes.

Piggott, T., & Co., Ltd., 63, Queen Victoria-st., London, E.C.

Welding—Electric.

F.—Soudure électr.
G.—Elektr. Schweissen.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

Electric Welding Co., Ltd., 28, Basinghall-st., London, E.C.

Smith, Parfrey & Co., Ltd., Fulham Palace-rd., Hammersmith, W.

White Metal Manufacturers.

F.—Métal blanc—Fab. de.
G.—Weiss Metall—Fabr. von.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

WALLACH BROS., 57, Gracechurch-st., London, E.C. (Telegrams: "Hammerman, London." Telephone Nos. 2898 & 2899, Avenue); & 108A, Hope-st., Glasgow. Works: Tenter-st. South, Goodman's Fields, London, E.

Wholesale Dealers in Electrical Appliances.

Seabrook Bros., 32, 33, 34, Featherstone-st., City-rd., London, E.C.

Shippey Bros., 13 & 14, King-st., Cheapside, London, E.C.

Winches—Electric.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Winches for Arc Lamps.

F.—Treuils pour lampes à arc.
G.—Winde für Bogenlampen.

Abbott & Co. (Newark), Ltd., Newark-on-Trent.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BROCKIE-PELL ARC LAMP, LTD., 60, Worship-st., London, E.C. (Telegrams: "Illuminers, London." Telephone No. 270, London Wall.) *See advt., page* 403.

Donovan & Co., 12, Barwick-st., Birmingham.

Field, Mallet & Co., Ltd., 2, St. Dunstan's Hill, London, E.C.

London Electric Firm, George-st., Croydon.

Santoni, D., & Co. (1906), Ltd., 15–17, Beauchamp-st., Holborn, London, E.C. (Telegs.: "Santochimo, London." Teleph. No. 4774, Central.) *See advt., page* 29.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. No. 2970, Hop.) *See advt., page* 561.

Wire Cable Machine Makers.

F.—Machines à faire les Cables—Fab. de.
G.—Draht-Kabel Maschinen—Fabr. von.

Iddon Bros., Ltd., Brookfield Iron Works, Leyland, nr. Preston.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 628.

Washington & Co., Ltd., Sowerby-bridge, York. (Telegrams: "Washington, Sowerby-bridge.")

Wire Cord Manufacturers.

F.—Cordes de Fil électr.—Fab. de.
G.—Drahtschnur—Fab. von.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *& 708.*

Wire Cord Manufacturers—*continued.*

Lewis, Joseph, 5 & 6, Great Winchester-st., London, E.C. (Telephone No. 3053, Central.) *See* LIGHTNING CONDUCTORS.

London Wire Cordage Co., 10, Ascham-st., Kentish Town, N.W.

Midland Wire Cordage Co. (Davison's), Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegs.: "Orchard, Birmingham.")

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt.* OPPOSITE.

WESTERN ELECTRIC CO., Bridge-chbrs., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Wire Coverers—Cotton.

F.—Fil recouvert—Coton.
G.—Drahtspinner—Baumwolle.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Holloway, F. E., 35, Summerfield-crescent, Birmingham.

Hutchins, F., A.M.I.E.E., Crescent Works, Manor Park-rd., Harlesden, N.W.

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegs.: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

Wire Coverers—Cotton—*continued.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

Registered Trade Mark.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Smith, H. W., & Co., Lydbrook, Glos.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt.* BELOW.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Wire Coverers—Indiarubber & Gutta-percha.

F.—Fil recouvert—Caoutchouc et G. P.

G.—Drahtspinner—Gummi u. Gutta Percha.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 431.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Craigpark Electric Cable Co., Ltd., Springburn, Glasgow.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

GRIFFITHS BROS. & CO., Macks-rd., Bermondsey, S.E. Sole makers of "Anti-Sulphuric" Enamel for protecting wires from the action of chemical fumes, &c., "Armour" fireproofing paint for cotton covering. *See advt., page* 18.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

ESTABLISHED 1827. Telegraphic Address: "UNSWORTH, DERBY."

G. B. UNSWORTH & SONS, LTD.

GREEN LANE MILLS, DERBY.

Gold Medals—
London, Saltaire, and Paris.

TRADE MARK

Gold Medals—
London, Saltaire, and Paris.

Manufacturers of Electrical Wires of every description for Electrical Instruments, Dynamo Machines, Telephones, & Electric Bells.

Insulated Line Wires & Cables,

For Use in Mines, Hotels, etc.

PLAIN AND BRAIDED FLEXIBLE CORDS, SILK, COTTON, AND WORSTED COVERED WIRES, OF ALL SIZES AND DESCRIPTION.

Large Stock of the Leading Wires always on hand.

PERFECT WORK AND QUICK DESPATCH GUARANTEED.

727 2 z

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Wire Coverers—Indiarubber & Gutta-percha—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, S.O., Charlton, Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIRE-PROOF & ALL CABLE SPECIALITIES. *See advts., page 404 & inside back cover.*

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page 432.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page 432.*

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page 472.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt.* BELOW.

Registered Trade Mark.

Wire Coverers—Indiarubber & Gutta-percha—*continued.*

Nussbaum, G. A., St. Martin's House, 29, Ludgate Hill, London, E.C.

Reliance Electrical Wire Co., 36, Spital-sq., Bishopsgate, E.C.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Smith, H. W., & Co., Lydbrook, Glos.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page 4.*

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page 727.*

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page 742.*

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages 429 & 705.*

Wire Coverers—Silk.

F.—Fil recouvert—Soie.

G.—Drahtspinner—Seide.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page 427.*

THE NORTHERN ELECTRIC WIRE Co.,

(FRANK PATCHETT; RILEY PATCHETT.)

SEDBURGH MILLS, HALIFAX.

MAKERS OF ALL DESCRIPTIONS OF

Vulcanized Indiarubber, Electric Light Wires & Cables, Flexible Cords.

Silk and Cotton-covered Magnet Wires, Gutta Percha and Indiarubber-covered Bell Wires.

Specialities { VULCANIZED FLEXIBLE CORDS & SHOT-FIRING CABLES.

Telegraphic Address: "CABLES, HALIFAX." Telephone No. 127.

Wire Coverers—Silk—*continued.*

Dould, Charles, 1A, Fore-st., London, E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt.* OPPOSITE.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegs.: "Rickard, Derby." Teleph. No. 18.) *See advt. facing title page.*

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

Smith, H. W., & Co., Lydbrook, Glos.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 727.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

Wire Covering Machine Manufacturers.

F.—Machines à recouvrir les fil.

G.—Maschinen zum Drahtumspinnen—Fab.

CHURCHILL, CHAS., & CO., LTD., 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 2, Charlotte-st., Mosley-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow.

Edward, George, & Co., Hercules Iron Works, Johnstone, nr. Glasgow.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

Wire Covering Machine Manufacturers *—continued.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Robinson, J., & Co., Springfield Iron Works, Salford.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., & Lambeth Hill, London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 628.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Wire Drawers.

F.—Etireurs de Fil.

G.—Draht-Zieher.

Binns, J. & A., West Mount Wire Works, Halifax.

Brearley, Ralph, Woodland Wire Mill, Brighouse, Yorks.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Christie, George, Ltd., Ladywell Wire Works, Govan, Glasgow; & 10 & 11, Bishopsgate-st. Within, London, E.C.

Clifford, Charles, & Son, Ltd., Fazeley-st., & Dog-pool Mills, Birmingham.

DENNIS, W. F., & CO., Albert-bldgs., 49, Queen Victoria-st., London, E.C.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. (Agent for La Cie. des Tréfileries du Hâvre, Anciens Établissements Lazare Weiller.) *See advts., pages* 654 *&* 736.

FELTEN & GUILLEAUME LAHMEYER-WERKE ACT. GES., MÜLHEIM AM RHEIN. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Greening, N., & Sons, Ltd., Warrington.

Haley, S., & Sons, Ltd., Pyenot Hall Mills, Cleckheaton, Yorkshire.

Hallam, G., & Co., Havelock Steel & Wire Mills, Walkley Bank, nr. Sheffield.

Hawkins Bros. & Co., Ltd., London Wire Mills, Hatfield-st., & Basterfield-st., Golden-lane, London, E.C.

Hughes, William, Ltd., 37, Drury-lane, London, W.C.

Jagger, J. & G., Old Wire Mills, Thurgoland, Sheffield.

Johnson, C. H., & Sons, Ltd., Manchester Wire Works, Smedley-rd., Manchester.

Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 732.

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

Wire Drawers—*continued.*

Law, S., & Sons, Ltd., Moorland Mills, Cleckheaton, Yorks.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Longford Wire Co., Ltd., Warrington.

NORTH BRITISH WIRE MANUFACTURING CO., GLASGOW & LONDON. (Telegrams: "Weaving, Glasgow.") (COPPER & BRASS.) *See advt., page* 469.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

Registered Trade Mark.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

RAMSDEN, CAMM & CO., LTD., Brighouse, Yorkshire. Specialities in copper & brass wires to finest sizes. (Telegrams: "Ramsden, Brighouse." Teleph. No. 5.) *See advt., page* 732.

Russell & Son, 73, Stibbington-st., London, S.W.

Sheffield Wire Co., Arundel-street, Sheffield.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Stanton, Fredk. & Edwin, Silk Mills, Lewisham, London, S.E.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

Turner Bros., 134, Upper Thames-st., London, E.C. Bright drawn charcoal iron wire in straight lengths a speciality.

Tyne Wire Drawing Co., South-shore, Gateshead.

Wordsworth, Geo., & Sons, New Wire Mill, Thurgoland, Sheffield.

Worrall, Hallam & Co., Needle Works, Warren-street, Sheffield.

Young, T. W., 17, Sun-st., Finsbury, London, E.C.

Wire Draw-Plate Makers.

F.—Filière à tirer—Fab.
G.—Zieheisen-Fabriken.

WOODS, T. G., & SONS, Clerkenwell, London, E.C. SPECIALITY:—GRADUATED draw-plate jewel holes. (Telegrams: "Monomial, London." Telephone No. 11729, Central.) *See advt., page* 559.

Wire Gauge Manufacturers.

F.—Fil—Fab. de Machines pour Calibrer le.
G.—Draht-Messer—Fabr.

Apps, A., 433, Strand, London, W.C.

EDELSTEN, JOHN, & SON, Warrington.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Wire Gauze Manufacturers.

PATENT PROCESS WIRE WEAVING CO., Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Nat. Telephone No. 2527.) *See advt., page* 468.

Wire Manufacturers—Armature Binding.

Brunton, W. N., & Son, Musselburgh, Scotland.

Wire Manufacturers—Braided.

F.—Fil tressé—Fab. de.
G.—Draht Fab.—Geflochten.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Donovan & Co., 12, Barwick-st., Birmingham.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 434, 448, 641 *&* 708.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

JOHNSON & PHILLIPS, LTD., Electric Cable Works, Charlton, S.O., Kent. Depôts: Manchester, Leeds, Cardiff, Bristol, &c. Sole makers VULCANIZED BITUMEN, FIREPROOF & ALL CABLE SPECIALITIES. *See advts., page* 404 *& inside back cover.*

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Wire Manufacturers—Braided—*continued.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 727.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

Wire Manufacturers—Brass.

F.—Fil—laiton—Fab.

G.—Draht fabr.—Messing.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGRAMS: "STANDARD.")

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

DAVIS & TIMMINS, LTD., York-rd., King's Cross, N.; & Wood Green, N. (Telegrams: "Conductivity, London.") *See advt., page* 679.

Heaton & Dugard, Shadwell-street Mills, Birmingham.

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

Kuhn, Ernst, 7, Savage-gardens, London, E.C.

Moss, Thos. F., & Co., Ltd., 4, Bombay-st., Bermondsey, London, S.E.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. H.C. copper wire. *See advt., page* 732.

Wire Manufacturers—Brass—*continued.*

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Rheinische Westfalische Kupferwerke, 6, Lime-street, London, E.C.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Smith & Sons, 18, 22, 23, & 24, St. John's-sq., London, E.C.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

United Wire Works, Ltd., Edina Works, Edinburgh; Glasgow; & Newcastle.

Vivian, H. H., & Co., Ltd., 46, George-street-parade, Birmingham.

Walker, Saml., Ltd., Fazeley-st., Birmingham.

Wire Manufacturers—Copper.

F.—Fil—cuivre—Fab.

G.—Draht fabr.—Kupfer.

Altendorf & Wright, Vesey-st., Birmingham.

Armstrong, Stevens & Co., Whittall-st., Birmingham. (Telegrams: "Armstrongs, Birmingham.") *See advt., page* 424.

BATH, HENRY, & SON, 28, Chapel-st., Liverpool. Agents for the WACLARK WIRE CO., New York, makers of high conductivity trolley wire, copper rods & all sizes of drawn wire. (Telegs.: "Bathota, Liverpool." Teleph. Nos. 185 & 5950, Central.)

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C. Fine Wires.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

FREDERICK SMITH & CO., WIRE MANUFACTURERS, Ltd.

ANACONDA WORKS, SALFORD, MANCHESTER. Contractors to H.M. Government and Railway Companies.

COPPER WIRE

(100 PER CENT. CONDUCTIVITY).

Plain Soft. Hard Drawn to Government Specifications. Special Tinned Wire.

TROLLEY WIRE

Specially prepared, in half-mile and mile lengths.

SILICIUM BRONZE WIRE & STRIP "COGWHEEL" BRAND.

PHOSPHOR BRONZE SPRING WIRE. Also at HALIFAX.

RICHARD JOHNSON & NEPHEW.

LIMITED,

BRADFORD IRON WORKS, MANCHESTER, ENGLAND.

COPPER, STEEL & IRON WIRE

TO ALL SPECIFICATIONS,

FOR TELEGRAPHS, TELEPHONES, CABLES, &c.

LONDON OFFICE - 65, LONDON WALL, E.C.

Wire Manufacturers—Copper—*continued.*

Christie & Co., 134, Upper Thames-st., London, E.C. (Agents for the Compagnie Française des Metaux.) Best H.C. Copper Wire, hard & soft, plain & tinned.

DAVIS & TIMMINS, LTD., York-rd., King's Cross, N.; & Wood Green, N. (Telegrams: "Conductivity, London.") *See advt., page* 679.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. (Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller).) *See advts., pages* 654 *&* 736.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Gallimore, W., & Sons, Arundel Works, Sheffield.

Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 24.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Wire Manufacturers—Copper—*continued.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 14, Union-ct., Old Broad-st., E.C. *See advts., page* 404 *& inside back cover.*

JOHNSON, RICHARD, & NEPHEW, LTD., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt.* ABOVE.

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

Kemp, A., & Son, Tenby-st. North, Birmingham.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 151.) *See advt., page* 472.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

PATENT PROCESS WIRE WEAVING CO., Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Telephone No. 2527, Nat.) *See advt., page* 468.

RAMSDEN, CAMM & Co., LTD.,

BRIGHOUSE, YORKSHIRE.

MANUFACTURERS OF

TELEGRAPH, TELEPHONE AND CABLE WIRE,

Contractors to H.M. Postmaster-General, the Indian & Colonial Governments, and leading Railway Companies.

BEST H. C. COPPER WIRE.

Wire Manufacturers—Copper—*continued.*

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Powells, Ltd., Vauxhall, Birmingham.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. Best H.C. copper wire, hard or soft, plain & tinned. (Telegrams: "Ramsden, Brighouse." Teleph. No. 5.) *See advt.* OPPOSITE.

Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.

Schwarte & Hammer, 3, East India-ave., London, E.C.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

SMITH, FREDERICK, & CO., WIRE MANUFACTURERS, LTD., Anaconda Works, Salford, Manchester; also at Halifax. Copper wire, hard-drawn H.C., long lengths copper wire, plain soft, tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire "Cog-wheel Brand." (Telegrams: "Anaconda, Manchester.") *See advt., page* 731.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

Wire Manufacturers—Galvanized Iron & Steel.

F.—Fil—Fer et Acier galvanisé—Fab.

G.—Draht—Verzinktes Eisen und Stahl—Fabr.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C. Fine Wires.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt.* OPPOSITE.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt.* OPPOSITE.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Whitecross Co., Ltd., Milner-st., Warrington.

Wire Manufacturers—German Silver.

F.—Fil—Maillechort—Fab.

G.—Draht fabr.—Neusilber.

Barker & Allen, Ltd., Rolling & Wire Mills, Spring Hill, Birmingham.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Gorrill, J., Sydney Works, Sydney-st., Sheffield.

Hall-st. Metal Rolling Co., Ltd., Hall-st. Works, & Western-rd. Mills, Birmingham.

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt.* OPPOSITE.

Smith & Sons, 18, 22, 23, & 24, St. John's-sq., London, E.C.

Wire Manufacturers—Iron.

F.—Fil—Fer—Fab.

G.—Draht fabr.—Eisen.

Beckmann & Co., 21, Finsbury-st., Moorfields, London, E.C.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C. Fine Wires.

Brunton, W. N., & Son, Musselburgh, Scotland.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Hadfield's Steel Foundry Co., Ltd., manufacturers of Hadfield's Patent "Era" Manganese steel & "Resista" steel wire & strips for resistance coils, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Hattemore, M., & Co., 265, Bethnal Green-road, London, E.

Haybridge Iron Co., Ltd., Wellington, Salop.

Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt.* OPPOSITE.

Kalker, E., & Co. 141, Much Park-st., Coventry.

Künster & Co., 70, Gracechurch-st., London, E.C.

Rainforth, W., & Sons, Britannia Iron & Wire Works, Lincoln.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt.* OPPOSITE.

Rigby, J., & Sons, Ltd., Parkhouse Mill, Low Moor, Bradford.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Wire Manufacturers—Iron—*continued.*

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.
Staniar, John, & Co., Manchester Wire Works, Manchester.
Starkie, Jas., & Sons, Ltd., Preston, Lancs.
Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.
White, T., & Sons, Balsall Heath, Birmingham.

Wire Manufacturers—Manganese Steel.

Hadfield's Steel Foundry Co., Ltd., manufacturers of Hadfield's Patent "Era" Manganese steel & "Resista" steel wire & strips for resistance coils, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Wire Manufacturers—Phosphor Bronze.

F.—Fil—Phosphor Bronz—Fab.
G.—Draht—Phosphor Bronze—Fabr.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C.
Brunton, W. N., & Son, Musselburgh, Scotland.
De Grelle, Houdret & Co., 130, London Wall, London, E.C.
Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)
SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt.* BELOW.
Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Wire Manufacturers—Platinoid.

F.—Fil—Platine—Fab. de.
G.—Draht fabr.—Platinoid.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Wire Manufacturers—Platinum.

F.—Fil de Platine—Fab. de.
G.—Draht—Fabr.—Platin.

Johnson, Matthey & Co., Ltd., 74–81, Hatton Garden, London, E.C.

Wire Manufacturers—Steel.

F.—Fil—Fab. de—Acier.
G.—Draht-Fabriken—Stahl.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C. Fine Wires.
Cookes & Swinnerton, Barrow Steel Wire Works, Barrow-in-Furness.
Düsseldorfer Eisen und Draht Industrie (Schwarte & Hammer), 6, Lime-st., London, E.C.
Hartley, J., & Co., Steel & Wire Mills, Heeley, Sheffield.
Hirst, Charles, & Sons, Ltd., Exchange Mill, Cleckheaton, Yorkshire.
Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 732.
Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Teleph. No. 5.) *See advt., page* 732.
SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt.* BELOW.
Smith, E. A., & Co., Ltd., Phœnix Works, Cleckheaton.
Smith & Sons, 18, 22, 23 & 24, St. John's-sq., E.C.
Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.
Wall, G. P., Magneto Works, Sheffield.

Wire Manufacturers—Telegraph.

F.—Fil télégraphique—Fab. de.
G.—Draht Fabriken für Telegraphie.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

THE SHROPSHIRE IRON CO., LTD.,

HADLEY, near WELLINGTON, SALOP.

BARS, HOOP, STRIP & WIRE

MANUFACTURED IN

SUN BRAND Iron & Copper Wire.

Iron, Steel, Copper & Brass.

GALVANIZED, TELEGRAPH, TELEPHONE, CABLE & TROLLEY WIRE to all Specifications.

Brand for DRAWN WIRE.

CONTRACTORS TO H.M. POSTMASTER-GENERAL, ADMIRALTY, WAR OFFICE, INDIAN & COLONIAL GOVERNMENTS, ENGLISH & FOREIGN RAILWAY COMPANIES.

BEST H.C. COPPER AND BRONZE WIRE.

Telegrams: "SUN, WELLINGTON, SALOP." Telephone No. 11, Wellington, Salop.

Wire Manufacturers—Telegraph—*contd.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

Cookes & Swinnerton, Barrow Steel Wire Works, Barrow-in-Furness.

DENNIS, W. F., & CO., Albert-bldgs., 49, Queen Victoria-st., E.C.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. (Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller).) *See advts., pages* 654 *&* 736.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

Gössell, Otto (Aix-la-Chapelle Iron & Steel Co.), 110, Cannon-st., London, E.C.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

Hill, Richard, & Co., Ltd., Newport Wire Mills, Middlesborough.

Hooper's Telegraph & Indiarubber Works, Ltd., 31, Lombard-street, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 732.

King's Norton Metal Co., Ltd., 16, Great George-st., London, S.W.; & King's Norton, nr. Birmingham.

Koenigs, H., & Co., 38, Lime-st., London, E.C.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Moenich, Oscar & Co., Billiter House, Billiter-st., London, E.C.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Patchett, G., & Sons, Sedburgh Mills, Halifax.

Patterson, Walter, 218, Goswell-rd., London, E.C.

Power, F. A., & Son, Midland Wire Mills, Saltley, Birmingham.

Wire Manufacturers—Telegraph—*contd.*

RAMSDEN, CAMM & CO., LTD., Brighouse, Yorkshire. Manufacturers of Telegraph & Telephone Wire. Iron & Steel Wire for Submarine Cables, &c. **H.C. COPPER WIRE.** Contractors to H.M. Postmaster-General. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt., page* 732.

Royston, J., Son & Co., Ltd., Shrogg's Mills, Halifax.

Rylands Bros., Ltd., Warrington.

Shipman, J., & Co., Attercliffe, Sheffield.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt.* OPPOSITE.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

SMITH, FREDERICK, & CO., WIRE MANUFACTURERS, LTD., Caledonia Works, Halifax. Patent galvanized high conductivity telegraph wire to all specifications. (Telegrams: "Smith, Halifax.") Copper Department: Anaconda Works, Salford, Manchester. *See advt., page* 731.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Warden, Joseph, & Sons, 110, Cannon-street, London, E.C.

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Wire Manufacturers—Telephone.

F.—Fil Téléphonique—Fab. de.
G.—Draht für Telefonie.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Braulik, G., 218, Upper Thames-st., London, E.C. *See advt., page* 387.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 427.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Espir, Fernand, 2 & 3, East India-ave., London, E.C. (Agent for La Cie. des Tréfileries du Hâvre (Anciens Établissements Lazare Weiller).) *See advts., pages* 654 *&* 736.

Wire Manufacturers—Telephone—*continued.*

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt. page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 732.

JOHNSTONE, BENJAMIN & CO., LTD., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

LONDON ELECTRIC WIRE CO., LTD., Playhouse-yard, Golden-lane, London, E.C. Specially prepared cords, wires & cables for telephone work. *See advt. facing inside back cover.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 728.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Kabelwerk Rheydt Act. Ges., Rheydt, nr. Düsseldorf. *See advt., page* 9.

Ramsden, Camm & Co., Ltd., Brighouse, Yorks. Best H.C. copper wire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt., page* 732.

Wire Manufacturers—Telephone—*continued.*

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Siemens Bros. & Co., Ltd., 12, Queen Anne's Gate; & Queen Anne's-chbrs., Westminster, London, S.W.

Smith & Sons, 18, 22, 23 & 24, St. John's-sq., London, E.C.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 1969, 1970 & Trunk line.) *See advt., page* 742.

Western Electric Co., 171, Queen Victoria-st., London, E.C. Works: North Woolwich. *See advts., pages* 429 *&* 705.

Wire Manufacturers—Tin.

F.—Fil d'étain—Fab. de.

G.—Zinn Draht—Fabr. von.

Donovan & Co., 12, Barwick-st., Birmingham.

Johnstone, Benjamin & Co., Ltd., Ascham-st., Kentish Town, N.W. *See advt., page* 432.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Wire Rope Machine Makers.

F.—Fil métallique—Fab. de machines pour la fabr. de.

G.—Maschinenbau für Drahtseiler.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

COMPAGNIE DES TRÉFILERIES DU HÂVRE

(ANCIENS ÉTABLISSEMENTS LAZARE WEILLER),

TELEPHONIC & TELEGRAPHIC ENGINEERS.

Manufacturers of all sorts of Improved Electrical Wires.

AWARDS.—Legion of Honour, 1884. Gold Medal, Paris Universal Exhibition, 1889. Grand Diploma of Honour.

Specialities. { High Conductivity Plain and Tinned Copper Wire. Copper Strip for Mains and Dynamos. Bi-metallic Wire, Silicious Bronze Wire, &c.

Also ordinary Copper Wire for Mechanical Purposes.

29, RUE DE LONDRES, 29, PARIS.

WORKS AT HÂVRE (SEINE INFÉRIEURE).

General Agency and Depôt (for the United Kingdom and the Colonies),

FERNAND ESPIR, 3, East India Avenue, London, E.C.

Telephones: 1600, AVENUE; 4183, CENTRAL.

Wire Rope Manufacturers.

F.—Fil métallique—Fab. de.
G.—Draht Seil Fabr.

Anderson, Richard, & Co. (successors to Sanderson & Co.), Huddersfield; & Leadenhall House, 101, Leadenhall-st., London, E.C.

Binks Bros., Strafford-street, Millwall, London, E.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.

FELTEN & GUILLEAUME LAHMEYERWERKE ACT. GES., MÜLHEIM AM RHEIN. (W. F. Dennis & Co., agents, Albert-bldgs., 49, Queen Victoria-st., London, E.C.)

Haggie Bros., Ltd., South Shore, Gateshead.

Haggie, R. Hood, & Son, Ltd., Cathedral-bldgs., Newcastle-on-Tyne; 36, Lime-st., London, E.C.; Victoria Pier, Hull; 29, Clive-st., North Shields; Pier Head-chbrs., Cardiff; & 93, Hope-st., Glasgow.

Latch & Batchelor, Ltd., Hay Mills, near Birmingham; & Avon Steel Works, Sheffield.

Lewis, Joseph, 5 & 6, Great Winchester-st., London, E.C. Chimney shafts, &c., restored. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.) *See* Lightning Conductors.

Midland Wire Cordage Co. (Davison's), Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegrams: "Orchard, Birmingham.")

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 594.

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

Wilkins Wire Rope Co., Ltd., Eastwood, Notts. (Telegs.: "Cordelero, Eastwood." Teleph. No. 17, Langley Mill.)

Wire Staples Manufacturers.

F.—Crochets pour fil de fer.
G.—Draht-Krampen—Fabr.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advts., pages* 610 *&* 723.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax. Branch: Cliftonbridge Mills, Brighouse, Yorks. London office: 39, Lime-st., E.C. Speciality: manufacturers of telephone & telegraph staples.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* Alphabetical Section. *See advts., pages* 434, 448, 641 *&* 708.

Wire Staples Manufacturers—*continued.*

Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby. For telegraphic addresses & telephone numbers, *see* Alphabetical Entry. *See advt., page* 732.

Law, S., & Sons, Ltd., Moorland Mills, Cleckheaton, Yorks.

MOSSES & MITCHELL, 68–71, Chiswell-st., London, E.C. Sole agents for the BLAKE INSULATING STAPLES, also Insulating Saddle Staples. *See advt., page* 723.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegs.: "Ramsden, Brighouse." Teleph. No. 5.) *See advt., page* 732.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 734.

Thornton, Robt., Paragon Works, Cleckheaton.

Tower Manufacturing Co., Ltd., Central Works, Shrub-hill, Worcester.

Warrington Wire Rope Works, Ltd. Head office: 13, Goree Piazzas, Liverpool.

Wire Stranding Machines.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Wire Testing Machines.

(*See* Testing Machines for Wire.)

Wire Workers & Weavers.

F.—Fil—Façonneurs et tisserands de.
G.—Drahtarbeiter & Weber.

Braby, F., & Co., Ltd., Petershill-rd., Glasgow.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* Alphabetical Entry.

Caledonian Wire Works, 28, Thistle-st., Glasgow.

Harding, George, & Sons, 25–51, Long-lane, Borough, London, S.E.

Hawkins, T. P., & Son, 25A, Dale-end, Birmingham.

James, A. A., Ltd., St. George's Works, Paradise-st., West Bromwich. (Telegrams: "James, Wireworks, Westbromwich." Telephone No. 19 X., West Bromwich.)

NORTH BRITISH WIRE MANUFACTURING CO., Glasgow & London. (Telegrams: "Weaving, Glasgow.") *See advt., page* 469.

PATENT PROCESS WIRE WEAVING CO., Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Nat. Telephone No. 2527.) *See advt., page* 468.

Patterson, William, Walker Gate, Newcastle-on-Tyne. (Telegs.: "Wirework, Newcastle-on-Tyne." Nat. Teleph. No. 510.) *See advt., page* 469.

Wire Workers & Weavers—*continued.*

Potter, F. W., & Co., Phipp-st., Gt. Eastern-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)
Riddell, Wm., & Co., 636, Springfield-rd., & 54, Mitchell-st., Glasgow.
Stonier, F. & G. W., & Co., Harris-street, Strangeways, Manchester.
Topham, Charles, & Co., 3, Dufferin-st., Bunhill-row, London, E.C.

Wireless Telegraph Apparatus.

F.—Télégraphie sans fil—Appareils pour.
G.—Drahtlose Telegraphie—Apparate für.

Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd., 12, Carteret-st., Queen Anne's Gate, London, S.W.
Marconi's Wireless Telegraph Co., Ltd., 18, Finch-lane, London, E.C.
Rosenberg, A., & Co., Ltd., 259, High Holborn, London, W.C.

Wiring Contractors.

(*See* CONTRACTORS—INSTALLATION.)

Wiring Systems—Contractors for.

NEW BROTHERTON TUBE CO., LTD., THE, Excelsior Works, Commercial-rd., Wolverhampton.
SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See inset advt., pages* 445 *&* 446.

Wiring Tubes & Conduits—Makers of.

NEW BROTHERTON TUBE CO., LTD., THE, Excelsior Works, Commercial-rd., Wolverhampton.
SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at Mansion House-chbrs., 20, Bucklersbury, London, E.C.; 6, Bull's Head-yard, Corporation-st., Manchester; & 165A, West George-st., Glasgow. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director, 11, Queen Victoria-st., London, E.C. *See inset advt., pages* 445 & 446.

Wood Casings & Cleats for Wires.

F.—Boîtes en bois et galoches pour Fil.
G.—Gehäuse zum Bedecken von Drähten.

Adams, T., & Sons, Cambridge-st., Birmingham.
Addington Timber, Slate & Cement Co., Ltd., Cold Blow-rd., Brocklehurst-st., Hatcham, London, S.E.
Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; & Capel-st., Dublin.
BEECROFT & WIGHTMAN, LTD., Harris-st., & Garnett-st., Bradford; also Hull & Liverpool. READY PAINTED CASINGS. LARGE PLANT PUT DOWN SPECIALLY FOR ELECTRIC LIGHT CASINGS.
Bennett, J. M., & Sons, Hyde, Ardwick, Manchester.
BERRY, SKINNER & CO., 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham.
Causley, S. & C., 33, High-street, Kingsland, London, N.E.
Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 428.
Dodimead, J. F., & Son, 50, Tottenham Court-rd., London, W.
Donovan & Co., 12, Barwick-st., Birmingham.
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Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Teleph. 1187.) London office: Parliament Mansions, Victoria-st., S.W. *See* ALPHABETICAL.
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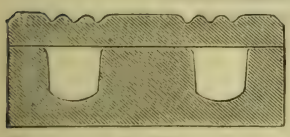

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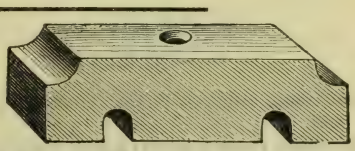

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Hepton, W., & Son, Hunslet-lane, Leeds.

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Grafton & Co., stm. & elec. cranes, Vulcan Wks.
Howard, J. & F., engs., Britannia Iron Wks.

Bedford—*continued.*

Kilpin & Billson, elec. lt. engrs. & contrs., High-st.
Langdon-Davies, F. H., local mgr., Nat. Teleph. Co.
Phillips, R. W. L., A.M.I.E.E., boro' elec. engr.
Radley, Wood & Co., engrs., Ampthill-rd.
Saunderson, H. P., & Co., Ltd., oil motor mkrs., Elstow Wks.
Taylor & Brawn, elec. app. dlrs., 69A, High-st.
Wilson Bros., engrs.

Belfast.

Allen, W. H., Son & Co., Ltd., mech. engrs., Queen's-rd.
Ardrey, J., elec. agt., 43A, High-st.
Aston Bros., Ltd., elec. engrs., 38, Donegall-st.
Blackburn, A. A., A.M.I.E.E., car wks. supt., City Trys.
Bloxam, T. W., A.M.I.E.E., chf. asst. elec. engr., Corp. Elec. Wks.
Brit. Insul. & Helsby Cables, Ltd., 20, York-st.
Cheetham, G., M.I.E.E., Postal Teleg.
Coates, Wm., & Son, Ltd., elec. lt. & p. engrs., Fountain-st.
Combe Barbour, branch of Fairbairn Lawson Combe Barbour, Ltd., elec. lt. eng. mkrs., Falls Fdry.
Combe, G., & Co., con. elec. engrs., Castle-lane-pl.
Corp. Elec. Wks. & Trams. V. A. H. McCowen, M.I.E.E., M.I.MECH.E., engr.
Cryselco, Ltd., incand. lmp. mfrs., 43A, High-st.
Curran Bros., elec. engrs., &c., 97, Donegall-st.
Dale, C. E., engr. in ch., Corp. Elec. Wks.
Dashwood, E. S., cons. engr., Eden Cottage, Whitcabbey.
Davidson & Co., Ltd., elec. fans, Sirocco Eng. Wks.
Dowling, J., & Co., elec. engrs., 5, Up. Queen-st.
Edison & Swan U.E.L. Co., Ltd., 134, Royal-ave.
Evans, J., dis. supt. Edison & Swan U.E.L. Co., 134, Royal-ave.
Farrell, A. B., engr.-in-charge, Corp. Elec. Wks.
Fitzgerald, Prof. W., elec. insp. B.O.T., Queens Coll.
General Elec. Co., Ltd., elec. supplies mfrs., 13, Queen-st.
Gilmore & Co., elec. engrs, 25, Fountain-st.
Glover, W. T., & Co., Ltd., cables, 43A, High-st.
Greenhill & Craig, elec. engrs. & contrs., 33, 35 & 37, King-st.
Hind Bros., elec. agts., 20, York-st.
I. R., G. P. & Teleg. Works Co., Ltd., 75, Ann-st.
L'pool Elec. Cable Co., Ltd., wires & cables, 125, Gt. Victoria-st.
Lowden, Jas., & Co., inst. contrs., Ann-st.
Macauley, W., & Co., elec. agts., 125, Gt. Victoria-st.
McCowen, V. A. H., M.I.E.E., M.I.M.E., city elec engr.
McGrady, J., & Co., inst. contrs., 33, Old Lodge-rd.
Milliken, J., motor cars, 3, Ocean-bldgs.
Moore, J., & Sons, Ltd., engrs. & ironfdrs., 114, Millfield.
Municipal Tech. Inst.

Belfast—*continued.*

Musgrave & Co., Ltd., elec. fans.
New Brotherton Tube Co., Ltd., 43A, High-st.
Patterson, R., & Co., inst. contrs., 57 & 59, High-st.
Queen's College. *See* SCHOOLS, &c.
Reynolds, C., elec. agt., Ocean-bldgs.
Scott, H. J., & Co., elec. engrs., Ravenhill-ave.
Wilson, R., inst. contr., 40, Donegall Quay.
Wilson Bros., inst. contrs., 12, Bedford-st.
Woodside, J., cons. elec. engr., Ocean-bldgs., Donegall-sq. East.

Berwick-on-Tweed.

Caverhill, W. C., & Co., Ltd., elec. bell fitrs.
Home, J. H., A.M.I.E.E., res. engr., Urban Elec. Sup. Co., Ltd.
Urban Elec. Sup. Co., Ltd. Res. engr., J. H. Home, A.M.I.E.E.

Bessbrook.

Bessbrook & Newry Elec. Twry. Co. Engr., J. L. D. Meares.
Caven, R., mgr. Bessbrook & Newry Elec. Trwy. Co.
Meares, J. L. D., C.E., cons. engr., Bess. & Newry Trwy. Co.

Bexhill-on-Sea.

Baker & Farnfield, elec. engrs., Victoria-rd.
Corp. Elec. Wks. W. T. Le Feuvre, engr.
Durrant, F., elec. engr., 28, Windsor-rd.
French, J. L., & Co., elec. engrs., 36, Devonshire-rd.
Hodgkinson, P., elec. engr., Devonshire-rd.
Le Feuvre, W. T., A.M.I.E.E., Corp. elec. engr.
Robson, W. T., elec. engr., Station-rd.
Russell, L., elec. engr., Station-rd.

Bexley.

Mittelhousen, Chas., A.M.I.C.E., engr. & mgr., U.D.C. Elecy. Wks.
Urban Dis. Council Elec. Wks. & Trwys. Engr., C. Mittelhousen.

Bilston.

Holcroft, T., arc lt. pillars, &c.
Perry, Thos., & Son, Ltd., mech. engrs., Highfield Wks.
U.D.C. Elecy. Wks. Engr., J. P. Wakeford.
Wakeford, J. P., U.D.C. Elecy. Wks.

Birkdale.

Bentham, H., A.M.I.E.E., res. engr., Elec. Wks.
B. Dist. Elec. Sup. Co., Ltd. Engr., H. Bentham, A.M.I.E.E.

Birkenhead.

Allison, J. G., & Co., elec. engrs., Marcus-st.
Bates, Wm., M.I.C.E., A.M.I.E.E., boro' elec. engr.
Brewer & Brunt, elec. engrs. & contrs., Hoylake, nr.
Brownridge, C., boro' engr.

Birkenhead—*continued.*

Corp. Elec. Wks. & Trwys. Wm. Bates, M.INST.C.E., A.M.I.E.E., engr.; W. Wyld, M.I.M.E., M.I.E.E., trwys. mgr.
Edwards, S. J., & Son, elec. engrs., 129, Claughton-rd.
Griffiths & Brakell, 79A, Grange-rd.
Heaney & Co., elec. engrs., 327, Borough-rd.
Hinson & Co., Ltd., elec. bell ftrs., &c., 69, 71 & 73, Argyll-st.; & Hinson-st.
Maclean A., dis. mgr. Nat. Teleph. Co., Ltd., 19, Price-st.
Male, Wm., & Son, Ltd., inst. contr., 1A, Village-rd.
Mawby, Wm., & Son, wiring contrs., Cross-st.
Perry, F. H., inst. contr., 103, Temple-rd.
Preston, E., wiring contr., 42, Grange-rd. West.
Price & Taylor, inst. contrs., 45, Argyle-st.
Stafford & Co., elec. engrs., 117, Oxton-rd.
Wyld, W., M.I.M.E., M.I.E.E., mgr., Corp. Elec. Trwys.

Birmingham (including Aston, Smethwick, &c.).

Adams, T., & Sons, wood csgs., Cambridge-st.
Albion Lamp Co., Ltd. (Rippingille's), electroliers, Aston-rd. N.
Allcock Brs., bell mfrs., 24–28, King Edward's-rd.
Alldays & Onions Pneumatic Engineering Co., Ltd., elec. vent. engrs., Small Heath.
Alliance Elec. Co., Ltd., 115 & 117, Colmore-row.
Altendorf & Wright, wire mfrs., Vesey-st.
Archdale, James, & Co., lathe mkrs. for elecns., Manchester Wks., Ledsam-st.
Arculus, A., & Co., globes for elec. ltg., 295, Broad-st.
Armstrong, Stevens & Son, bolts & nuts, Whittall-st.
Aston-Manor Corp. Elec. Wks., Chester-st. Boro' elec. engr., R. Foster.
Aston Manor Tech. School, Aston.
Badger, J., & Co., elec. lt. app. mfrs., 15, Summer-row.
Bakser, A., mgr. Municipal Tramways.
Barker, George, pat. & reg. agt., 77, Colmore-row.
Barker & Allen, Ltd., German silver, Spring Hill.
Barnard, H. B., & Sons, metal merchs., Guildhall-bldgs., Navigation-st.
Barnes, R. A., elec. lt. ftgs. mfr., 113, Suffolk-st.
Barnes, F., & Son, elec. engrs., 81½, Gt. Hampton-row.
Barter, Charles, A.I.E.E., 122, Suffolk-st.
Barwell, C. J. W., cop. tube, Norton-st., Hockley.
Barwell, James, Son & Co., elec. lt. ftgs. mfrs., Clement-st.
Barwells, Ltd., nut, bolt & rivet mfrs., Brookfield-rd., & 28, Pickford-st.
Baxter & Impey, elec. engrs., 54, Dudley-st.
Beckett & Parker, mfg. elecns., Tenby-st.
Belliss & Morcom Ltd., engrs., Ledsam-st. Wks.
Benton & Stone, tube mfrs., Aston Brook Tube Mills.
Berkeley, A., elec. agt., Guildhall-bldgs.
Berry, Skinner & Co., elec. engrs., Oozells-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Best & Lloyd, Ltd., electrolier mfrs., Cambray Wks., Handsworth.
Bill, S., & Co., elec. app., 56, Guest-st.
Birm. Assoc. of Mech. Engrs. Sec., L. O'Brien, 31, Palmerstone-rd., Sparkbrook.
Birm. Batty. & Met. Co., Ltd., tube, Selly Oak.
Birm. Carbon Wks., Witton.
B'ham, City of, Trwys. Co., Central Ho., New-st. Eng. man., G. Conaty.
B'ham Elec. Ftgs. Co., Broad-st.
B'ham Guild of Handicraft, Ltd., ftgs. mkrs., 45, Gt. Charles-st.
Birm. Installation Co., elec. engrs., Coleshill-st. Elec. Wks.
Birm. Lamp & Gasfittings Co., Ltd., name tablets, Summerfield Park Works.
B'ham Lighting Co., ftgs. mkrs., 133–135, Conybere-st.
Bishop, H. W., dist. supt. Edison & Swan Co.
Blake, H. N., elec. engr. & contr., 28, High-st.
Bolton, T., & Sons, Ltd., cop. teleg. wire mfrs., Broad-st. Metal Wks.
Booth, Jas., & Co., Ltd., tube mfrs., Sheepcote-st. Tube & Rolling Mills.
Booth, S., & Co., elec. ftgs. mfrs., Cheapside Wks.
Bradbury & Co., elec. lt. ftgs., Woodcock-st.
Brawn, T., & Co., Art Metal Wks., 64, Clement-st.
Breeden, J., & Co., Ltd., elec. lt. ftgs. mkrs., New Mill Works, Fazeley-st.
Brinkworth, W. H., electyper., &c., Caledonian Wks., Bell Barn-rd.
Brit. Insul. & Helsby Cables, Ltd., 19, Barwick-st.
Brit. Prometheus Co., Ltd., cook. & ht. app., Salop-st. Works, Highgate.
Brit. Thomson-Houston Co., Ltd., elec. engrs., Colmore-row.
Brook Elec. Wks. Co., accessories, Hockley Brook.
Brooks, H. B., mfg. elec. engr., Granville Wks., Tennant-st.
Brown, J., caster of elec. ftgs., 22, Loveday-st.
Brown & Ward, elec. & mech. engrs., 34, Hockley-st.
Burman, R. H., reflector mkr., &c., Windmill-st., Horse Fair.
Busby, E., & Son, wire mfrs., Excelsior Wire Wks., Dartmouth-st.
Butler & Spragg, Ltd., screw mfrs., Cambridge-st.
Canning, W., & Co., elec.-pltg. mach. mfrs., 134–137, Gt. Hampton-st.
Cardiff Tin Stmp. & En. Co., Ltd. (T. H. Starkey), Rosebery-bldgs., 83, John Bright-st.
Carpenter, T. R., ftgs. mfrs., 171–179, Bishop-st.
Carr, C., elec. bell mfr., Woodland Wks., Grove-lane, Smethwick.
Castle Rub. Co., Ltd., I. R. mfrs., 8, Triangle-chbrs., Union-pass.
Causer, W., M.I.M.E., cons. engr., 48, St. Paul's-sq.
Causer, W., & Co., hyd. & gen. engrs.
Chamberlain & Hookham, Ltd., elec. engrs., New Bartholomew-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Chance Bros. & Co., Ltd., lthouse engrs., Smethwick.
Chaplin Bros., dynamo brushes.
Chattock, R. A., M.I.E.E., city elec. engr.
Chatwin, Thos., engrs.' tool mkr., Gt. Tindal-st.
Churchill, Chas., & Co., Ltd., import. Am. mach., 2–10, Albert-st.
Clarke, A., & Co., elec. engrs., 274, Cooksey-rd.
Clifford, C., & Son, Ltd., wire drs., Fazeley-st.
Coleman, A., M.I.E.E., Prov. Supt., Nat. Teleph. Co., Telephone-bldgs., 19, Newhall-st.
Collins & Co., elec. engrs., 31, Whittall-st.
Cooke, J., & Son, electrolier mfrs., 203, Lawley-st.
Cope & Timmins, Ltd., conduits, Icknield-st.
Cornish, H. V., elec. ltg. supervisor, P.O. Teleg. Dept., Pinfold-st.
Corp. Elec. Wks. R. A. Chattock, M.I.E.E.
County Chemical Co., Ltd., Moor-st.
Craig, J. H., dis. mgr., Brit. West. Co., Central House, New-st.
Crompton & Co., Ltd., elec. engrs., Paradise-st.
Cross & Co., ftgs., Apollo Wks., Blews-st.
Cross, G., & Sons, ltg. cond., Smethwick.
Dallas, J., install. contr., 94, Hampton-rd.
Dalman, J. C., & Sons, elec. cstgs., River-st.
Davies, C. H., & Co., elec. access. mfrs., 160, Francis-st.
Davis, H., & Co., Ltd., ftgs., Vulcan Wks., Vauxhall-st.
Davis & Smith, ftgs., Star Wks., Bracebridge-st.
Delebecque, V. J., A.M.I.E.E., 27, Upper Priory.
Dickinson, A., M.I.E.E., Central House, New-st.
Dickinson, A., & Co., civ. engrs., Central House, New-st.
Dix, H. W. W., elec. engr. & agt., 44, Waterloo-st.
Dodd & Dodd, cons. civil engrs., 37, Waterloo-st.
Donovan, G. O., M.I.E.E., elec. engr., 126, Chester-rd., Erdington.
Donovan & Co., elec. mfrs., 12, Barwick-st.
Doulton & Co., Ltd., stoneware, Smethwick, nr.
Dowling, F. N., el. engr., Swan-bldgs., Edmund-st.
Drake & Dauncey, elec. engrs., 45, Newhall-st.
Dugard Bros., rolled met. mfrs., Vulcan Mills.
Eaton, S., & Sons, elec. lt. ftgs. mfrs., Barr-st., St. George's.
Edison & Swan U.E.L. Co., Ltd., International Exchange-bldg., Edmund-st.
Edwards, A. E. A., cons. elec. & mech. engr., 105, Colmore-row.
Edwards & Barnes, stpers. & elec. ftgs. mfrs., 237, Broad-st.
Edwards & Magnus, elec. lt. ftgs., Heneage-st.
Edwards & Shaw, cons. engrs., 105, Colmore-row.
Elec. & Ordnance Accessories Co., Ltd., Cheston-rd., Aston; & 27, Upper Priory.
Elec. Tramway Equipment Co., elec. trmy. contrs., 89, Glover-st.
Elecl. Ftgs. Mfrs. Assoc., 112, Edmund-st.
Elecl. Power Eng. Co., Mary-st., St. Paul's.
Elecl. Trades Supply, Ltd., Great Charles-st.
Elliott's Metal Co., Ltd., tube mfrs., &c., Selly Oak Wks.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Ellis & Ward, elec. engrs., 75, Edmund-st.
Elwell, John, iron & steel mfr., Sheepcote-st.
English Motor Co., elec. mot. cars, Mill-la.
Evans, Ed. A., e. l. & p. trans. engr., Willows-rd.
Evans, J. W., stampings, 54 & 55, Albion-st.
Evered & Co., Ltd., electroliers, Barnet Wks., Devonshire-st., & Surrey Wks., Smethwick.
Everitt, Allen, & Sons, Ltd., tubg. mfrs., Kingston Metal Wks., Smethwick, nr.
Ewins, J. A., & Co., gas engs., 70, Scholefield-st.
Falcke, C. D., elec. engr., Coleshill-st. Elec. Wks.
Fergusson, J. C., cons. elec. engr., 75, New-st.
Fletcher, Sons & Udal, met. workers, 51–53, Edgbaston-st.
Ford & Margrett, slate, Camp Hill Wks.
Ford, T., & Co., elec. lt. ftgs. mkrs., Victoria Wks., 114, Emily-st.
Foster, J., elec. engr., City Meat Market.
Foster, R., engr., Corp. Elecy. Wks., Aston Manor.
France, E., elec. lt. & bells, Cannon-passage.
Frazier, H. P., & Co., install. contrs.
Gadd, T., Ross Rivet Wks., Rowley Regis, nr.
Gardner, R., & Co., elec. lt. ftgs. mkrs., 66, Granville-st.
General Elec. Co., Ltd., elec. lt. ftgs., 54 & 56, Barwick-st.; & Witton.
Gilman, F., elec. machy. dlr., High Park-rd., Smethwick.
Glanvill, C., elec. bell ftr., &c., 13, Ruston-st.
Glover, W., & Sons, Ltd., gas & oil engs., 142, Moor-st.
Gore, G., LL.D., F.R.S., elec. met. chmst., 20, Easy-row.
Gott, A. E., A.M.I.E.E., 30, Cecil-rd., Gravelly Hill.
Gray, Avon & Co., wood turns., Breedon Cross Wks., Stirchley, nr.
Green, W. J. S., elecn., 214, Birchfield-rd.
Grice, Grice & Son, Ltd., tube mfrs., Sheepcote-st.
Guest, Keen & Nettlefolds, Ltd., engrs., London Works.
Hall, T. B., & Jones, cons. elec. engrs., King's-ct., Colmore-row.
Hall-st. Metal Rolling Co., Ltd., German silv. & wire mfrs., Hall-st. Wks.
Handley & Shanks, elec. engrs., 40, Gt. Charles-st.
Handsworth U.D.C. Elecy. Wks. Engr., F. A. Nixon.
Hanson, E., & Son, elec. engrs., Bloomsbury-st.
Harcourts, Ltd., pushes, 223, Moseley-st.
Hardman, Powell & Co., art. ftgs. mfrs., King Edward's-rd.
Harper, H., ftgs. mkr., Witton-rd., Aston.
Harris, A. E., & Co., die sinkers, &c., 95, Camden-st.
Harris, A., & Sons, Ltd., elec. lt. contrs., 152, Bristol-st.
Harris, Philip, & Co., Ltd., mfg. chem., 144, St. Edmund-st.
Hart Accum. Co., Ltd., Princes-chbrs., Corporation-st.
Hart, Son, Peard & Co., Ltd., elec. lt. ftgs., Grosvenor Wks.
Hartley, J. E., & Son, dynamo makers, &c., St. Paul's-sq.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Haseler, C., & Son, elec. ftgs. mfrs., 94, Bridge-st. W.
Hawkes, O. C., Ltd., elec. stores, Globe Wks., Bromsgrove-st.
Hawkins & Co., Ltd., screw mfrs., &c., 330, Cheapside.
Hawkins, T. P., & Son, wire wrs., 25A, Dale End.
Headley, F. H., elec. engr., 65, Stirling-rd.
Heath, R. S., D.SC., prof. of math., The University.
Heath, W. H., elec. engr., Elec. Power Eng. Co.
Heaton & Dugard, wire mfrs., Shadwell-st. Mills.
Heckford, A. E., B'ham Metal Wks., met. & wires, Frederick-st.
Hill, E., elec. bell & teleph. contr., Reliance Wks., Steelhouse-la.
Hinks, Jas., & Son, Ltd., electrolier mfrs., Gt. Hampton-st.
Hirsch, Dr. P., elec. engr., Veritys Ltd., Aston.
Holden, S. H., M.I.E.E., Chamberlain & Hookham, Ltd.
Holloway, F. E., ins. wire mfr., 35, Summerfield-cres.
Hookham, H. J., & Sons, metal wkrs., Charles Henry-st.
Hudson, Edmunds & Co., Ltd., tube & met. mfrs., Sheepcote-st.
Hughes, T. V., cons. elec. engr., 130, Edmund-st.
Hughes Butterfield Bros., accumulators, Stechford.
Hughes, J. & J., met. merch., Albion Metal Wks., Woodcock-st.
Hunt & Mitton, brass fin. & fdrs., Oozells-st.
Imperial Enamel Co., Ltd., cone & reflec. mkrs., Watery-la.
Imperial Tube Co.
Improved Plug Co., wall plugs, 75, Edmund-st.
India Rubber, G. P. & Teleg. Works Co., Ltd., 15, Martineau-st.
Ingram & Kemp, Ltd., elec. lt. ftgs. mfrs., Newtown-row.
Inniss & Riddle, elec. & mech. engrs., City-chbrs., New-st.
Institute of Scientific Research, 20, Easy-row.
Jeffries, J., A.M.I.E.E., elec. engr., 29, Court-rd., Balsall Heath.
Jevons, S., Ltd., elec. contrs., Constitution Hill.
Jewsbury, J., & Co., art met. wkrs., 71, Broad-st.
Johnson, E., & Co., cott. waste, cordage, Mary Ann-st.
Jones & Foster, brass fdrs., 39, Bloomsbury-st.
Jones, George, Ltd., mech. & el. engrs., Lionel-st.
Joyner, Charles, & Co., Ltd., elecl. mfrs., Icknield-sq., Monument-rd.
Jutson & Sons, chem. mfrs., Liverpool-st.
Kaiser, J., inst. contr., 57, Dale End.
Kapp, G., M.I.C.E., M.I.E.E., University.
Keay, E. C. & J., construc. engrs., Corporation-st.
Keeling, A. D., metal mfr., Warstone Metal Wks.
Keep Bros., elecl. exporters, 35 & 36, Gt. Charles-st.
Kemp, J. P., A.M.I.E.E., res. engr., Summer Lane Elecy. Wks.
Kemp, A., & Son, cop. & silv. wire, Tenby-st. N.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Kensington Stmpg. Co., Ltd., elec. ftgs., Kensington-st., Aston.
Knight, O. C., elec. engr., International-chbrs., Edmund-st.
Lancs. Dynamo & Motor Co., Ltd., 3, New-st.
Lancaster, Jas., & Son, elec. inst. mkrs., 37, Colmore-row.
Lander & Larsson, met. merch., 164, Edmund-st.
Latch & Batchelor, Ltd., wire rope mfrs., Hay Mills, nr.
Lea, Henry, & Son, cons. & elec. engrs., 38, Bennett's Hill.
Lea & Perrins, elec. lt. ftgs. mfrs., Midland Wks., Bracebridge-st.
Leyland & Birm. Rubber Co., Ltd., drvg.-band mfrs., 124, New-st.
Light & Pr. Ftgs. Co., Ltd., City Arcade.
Lister, J. Fraser, wks. director, Veritys, Ltd., Aston.
Lloyd, R., & Co., twist drills, &c., 135–139, Steelhouse-la.
Loach & Clarke, elec. lt. ftgs. mkrs., 20–25, Essington-st.
Local Section of the I.E.E., Winchester Ho., Victoria-sq. H. B. Matthews, hon. sec.
Lockerbie & Wilkinson (Birmingham), Ltd., fittings, Exeter-st.
Lodge, Prof. Sir O., D.SC., LL.D., F.R.S., M.I.E.E. University.
Lodge Bros. & Co., patent elec. ignition, 14, New-st.
Ludlow, H. W., elec. engr., 161, Rolfe-st., Smethwick, nr.
Ludlow & Knight, elec. engrs., Steelhouse-lane.
Lycett, J. A., dis. supt. Brit. Elec. Trac. Co., Ltd., Downing-st., Smethwick.
McGeoch, Wm., & Co., Ltd., elec. ftgs., Warwick Wks., 46, Coventry-rd.
McLean, J. Hardie, chf. engr., Midland Elec. Corp. for Power Dist., Ltd., 21, Waterloo-st.
Mahood, S. A., A.M.I.E.E., res. engr., B'ham & Midland Trys., Ltd., Smethwick.
Mander, A. F., elec. engr., 62, Victoria-rd., Aston.
Marris, G., & Son, Ltd., brass stampings, Browning-st.
Marsh, Son & Co., Ltd., elec. supp., Upper Priory.
Martineau, Beames & Madeley, Ltd., brass fdrs., Holloway Head.
Mather & Platt, Ld., engrs. & contrs., 14, Burlington-chbrs.
Messenger & Sons, electroliers, 19, Broad-st.
Metallic Seamless Tube Co., Ltd., Wiggin-st.
Metz, P., screw plate mkr., 12, Bristol-rd.
Midland Elec. Corp. for Power Dis., Ltd., Colmore House, Waterloo-st. Chf. engr., J. H. McLean.
Midland Rly. Car. & Waggon Co., Ltd., Midland Wks.
Midland Wire Cordage Co. (Davison's), Orchard Wks., Vincent-st., Balsall-heath.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Millard, —, elec. engr., 109, Colmore-row.
Mitton & Son, art met. workers, 6½, George-st.
Mole, M., & Son, bell-push sprg. mfrs., 51–54, Charlotte-st.
Morris, W. R., elec. engr., Faraday Wks., Gloversrd., Small Heath.
Morris, T., Ltd., elec. engrs., 172, Hockley Hill.
National Elec. Co., elec. engrs., 60, Newhall-st.
National Telephone Co., Ltd., Telephone-bldgs., Newhall-st. Supt., A. Coleman.
Nixon, F. A., A.M.I.C.E., A.I.E.E., engr., Elec. Ltg. Sta., Handsworth.
Offord & Co., elec. engrs., 97 & 98, Woodcock-st.
Oldaker, W., elec. lt. ftgs. mkr., Trinity-st., Smethwick.
Osler, F. & C., Ltd., electrolrs., 230, Broad-st.
Parker, J., casings, &c., Steam Joinery Wks., 109, Conybere-st.
Partridge, C. B., & Sons, nickel ptrs., &c., 113–115, Northwood-st.
Patent Rivet Co., Ltd., mkrs. of bolts, &c., Smethwick, nr.
Payne, E. J., & Son, pt. agts., 104, Colmore-row.
Payne & Griffiths, mech. engrs., Ladywood-rd.
Perfecta Seamless Steel Tube & Conduit Co., Ltd., Plume-st.
Periam, Herbert W., Ltd., Bolt & Rivet Wks., Floodgate-st.
Perry, T., & Son, file & magnet mfrs., Herbert-rd., Small Heath.
Phœnix Bolt & Nut Co., ftgs. mkrs., Handsworth.
Phosphor Bronze Co., Ltd., Bagot-st.
Pickard & Lloyd, engrs., Steelhouse-la.
Piercy & Co., stm. eng. maker, 53–54, Broad-st.
Piggott, Thomas, & Co., Ltd., engrs., Atlas Wks., Springhill.
Player & Mitchell, elec. ftgs. mfrs., Cambridge-st.
Player, W. & J., Ltd., mech. engrs., Lionel-st.
Pope, T., & Co., name plates, Livery-st.
Powells, Ltd., wire mfrs., Vauxhall.
Power, F. A., & Son, teleg. & telep. wire mfrs., Midland Wire Mills, Saltley.
Preston Elec. Co., Ltd. (late Midland Elec. Co.), elec. engrs., Seymour-st., Belgrave-rd.
Pritchard, Green & Co., cons. engrs.
Probert, W., & Son, brass fdrs., Hockley.
Purser, G. & W., elec. bell mfrs., Trafalgar Wks., Palmer-st.
Rainsford & Lynes, Ltd., elec. lt. engrs., 113, Emily-st.
Rapid Magnetting Mach. Co., Ltd., 18, The Crescent.
Ratcliff, J., & Sons, solder mfrs., New Summer-st.
Redditch Dis. Lt. Rly. Co., 34, Waterloo-st.
Redfern, E. M., elec. engr., 9, Ethel-st., New-st.
Rhodes, J. F., mag. mfr., 161, Newhall-st.
Richardson, R. J., elec. lt. contr., Baskerville-pl., Broad-st.
Rippingille Mfg. Co., Ltd., metal mfrs., Plume-st., Aston.
Rogers Bros., mica & talc dlrs., 221, Bradford-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Rollason & Slater, Ltd., Mitre Wire & Rivet Wks., Richard-st.
Ryman, F., & Co., mfg. elec. engrs., Cox-st., St. Paul's-sq.
Sadler, M., mfg. elecn., 19, Aston-st.
St. Helens Cable & Rubber Co., Ltd., cable & wire, 55, Dale End.
Sambidge, H. W., & Son, Ltd., elec. lt. ftgs. mfrs., Highgate-st.
Sergeant, A. F., elec. engr., Lincoln's Inn, Corporation-st.
Shanks, D., elec. engr., 40, Gt. Charles-st.
Sharp, T. B., elec. engr., County-chbrs., Corporation-st.
Shaw, W., cons. elec. engr., 105, Colmore-row.
Shorthouse, J., & Sons, mfg. chmts., 48, Gt. Charles-st.
Silvester, Harry, F.C.S., metall. chem., Holyhead-rd., Handsworth.
Simplex Conduits, Ltd., Garrison-lane. Works: Maxstoke-st.
Skelton, Wm., & Co., lacquers, Hay Mills.
Smart, W. Chas., A.I.E.E., elec. engr., Thorncroft, Prospect-rd., Moseley.
Smethwick Tech. School. *See* SCHOOLS.
Smith, Wm., elec. engr., Municipal Tech. School.
Smith, J. F., & Co., elec. engrs., 10, Edmund-st.
S. Staffs. Trmwys. (Lessee) Co., Ltd., Central Ho., New-st. Engr., H. Hartley.
Southall Bros. & Barclay, elec. app. mkrs., Brd.-st.
Soutter, Wm., & Sons, Ltd., ftgs., Farm-st.
Sperryn & Co., Ltd., access., Hospital-st.
Sprague, J. T., M.I.E.E., elecn., 117, Green-la.
Staffs Tube Co., 134, Edmund-st.
Steel Conduit Co., Ltd., conduits, Witton.
Stevens, Jas., & Son, globe mkrs., Victoria Glass Wks., Dartmouth-st.
Stokes, A., & Co., screws, &c., Green-st., Deritend.
Stott, J. E., elec. engr., 1, Claremont-rd., Sparkbrook.
Sumpner, Dr. W. E., D.SC., M.I.E.E., prin. Mun. Tech. Schools.
Sunbeam Lamp Co., Ltd., 18, Burlington-chbrs., New-st.
Sutton & Ash, iron & steel merch., Snow-hill.
Swindell, H. C., elecn., 144, Tower-rd., Aston.
Swinnerton, G., & Son, ltng. cond., 108, Shirland-rd., Smethwick.
Switchgear Co., Ltd., elec. lt. contrs., Cornwall-bldgs., Newhall-st.
Tayler, D. F., & Co., Ltd., wire drs., New Hall Wks.
Taylor, E. D., elec. lt. ftgs. dlr., 6, Rosebery-bldgs., John Bright-st.
Taylor Bros., elecrs., Cooksey-rd., Small Heath.
Taylor & Challen, Ltd., engrs., Derwent Fndry.
Thornbery, W. H., cons., mech. & elec. engr., 32, Paradise-st.
Threlfall, R., M.I.E.E., cons. elec. chem., 30, George-rd.
Thursfield, C. J., & Co., elec. lt. ftgs., Cecil Wks., Clement-st. Parade.
Tomey, J., & Sons, Ltd., glass tubing mfrs., Aston.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Tonks, Ltd., art met. workers, 201, Moseley-st.
Tucker, J. H., & Co., elec. ftgs., Sampson-rd. N.
Turner, A. W., elec. sfty. lamp dlr., Cobden-bldgs.
Valor Co., Ltd., stampings, Rocky-lane, Aston.
Vaudrey, J. C., M.I.C.E., M.I.E.E., elec. engr., Grassdale, Westfield-rd., Edgbaston.
Vaughton, W. S., elec. engr.
Vaughton Bros., met. stmprs., Livery-st.
Veritys, Ltd., elec. manufrs., Plume & Victoria Wks., Aston.
Vernon & Guest, engrs., Alma Wks., Soho, nr.
Vivian, H. H., & Co., Ltd., wire mfrs., 46, George-st.-parade.
Vyle, G. C., elec. engr., Armstrong Wks., Chester-st.
Wakefield, J., & Sons, Ltd., elec. ftgs., Theodore-st.
Walker, W., mfg. elecn., 32, City-rd.
Walker Bros., elec. engrs., Upper Priory.
Walker, Samuel, Ltd., wire, Fazeley-st.
Walsall Elec. Co., Ltd., elec. lt. contrs., 12, Burlington-chbrs., New-st.
Walsh, John Walsh, globe mfr., Lodge-rd.
Walters & Co., elec. engrs., 45, Newhall-st.
Wandsworth Elec. Mfg. Co., Ltd., 9, St. Paul's.
Watson, A., & Co., elec. acces. mfrs., Edward-st. Parade.
Watt, J., & Co., engrs., Soho Foundry.
Wattis, G. & F. E., elec. clock mkrs., Lr. Temple-st.
Webb, C., & Son, Ltd., stampings, 80, William-st, Lozells.
Webster, S. M., elec. engr., 421, Victoria-rd., Aston.
Weldless Steel Tube Co., 303 & 304, Icknield Port-rd.
Westwood, C., bullion dlr., 53, Great Hampton-st.
White, T., & Sons, stl. wire mkrs., Balsall-heath.
Whitehouse, W. H., M.I.E.E., cons. elec. engr., Cambridge Villa, Gravelly Hill.
Whitehouse, Wm., & Co., E.L. ftgs. mfrs., Brueton-st.
Wholesale Traders' Assocn., for protec. & prom. of Hardware, Furn. & Met. Industries, Ltd., 26, Corporation-st.
Wiggin, H., & Co., Ltd., nickel rfrs., 55, George-st. Parade.
Wigley, F., contr., 121, Colmore-row.
Wild, M. B., & Co., Ltd., elec. & mech. engrs., Argyle-st., Nechells.
Wilkins & Wright, met. wkrs., Kenyon-st.
Wood Carving Co., Ltd., elec. casing covers, 302, Windsor-st.
Woodall & Son, elec. glass supp., St. George's Glass Wks.
Woodward, H., & Co., Ltd., elec. pltrs., Paradise-st.
Wootton & Morrall, elec. lt. ftgs., Parade Chandelier Wks.
Wootton & Vernon, elec. engrs., 55, Holyhead-rd.
Wright, J. & E., teleg. cable mfrs., Universe Wks., Garrison-st.
Wyatt & Dixon, elec. engrs., Bright-bldgs., John Bright-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Wynn, Timmins & Co., Ltd., tool mfrs., Century Wks., Commercial-st.
Yarwood, G., & Co., elec. engrs., 49, Longmore-st.
Young, Alexander (London), Ltd., exprtrs. elec. mat., 160, Newhall-st.
Young, B., & Co., elec. engrs., Leek-st.
Youngs, engs., Ryland-st.

Bishop Auckland.

Cleveland & Co. of Durham E. P. Co., Ltd. Man., E. E. Soden; sta. supt., E. A. Poole.
Thompson, E., elec. engr., 12, Newgate-st.

Blackburn.

Barton, Thomas, elec. engr., Ainsworth-st.
Briscoe, C. T., elec. engr., Simmons-st.
Chadwell, C., C.E., elec. trac. engr., Richmond-chbrs.
Chew, J., & Co., Brookhouse Brass & Copper Wks., & Albion Wks.
Commercial Eng. Co., dynamos, &c., Highfield-rd.
Corp. Elec. Sup. Engr., P. P. Wheelwright.
Corp. Trwys. Dept.
Corson, F. H., A.M.I.C.E., chf. asst., Corp. Elec. Wks.
Garstang, H., elec. alarms, 69, Darwen-st.
Harrison, R. W., & Co., packing mfrs., Mill-la.
Howe Elec. Eng. Co., Richmond-ter.
Lonsdale Bros., Ltd., blr. coverers, Pump-st.
Mills, S. J. A., A.M I.M.E., A.M.I.E.E., cons. engr., Strawberry Bank.
Nat. Telephone Co., Ltd., 14, Astley Gate. C. Remington, M.I.E.E., dist. man.
Parkinson, T., ltng. cond. mfr., Canterbury-st.
Rawlinson, S., & Sons, cable drms., Audley Range & Baker-st.
Remington, C., M.I.E.E., Nat. Teleph. Co., 14, Astley Gate.
Shaw, G. H., & Son, elec. engrs., Exchange.
Smith, Edwin, elec. engr., 53, Darwen-st.
Thompson, W., elec. contr., Victoria-st.
Wheelwright, P. P., engr., Corp. Elec. Sup.
Winter, T., & Co., Ltd., engrs., Perseverance Wks., Byron-st.
Yates & Thom, Ltd., engrs., Canal Eng. & Boiler Wks.

Blackpool.

Blackpool Engineering Wks., Ltd., engrs. & contrs., New-rd.
Blackpool & Fleetwood Elec. Tramroad Co., Trwys. man., J. Cameron.
B., St. Anne's & Lytham Trwys. Man., H. W. Laing.
Burly, F., inst. contr., Birley-st.
Challoner, T., & Sons, wiring contrs., Parker-st.
Chew, W., M.I.E.E., Trafalgar House, Lytham-rd.
Corp. Elec. Supply & Elec. Trwys. Engr., C. Furness.
Coulston, J., jun., wiring contr., Hounds Hill.
Donoghue, E., Corp. Elec. Wks.
Field, F., elec. engr., Corp. Elec. Wks.

Blackpool—*continued.*

Fielding, J. W., & Co., elec. engrs. & contrs., 31, Birley-st.
Furness, C., A.M I.E.E., M.I.MECH.E., boro' elec. & trwy. engr.
Fylde Elec. Eng. Co., Back Clifton-st.
Haydock, J., elec. engrs., Palatine-bldgs.
Hodge, G., inst. contr., Hill-st.
Hopton, J. H., A.I.E.E., Corp. Elec. Wks.
May, H. S., chief asst. trwy. engr., Corp.
Morrison & Roebuck, elec. engrs., 4, Birley-st.
O'Brien, R., & Co., inst. contrs., Abingdon-st.
Parkinson, W. W., Corp. Elec. Wks.
Shanahan, H. F., elec. engr., Corp. Elecy. Wks.
Tranter, J., local mgr. Nat. Teleph. Co., Ltd.

Blaenau-Festiniog.

Yale, T. P. O., engr., Yale E. Power Co., Ltd.
Yale Elec. Power Co., Ltd.

Blyth.

Northern Counties Elec. Sup. Co. Engr., C. W. Fairweather.

Bolton.

Bennis, Ed., & Co., Ltd., mech. engrs., Little Hulton.
Butler, J. B., elec. engr., c/o J. Butler, Alexandra Mill.
Chatwood, A. B., B.SC., A.M.I.C.E., M.I.E.E., M.I.MECH.E., cons. engr., Prudential-bldgs.
Corp. Elec. Supply & Trwy. Engr., A. A. Day, A.M.I.C.E., M.I.E.E.
Entwisle & Gass, Ltd., elec. engrs., Atlas Fdry., Nelson-st.
Haley, A. C., Nat. Telephone Co., Ltd.
Hick, Hargreaves & Co., Ltd., stm. eng. & blr. mkrs., Soho Iron Wks.
Howorth, J., & Co., htg. & vent. engrs., Victoria Wks., Farnworth.
Morris, J., elec. engr., Knowsley-st.
Musgrave, J., & Sons, Ltd., engrs., Globe Wks.
Philipson & Co., trwy. guard mkrs., Astley Bridge.
Platt & Bleasdale, elec. lt. & p. engrs., Victoria-sq.
Ryder, T., & Son, lathe, &c., Turner Bridge.
Saunders, Wm., elecn., 205, St. Georges-rd.
Shore & Co., elec. engrs.
Smethurst, Wm., elec. engr., 18, Eckersley-rd.
Wadsworth, Wm., & Sons, elec. lift mkrs., School Hill.
Walmsley, T., & Sons, iron & stl. mfrs., Atlas Forge.
Wood, J. & E., eng. mkrs., Victoria Fdry.

Bonnybridge.

Scottish Central Elec. Power Co. Chf. engr., W. D. Morgan.

Bo'ness.

McGown, J. M., engr., T.C. Elecy. Wks.
Town Coun. Elecy. Wks. Engr., J. M. McGown.

Boston.

Clarke, G. E., boro' surveyor & elec. engr.

Bournemouth.

Aish, W. H., elec. lt. engr., Victoria House.
Andrews, H. Godfrey, asst. elec. engr., Corp.
Bacon & Curtis, Ltd., elec. lt. app. mfrs., 9, Regent's-ter.
Barber, C., A.I.E.E., works engr. & traffic mgr., Corp. Trwys.
Bayley & Sons, elec. app. mkrs., Dene House, Poole-hill.
Bournemouth & Poole Elecy. Supply Co., Ltd., Verulam House. Engr., E. Ll. Ingram, M.I.E.E.
Bournemouth Science, Art & Tech. School, Poole-hill.
Bridge, G. E., & Co., elec. med. app., Old Christchurch-rd.
Bryant, E. G., elec. engr., Delphi-chbrs., Old Christchurch-rd.
Bulfin, I., B.A., A.M.I.C.E., M.I.M.E., A.M.I.E.E., boro' elec. engr.
Cooper, C., & Co., elec. engrs., Albert-rd.
Corp. Elec. Wks. & Trams. Engr., I. Bulfin, B.A., A.M.I.C.E., M.I.M.E., A.M.I.E.E.; trwys. man., F. W. Lacey.
Dales, C., optn. & elecn., Westbourne.
Fellowes, H., & Co., elec. l. & p. engrs., Seamoor-bldgs., Westbourne.
Ingram, E. Ll., chf. engr., B. & P. Elec. Sup. Co., Ltd., Verulam House.
Kitcher, A. E., inst. contr., St. Swithun's-rd.
Lacey, F. W., M.I.C.E., F.R.I.B.A., boro' & trwy. engr., Municipal-bldgs.
McGregor, W., M.I.E.E., cons. telg. eng., "Kohima," 150, Richmond Park-rd.
Norie, J. R. D., elec. engr. & mgr., H. Fellowes & Co., Seamoor-rd., Westbourne.
Primavesi Bros., elecns.
Scott & Scott, elec. lt. contrs., Poole-rd., Westbourne.
Sharpe, J. W., elecn., Woodroffe, Portarlington-rd.
Shears & Son, East Central Works.
Spreadbury, W. H., inst. contr., St. Michael's-rd.
Street & Sons, inst. contrs., Christchurch-rd., Boscombe.
Wills, C., & Sons, elec. lt. & bell ftrs., Alumhurst-rd.

Bradford.

Andrew, W., elecn., 7, George Hotel-yard.
Beecroft & Wightman, Ltd., wood casings, Harris-st.
Brad., City of, Tech. College.
B. Elec. Eng. Co., elec. lt. contrs., Royal Arcade.
Bush, E., & Co., elecns., 26, Sunbridge-rd.
Charnock, Prof. G. F., A.M.I.C.E., M.I.M.E., Head of Eng. Dept., Brad. Tech. College.
Cole, Marchent & Morley, Ltd., eng. mkrs.
Collinson Bros., elec. engrs., 3, Millergate.
Corp. Elec. Supply & Trwys. Engr., T. Roles, A.M.I.E.E.; trwys. man., C. J. Spencer, M.I.E.E.
Cresswell's Asbestos Co., Ltd., asbes. mfrs., Wellington Mills.

Bradford—*continued.*

Croft, E., elec. engr., Street House, Dudley Hill.
Croft & Perkins, turned shafting, &c.
Dawson, J. W., A.M.I.E.E., assistant electrical engineer, Tramways Dept, Bridge-st.
Garnett's, W. T., Cable Co., mfrs. of elec. lt. & p. cables, Barkerend Mills.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 1, Tanfield-bldgs., Hustlergate.
Johnson Bros., elecns., Idle-rd.
Jones, H. A., elec. engr., Fagley-rd.
Jones, W., works supt., Corp. Elec. Dept.
Lambert, R., switch blocks, &c., Mansfield-rd. Cabinet Wks., Oak-la.
Middlemiss, W., elec. cab. work, Nesfield-st.
Müller, Chas. A., elec. agt., 6, Mornington Villas.
Newby, Geo., elec. engr., 51, Tyrell-st.
Newton, Bean & Mitchell, lt. app. mkrs., Dudley Hill.
Overend, J., & Sons, Ltd., dyn. mkrs., Trafalgar-st.
Patent Conveyor Co., Ltd., Dramond-st.
Phœnix Dynamo Mfg. Co., Ltd., Thornbury Wks.
Pohl, Dr. R., elec. engr., Thornbury Wks.
Pullan, C., elec. engr. & contr., 57, King's Arcade, Market-st.
Rigby, J., & Sons, Ltd., wire mfrs., Parkhouse Mill, Low Moor.
Roberts Bros., elec. engrs. & contrs., 15 & 17, Lee-st., Thornton-rd.
Roles, T., A.M.I.E.E., city elec. engr. & mgr.
Smith & Croft, elec. engrs. & contrs., Providence-st., Westgate.
Steinthal, G. A., elec. engr., 41, Piccadilly.
Steinthal, W. P., M.SC., A.M.I.E.E., 41, Piccadilly.
Tate, J., elecn., Harris-st.
Thornton & Crebbin, Hammerton-st. Ironworks.
Thwaites Bros., Ltd., eng. & fan mkrs., Vulcan Ironwks.
Tidswell's Patent Tram Car Guard Co., 23, Bank-st.-chbrs.
United States Metallic Packing Co., Ltd., Thornton-rd.
Vaux, W., trwys. engr. & contr., 23, Bank-st.-chbrs.
Waugh, J., C.E., pat. agent, Sunbridge-chbrs.
Webster, C. W., A.I.E.E., elec. engr., 166 & 168, Thornton-rd.
Western U. Teleg. Co., 10, Forster-sq.
Whitaker, C., elec. engr., Canal-rd.
Whitaker, C., & Co., elec. engrs., Canal-rd.
Wilson-Wolf Eng. Co., Ltd., Laycock's Mill, Thornton-rd.

Bray.

Corp. Elec. Wks. W. J. U. Sowter, A.M.I.E.E., engr.
Sowter, W. J. U., chf. engr., U.D.C. Elecy. Wks.

Brechin.

Edwards, J., elec. lt. contr., 40, Union-st.
Ferguson & Carver, elec. lt. contr., 28, Swan-st.
Kinnear, J., & Son, elec. lt. contr., 27, Market-st.
Lammond, J., & Son, elec. lt. contr., 32, Market-st.

Brechin—*continued.*

N. of Scot. Elec. Lt. & Pr. Co., Ltd. Engr. & mgr., H. Hale, A.M.I.M.E., A.M.I.E.E.; res. engr., H. Dixon.

Brecon.

Nott, J. E., & Co., Ltd., engrs., High-st.
Saunders, J. B., & Co., elec. engrs.

Bridgend.

Lewis, T. E., engr., S. Wales Elec. Pr. Dist. Co.
Singer, Brown & Co., elec. engrs. & contrs., Wyndham-st.
S. Wales Elecl. Power Dis. Co. Engr., T. E. Lewis.
U.D.C. Elecy. Wks.

Bridgwater.

B. & Dist. Elec. Sup. & Trac. Co, Ltd. Engr., H. Walker, A.M.I.E.E.

Bridlington.

Beckett, A. J., engr., Corp. Elecy. Wks.
Brid. Elec. Eng. Co., Ltd., 30, Chapel-st.
Corp. Elec. Wks. Engr., A. J. Beckett.

Brierfield.

U.D.C. Elecy. Wks. Cons. engr., W. A. Fraser.

Brierley Hill.

Dudley, Stourbridge & Dis. Elec. T. Co., Ltd. T. Satterthwaite, engr.

Brighouse.

Aspinall, A., res. engr., Corp. Elec. Wks.
Brearley, Ralph, wire mfr., Woodland Wire Mills.
Corp. Elec. Wks. A. Aspinall, engr.
Lister, T., & Co., Brassfounders, Ltd.
Ramsden, Camm & Co., Ltd., teleg. wire mfrs.
Wilson & Briggs, elec. sup. dlrs., 3, Town Hall-bldgs.
Woodhouse & Mitchell, Ltd., stm. eng. mkrs.

Brighton.

Adams Bros., elecns., 11 & 12, Trafalgar-st.
Alderton, G., elec. engr., 21A, Centurion-rd.
Banfield, Sons & Cole, elec. bell ftrs., 31A, Western-rd., Hove.
Barnsley, E., & Co., elecns., 79, Trafalgar-st.
Bedford, W. H., & Sons, elec. engrs., 28, St. George's-rd.
Bhone, G. W., elec. engr., 10, Temple-st.
Bostel Bros., elec. engrs., 18 & 19, Duke-st.
Boxell, F., elec. engr., 82, Gloucester-rd.
Brighton & Rottingdean Seashore Elec. Tramrd. Co., Madeira-rd. Engr., M. Volk.
Christie, John, engr. & mgr. Corp. Elec. Wks.
Collins, T., supt. Postal Teleg. Office.
Coote, P., cons. elec. engr., 3, North-st., Quadrant.
Corp. Electricity Wks. & Trwys., North-rd. Engr., J. Christie; trwy. engr., W. Marsh.

Brighton—*continued.*

Cox & Sons, elec. engrs., 80A, Preston-rd.
Davis, H. C., & Son, elec. engrs., 39, St. James-st.
Farncombe, I., elec. ltg. contr., 84, London-rd.
Fellingham, E. E., elec. contr., 78, Shaftesbury-rd.
Fileman, M., elec. engr., 99, Queen's-rd.
Ford-Lloyd, A., & Co., elec. engrs., 63–65, Cavendish-st.
Gadsby, D. J., asst. engr., Hove Light Co., Hove.
Galliers, H. J., elecn., 32, St. James-st.
Gooding & Taylor, elec. engr., 43, Up. Russell-st.
Gott, John, M.I.E.E., 6, Lorna-rd., Hove.
Graham, C. H., elec. lt. ftgs. mfr., 26, Foundry-st.
Grantham, G. E., elecn., 245, Elm-grove.
Ham, C., elec. bell ftr., 212, Church-rd., Hove.
Hanningtons Ltd., elec. lt. engrs., 171/172, North-st.
Hatfield, H. S., elec. chem., Reason Mfg. Co., Lewes-rd.
Hawker, H., elec. engr., 37, Gloucester-rd.
Hawkes, Clifford, & Walton, elec. engrs., 10, Castle-sq.
Hewett, A. E., elec. engr., Mautby Hill, Osborne-rd., Preston.
Hignett, G., & Co., elec. engrs., 2, North-st., Quadrant.
Holford, A., & Co., elecns., 86, Church-rd., Hove.
Homewood, G. E., elec. engr., 34, Up. Gardner-st.
Hounsell, J., & Son, elec. bell ftrs., 3, Southover-st.
Hove Elec. Light Co., Ltd., 7, Cromwell-rd. Engr., C. Bottomley Smith.
Jupp, A., engr., New Rottingdean Elecy. Co., Ltd.
Long, E., & Sons, elec. bell mfrs., 13 & 14, Sydney-st.
Love, C. J., elec. engr., 5, Station-rd., Aldrington.
Mertens, J. T., Hove Elec. Light Co., Ltd., Hove.
Moorhouse, C. F., mgr. Sussex Dis., Nat. Tel. Co., Ltd., 36, Ship-st.
Municipal Technical College.
New Rottingdean Elecy. Co., Ltd. Engr., A. Jupp.
Norrish, G., elec. engr., 27, London-rd.
Nye Bros. & Milledge, inst. contrs., 42, Dyke-rd.
Packham & Son, elec. engrs., 144, Western-rd.
Page & Miles, Ltd., elec. engrs., 79, Western-rd., Hove.
Porcher, H., elec. engr., 19, Clyde-rd.
Reason Mfg. Co., Ltd., engrs., Lewes-rd.
Reed & Son, elec. lt. engrs., 26, North-st.
Sayers, J., & Sons, elec. engrs., 94, North-rd.
Shrivell, W., elec. engr., 50, George-st.
Smith, C. B., res. engr., H. E. Light Co., Ltd., Hove.
Smith, G. W., elec. bell ftr., 15, Middle-st.
Smith, J., & Son, elec. engrs., 33 & 34, North-rd.
Smithers, T., elecn., 33, Borough-st.
Sparks, J. C., inst. contr., 51, Waldegrave-rd.
Stilwell, W., elec. engr., 21, Sillwood-st.
Taylor, F. W., dis. mgr., Nat. Teleph. Co.
Thompson, R. O., elec. engr., 10, St. James-st.
Turner, F., elec. engr., 61B, Western-rd.
Valler, A. W., & Co., inst. contrs., 4, Sydney-st.
Volk, Magnus, elec. engr., Madeira-rd.

Brighton—*continued.*

Walton, F., elec. engr., 10, Castle-sq.
Weller, T., elec. bell ftr., 11, Westhill-rd.
Williams, F. R., elec. engr., Brunswick House, 1, New Church-rd., Hove.
Youldon, E. C., prac. elecn., 137, Ditchling-rd.

Bristol.

Bacon, W., dis. rep. Siemens Bros. Dyn. Wks. Ltd., 32, Bridge-st.
Blackburn, C., & Son, elec. inst., 67, Redcliff-st.
Bolam, J. H., M.SC., sta. supt., E. L. Sta.
Braby, F., & Co., Ltd., spelter, Coronation-rd.
Bracher, F. & W., elec. install., Redcliff-st.
Brecknell, Munro & Rogers, Ltd., engrs., Thrissell-st, & Jacob-st.
Bristol Trwys. & Carr. Co., Ltd., Clare-st. House. Wks.: Counterslip. Engr., Sir J. C. Robinson; res. engr., G. T. C. Edwards.
Bubb, J. T., elec. lt. engr., St. James's-churchyard.
Buchanan & Curwen, elec. engrs., Queen Anne's-bldg., Baldwin-st.
Cashmore & Co., Ltd., lead mfrs., Victoria-st.
Chattock, A. P., M.I.E.E., prof. of phys., University College.
Cleave, W. H. R., supplies, 6, Bristol-bdge.
Collins, W., dis. rep. Crompton & Co., Temple-st.
Cook, Ernest H., cons. elecn., Clifton Laboratory, 27, Berkeley-sq.
Corp. Elec. Supply. Wks.: Temple Back & Avonbank. H. Faraday Proctor, A.M.I.C.E., M.I.E.E., engineer.
Couzens, H. H., A.M.I.E.E., deputy city elec. engr.
Crompton & Co, Ltd., elec. engrs. & contrs., Temple-st.
Cryselco, Ltd., incand. lmp. mfrs., 26, Bath-st.
Dowson, A., dis. rep. Veritys, Ltd., 3, Queen-sq.
Edwards, G. T. C., Bristol Trwys. & Carriage Co., Ltd.
Edwards, J. H., elec. engr., 2, Fernbank-rd.
Edwards & Armstrong, elec. install., 4, Colston-st.
Etchells, W. G., elec. agt., 20, Woodfield-rd., Redland.
Ewing, J. G. A., Nat. Teleph. Co.
Ferris & Co., Ltd., scien. app. mkrs., Union-st.
Francis, T. E., install. contr., 64, Colston-rd.
Francis & Ward, teleg. street tents, 92, Thomas-st.
Gardiner, Sons & Co., Ltd., elec. agts., Nelson-st.
Gent & Co., Ltd., mfg. elecns., 26, Bath-st.
Harris, T., & Sons, install. contrs., 18, Wine-st.
Hewlett & Co., inst. contrs., Wine-st.
Hood, T., & Co., Ltd., elec. & mech. engrs., 26, Bath-st.
Humpage, Jaques & Pedersen, Ltd., gears, &c., Ashton Gate.
Husbands & Sons, scien. instr. mkrs., 8, St. Augustine's-parade.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 22, Victoria-st.
Jennings, C., & Co., conduits, Pennywell-rd.
Jolin, P., & Co., elec. engrs., &c., 25, Temple-st.
Kear, S., elec. l. & p. engr., Red Cross-st.
King & Co., ltg. & teleph. engrs., Park-row.

Bristol—*continued.*

Lee, A., & Bros., Ltd., marble & slate slabs, Cumberland-rd.
Llewellin's Machine Co., gear & wheel cutters, 15, King-sq.
Lysaght, J., Ltd., galv. iron mfrs., St. Vincent's Iron Wks.
Mendham, W. P., cons. elec. engr., 24, Tyndall-ave.
Merchant Venturers' Technical College.
Mitchell, J. B., & Sons, elec. engrs., 4, Narrow Wine-st.
Munro, E. M., M.I.E.E., Thrissell-st. Wks.
Munro, John, M.I.M.E., prof. of mech. eng., Merch. Vent. Tech. College.
Palmer & Co., elec. engrs., 18, Castle-st.
Parfitt, G. J. T., A.M.I.E.E., elec. engr., Keynsham.
Parfitt, Webber & Co., install. contrs., Denmark-st.
Pass, C., & Son, Ltd., met. merchs., Bedminster Smelting Wks.
Pearson, H., install. contr., 4, Cotham Vale-rd.
Perkins, A., dis. mgr. Nat. Teleph. Co., Telephone-ave.
Price, P., & Co., inst. contrs., 88, Lawrence Hill.
Price, Powell & Co., Insulators, Batt. Jars, &c., Potteries, Thomas-st., Temple.
Proctor, H. Faraday, A.M.I.C.E., M.I.E.E., city elec. engr., Temple Back.
Robinson, J., mech. & elec. engr., Regent-st., Kingswood, nr.
Rogers, A., supt. Western Union Teleg. Co.
Rogers, H. I., elec. engr., Thrissell-st.
Rouch, A. E., cons. elec. engr., 2, Merchants-rd., Clifton.
Rouch & Penny, elec. engrs., 1, Quay Head.
Russell, J., & Co., Ltd., tube mfrs., Colston-st.
Salanson, H., & Co., elec. & scien. instr. mkrs., 20, High-st.
Sheldon Bush & Patent Shot Co., lead smelters, &c., Cheese-la.
Siemens Bros. Dynamo Wks., Ltd., 32, Bridge-st.
Sphere Electrical Engineering Co., 3, Unity-st., College-green.
Strandling & Barnes, elec. engrs., 39, Southwell-st., Kingsdown.
Sully, H. T., M.I.E.E., cons. elec. & mech. engr., Scottish Widows-bldgs.
Tasker, W. A., & Sons, 4, Dean-st., Portland-sq.
Thomas-Davies, G., A.M.I.E.E., elec. engr., Bank-chbrs., Regent-st., Clifton.
University College, Dept. of Elec. Eng.
Vaughan, J. M., inst. contr., 9, Halsbury-rd., Redland.
Vaughan & Co., elec. engrs., 124, Thomas-st., Temple.
Veritys, Ltd., elec. engrs., 3, Queen-sq.
Wertheimer, Prof. J., prin. Merchant Venturers' Tech. College.
Western U. Teleg. Co., Baldwin-st.
Willway, J. S., & Sons, Ltd., elecns., St. Augustine's.
Winter, J. H., & Co., install. contrs., Narrow Wine-st.

Broadstairs.

Dodd, F. K., elec. bell ftr., York-st.
Humphries, R., resident engr., Power Sta., St. Peter's.

Bromley (Kent).

Barker, R. R., engr., Bromley (Kent) E. L. & P. Co., Ltd., 1, West-st.
B. Elec. Light & P. Co., Ltd. R. R. Barker, engr.
Weeks, G., & Sons, elec. bell & teleph. ftrs., High-st.

Broughty Ferry.

Town Council Elec. Wks. Engr., J. L Turnbull.
Turnbull, Jas. L., corp. engr.

Brynamman.

B. & Dist. Elec. Sup. Co., Ltd.

Buckfastleigh.

B. Elec. Sup. Co. Engr., A. Kirby; elecn., A. McKenzie.

Buckingham.

Buckingham Elec. Light. Gillies & Hornidge, engrs.

Bulwell.

Gilham & Shephard, elec. engrs. & contrs., Bulwell.

Burgess Hill.

B. H. & Dis. Elec. Sup. Co., Ltd., Rly. Approach.
Lanaway, R. S., elec. bell mfr., Church-rd.

Burnley.

Beattie, R. B., elec. contr., 7, Standish-st.
Button, F. S., consult. engr., Inglewood, Scott Park.
Calverly, Batty & Co., elec. contrs., 27, Market-st.
Coates, J. F., elec. engr., 18, Hebrew-rd.
Corp. Elec. Supply & Trwys. Wks.: Aqueduct-st. Engr., Jas. E. Starkie, A.M.I.E.E., A.M.I.M.E.
Mozley, H., mgr. Corp. Trwys.
Proctor, J., Ltd., stoker mkrs., Hammerton-st. Iron Wks.
Simpson Bros., elec. engrs., Hapton, nr.
Stansfield, W., & Co., elec. contrs., 7B, Padiham-rd.
Starkie, J. E., A.M.I.E.E., boro' elec. engr.
Thornton, F., & Co., elec. contr., 6A, Hove-st.

Burslem.

Bremner, A., A.M.I.E.E., res. elec. engr., Corp.
Corp. Elec. Wks. Engr., A. Bremner.
Doulton & Co., Ltd., stoneware for elec. purposes.
Evans, E. M., elecn., Swan-sq.
Macintyre, J., & Co., Ltd., porc. ftgs., Washington China Wks.

Burton-on-Trent.

Albion Clay Co., Ltd., pipes, &c., Woodville.
Barnet & Soans, elec. engrs., Station-st.
Corp. Elec. Supply & Trwys., Wetmore-rd. Engr., P. J. Pringle, M.I.E.E., M.I.M.E.
Gough & Felgate, elec. bell ftrs., Uxbridge-st.
Hall, T., assist. elec. engr., Corp. Elec. Sta.
Lea, Henry, agt. for Veritys, Ltd., High-st.
Livens, C. M., install. contr., 172, High-st.
Mason, Cash & Co., elec. contrs., Woodville.
Mellor, S., A.M.I.E.E., Corp. Elec. Wks.
Pringle, P. J., M.I.E.E., M.I.M.E., Corp. elec. engr. & trwys. mgr.
Richards, J., elec. engr., High-st.
Richardson, J. T. H., shade mfr., Hatton.
Toulmin, J., A.M.I.E.E., mgr. & engr., B. & Ashby Light Rlys., Swadlincote.
Woodward, J., cable conduit mkr., Swadlincote, nr.
Wragg, T., & Son, Ltd., cable conduits, Swadlincote, nr.

Bury.

Ashworth & Parker, high speed stm. eng.
Cornall, T., elec. engr., Haymarket-st.
Corp. Elec. Sup. & Trwys. Wks.: Rochdale-rd. S. J. Watson, M.I.E.E., engr.
Downham, J., elec. engr., Fleet-st.
Downham, J., & Co., engrs., Barnbrook Iron Wks.
Halliwell, A., elec. lt. contr., Bolton-st.
Hill, Jas., & Sons, elec. lt. contrs., Bolton-st.
Mountain & Gibson, mfg. elec. engrs., Elton Fold.
Walmsley, C., & Co., Ltd., elec. engrs., Elton.
Watson, S. J., M.I.E.E., res. engr., Corp. Elec. Wks.

Bury St. Edmunds.

Corporation Elec. Wks. Engr., S. E. Day.
Day, S. E., boro' elec. engr.
Northgate Ironworks Co., castings.
Pudney, C. C., elec. engr., 11, Guildhall-st.

Buxton.

Bradburne, E. S., elec. & mech. engr., Avenham College-rd.
Leeming, W. J., chf. elec. engr., U.D.C.
Urban Dist. Coun. Elec. Wks. W. J. Leeming, A.M.I.E.E., engr.

Camborne.

Bickford, Smith & Co., Ltd., elec. fuses & firing app.
C., Redruth & Illogan Trwys. Urban E. S. Co., Ltd. Engr., F. S. Hanning, A.M.I.E.E.
Dovey, C. H., elec. bell ftrs.
Hanning, F. S., A.M.I.E.E., engr., Urban Elec. S. Co., Ltd.
Libby, J., elec. bell ftr.
Tyack, W. J. & C., Ltd., elec. bell ftrs. & teleph. erectors.
Urban Elec. Sup. Co., Ltd. Engr., F. S. Hanning, A.M.I.E.E.

Cambridge.

Allin, P. H., & Sons, 50 & 51, Burleigh-st.
Baily, Grundy & Barrett, Ltd., elec. engrs., 2, St. Mary's Passage.
Barrett, A., A.I.E.E., con. elec. engr., 6, Mortimer-rd.
Cambridge Electric Supply Co., Ltd. Engr., H. B. Harvey, A.M.I.E.E.
Cambridge Scient. Instrument Co., Ltd., Carlyle-rd.
Cambridge University Engineering Laboratory.
Crampton & Co., elec. engrs., Llandaff-chbrs., Regent-st.
Everitt, A. E., elec. engr., 5, Free School-la.
Everitt, M., elec. engr., 5, Free School-la.
Harvey, H. B., sta. engr., C. Elec. S. Co., Ltd.
Headley & Edwards, elec. bell ftrs., Corn Exchange-st.
Hopkinson, Prof. B., M.I.C.E., M.I.E.E., Eng. Laboratory,
Jenkin, John, M.I.E.E., Postal Telegraphs.
Lamb, C. G., M.A., B.SC., A.M.I.E.E., Eng. Laboratory, University.
Liveing, G. D., M.A., prof. of chem., The University.
Peace, J. B., M.A., A.I.E.E., Eng. Laboratory, The University.
Pye, W. G., & Co., elec. instr. mkrs., Mill-lane.
Thomson, J. J., M.A., F.R.S., prof. of phys., The University.
University of Cambridge.
Wood, E. J., local mgr. & elec. engr., N. Teleph. Co., Ltd., 12, Market-pl.

Cambuslang.

Abraham, A. J., engr., Lanark C.C. Elecy. Wks.
Hird, W. B., M.I.E.E., Sandon, Prospect-ave.
Lanark C. C. Elecy. Wks. Engr., A. J. Abraham, A.M.I.E.E.

Canterbury.

Ashby, C. F., dis. mgr., Nat. Teleph. Co., Ltd., 39, St. George's-st.
Corp. Elec. Wks. C. A. Blascheck, A.M.I.E.E., city elec. engr.
Philpot, E. J., & Son, elec. engrs., 34, St. George's-st.

Cardiff.

Andrews, S., & Son, elec. engrs, Castle-rd.
Bedford & Co., elec. engrs., 41, St. Mary-st.
Bevan, H., elec. bell ftr., 99, Frederick-st.
Bigge, D. Selby, & Co., elec. pr. engrs., 4, Park-pl.
Bowden, G. Harland, & Co., elec. pr. engrs., Merchants Exchange, Bute-st.
Brewer Bros. & Co., elec. contrs., 5, Quay-st.
Brit. Ins. & Helsby Cables, Ltd., 1 & 2, Western Mail-chbrs.
Brit. Westinghouse Elec. & Mfg. Co., Ltd., St. Mary-st.
Carey, R. B., elec. engr., 27, Charles-st.
Carmarthenshire Elec. P. Co., Royal-chbrs., Park-pl.
Chorley, I. J., & Co., elec. engrs., 2, Clare-rd.
Clarke, Chapman & Co., Ltd., mfg. elec. engrs., 21, Mount Stuart-sq.
Clay Bros. & Co., elec. engrs, Western Mail-chbrs.

Cardiff—*continued.*

Cooke, W., & Co., elec. engrs., Queen-st. Arcade.
Cooper, R. G., A.M.I.E.E., elec. engr., 6, Dogo-st.
Corp. Elec. Wks. & Trwys. Engr., A. Ellis, M.I.M.E., M.I.E.E.
Crompton & Co., Ltd., elec. engrs., Western Mail-chbrs.
Cross Bros., elec. bell ftrs., 21, Working-st.
Cryselco, Ltd., incand. lmp. mfrs., 7 & 8, Western Mail-chbrs.
Davis & Son, elec. engrs., 120, Bute-st.
Dawnay, A. D., cons. engr., Wales & W. of Eng. Girder Wks., East Moors.
Edison & Swan U. E. L. Co., Ltd., Westgate-st.
Edwards & Armstrong, elec. engrs., 53, Queen-st.
Elec. Co., Ltd., mfg. elec. engrs., 27, Western Mail-chbrs.
Elliott, A. C., D.SC., prof. of eng., University Coll. of S. Wales & Mon.
Ellis, A., boro' elec. engr. & mgr., Corp. Elec. Wks.
Evans & Widowfield, dyn. mkrs., Bute-cres.
Ferrier & Hillestrom, mfrs. agts., 119A, Exchange-bldgs.
General Elec. Co., Ltd., elec. supplies mfrs., East Wharf, St. Mary-st.
Glasgow Patents Co., Ltd., mkrs. feed filter, 1½, Stuart-st., Docks.
Green, R., & Co., elec. app., 142, Bute Docks.
Haggie, R., Hood & Son, Ltd., wire rope, Burt-st. Dock.
Harpur, W., M.I.C.E., city engr., Town Hall.
Haslam & Schontheil, elec. engrs., Western Mail-chbrs.
Hatcher, E., & Co., elec. lt. contrs., 65, Charles-st.
How, Horace D. B., A.M.I.E.E., elec. engr., Royal-chrs., Park-pl.
Huggins, Ed., elec. engr., 55, City-rd.
Hughes, W. W., A.M.I.E.E., S. Wales Daily News-bldgs.
Hunter & Swan, elec. & mech. engrs., 1, James-st., Bute Docks.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., Pierhead-chbrs., Bute Docks.
Lancs. Dynamo & Motor Co., Ltd., elec. engrs., Prudential-bldgs., St. Mary-st.
Lewis & Fletcher, cons. elec. engrs., Prudential-bldgs., St. Mary-st.
Loveridge, Ltd., elec. bell ftrs., &c., Docks.
McKenzie & Holland, rly. sig. mfrs., 18, Bank-bldgs.
Madge, F., inst. contr., 42, Inverness-pl.
Matthew, G. W., & Co., elec. lt. cont., Womanby-st.
Mayne, Sons & Co., elec. lt. contrs., 87, Glebe-st., Penarth.
Nance, R., A.I.E.E., elec. contr., 2, Dock-chbrs., Bute-rd. Docks.
New Brotherton Tube Co., Ltd., 3, Arcade-chbrs., St. John's-sq.
Newton, F., res. engr., G. W. Rly. Elec. Wks.
Patent Electranode Co., 2, Dock-chbrs., Bute-st.
Paxton, A., elec. engr., Arcade-chbrs., St. John's-sq.
Price, H., teleg. engr., Eng. Dept., Post. Teleg.
Proger, J. G., & Sons, elec. engrs., Trinity-st.
Rose & Co., engrs. & elec. lt. contrs., James-st.

Cardiff—*continued.*

Saunders, J. B., & Co., elec. engrs., Bute-st.
Scott, Ernest, & Mountain, Ltd., mfg. elec. engrs., 8, Working-st.
Scott & Leggat, cons. engrs., 102, St. Mary-st.
Sibbering, G. T., engr., Taff Vale Rly. Co.
S. Wales Elec. P. Distrib. Co., Royal-chbrs., Queen-st. Chf. engr., C. A. Holbrow.
Southey, G., elec. insp., 156, Richmond-rd.
Thompson, H., teleg. engr., 13, Richards-ter.
Timings & Rose, elec. engrs. & contrs., W. Bute-st.
Treharne, F. W., elecn., Llynderw, Llanishen, nr.
University College of South Wales & Mon.
Williams, W. E. O., elec. engr.
Williams, J., & Sons (Cardiff), Ltd., iron fdrs., 9–17, Queen-st.; & Globe Fdry.
Williams, W. E. O., & Co., elec. & mech. engrs., 29, W. Bute-st.

Carlisle.

Armstrong, J., elec. engr. & contr., W. Tower-st.
Burnet, C. D., city elec. engr.
City of Carlisle Elec. Trwys. Co., Ltd., 1, Warwick-rd. G. Cook, sec. & mgr.; J. B. Wilson, engr.
Corp. Elec. Lt. & P. Sta. C. D. Burnet, city engr.
Cowans, Sheldon & Co., Ltd., elec. cranes.
Elec. Illum. Co. (W. W. Ketteridge, mgr.), Lowther Arcade.
Hill, R. M., & Sons, wiring contrs., Castle-st.
Municipal Tech. Inst. *See* SCHOOLS.
Tyer & Co., Ltd., rlwy. signal teleg. instr. mfrs., Metcalfe-st.
Wilson, J. B., engr., City of C. Elec. Trwys. Co., Ltd., 1, Warwick-rd.

Carlow.

Alexander's Elecy. Works. G. M. Harriss, chief engr.; O. St. J. McKee, res. engr.
McKee, O. St. J., res. elec. engr., Alexander's Elecy. Wks.

Carnarvon.

Corp. Elecy. Wks. Engr., A. C. Goodman.
Goodman, A. C., res. engr., Corp. Elec. Wks.
Hayes, J., A.M.I.C.E., M.I.MECH.E., constg. & elec. engr., 11, Church-st.
Wynne, R., elec. lt. engr., Corp. Gas Office.

Chagford.

Chagford & Devon Elec. Light Co., Ltd. Engr., G. H. Reed.
Reed, G. H., elec. engr., C. & D. Elec. L. Co.

Chatham.

Atkinson & Co., elec. lt. engrs., Railway-st.
Barnes, H., elec. lt. engr., 102, High-st.
Chapman, A., & Co., elec. lt. engr., Temple-ter.
C. & Dist. Light Rly. Co. Engr., W. Jensen; man., H. Gordon Davies.
Jensen, W., engr., C. & Dist. Light Rly. Co.
Kensit, H. E. M., M.I.E.E., gen. man., K. E. P. Co., Bank-chbrs., Railway-st.

Chatham—*continued.*

Kent Elec. Power Co. Engr., C. T. Linney, A.M.I.E.E.
Linay, J. C., mfg. elecn., High-st.
Linney, C. T., A.M.I.E.E., res. engr., Kent Elec. Power Co.
Royal Engineers Institute.

Chelmsford.

C. Elec. Ltg. Co. Engr., A. H. French.
Christy Bros. & Co., Ltd., elec. engrs. & contrs.
Crompton, Claude, A.I.E.E., Arc Works.
Crompton & Co., Ltd., elec. engrs. & contrs., Arc Wks.
Dennis, F. H., A.M.I.E.E., elec. lt. engr. & contr., High-st.
French, A. H., engr., C. Elec. Ltg. Co.
Hodgson, A. J., elec. engr., Crompton & Co., Ltd.
Pochin, E. A. N., elec. engr., Westbrooke.

Cheltenham.

Bache, W. J., M.I.E.E., boro' elec. engr.
C. & Dist. Trwys. Engr. & man., H. J. McCormick.
Corp. Elec. Wks. W. J. Bache, M.I.E.E., engr.
Kilgour, H., M.I.E.E., Examiner Office.
Letheren, W., & Sons, art met. wkrs., Vulcan Iron Wks.
McCormick, H. J., engr. C. & Dist. Trwys.
Marshall, R. E. & C., Ltd., instn. contrs., 5, Clarence-st.
Organ, R., install. contr., Winchcombe-st.
Robb, J. M., A.I.E.E., chief asst., Elec. Wks.
Sanders & Co., motor car engrs., 22, Clarence-st.
Steel, H. E., Ltd., inst. contrs., 105, High-st.

Chepstow.

C. Elec. Ltg. & P. Co., Ltd., Nelson-st. Engr., W. H. Scott.
Jones, T. S. & J. D., elecns., 15, Beaufort-sq.

Chertsey.

Hamilton, J., & Son, elec. engrs., Guildford-st.

Chesham.

C. Elec. Lt. & Pr. Co., Ltd. Res. engr., R. J. Jocelyn Swan, A.M.I.E.E.

Chester.

Andrew, J. R., A.I.E.E., teleg. engr., L. & N. W. Rly. Co.
Armstrong, C., elec. lt. contr., Eastgate-row, N.
Britton, S. E., city elec. engr.
Brook, Hirst & Co., mfrs. elec. switchgear, Northgate Electrical Works, Victoria-rd., Chester.
Bute, T. Ashton, dis. mgr. Nat. Teleph. Co., Ltd., Godstall-chbrs., Godstall-lane.
C. School of Science & Art. *See* SCHOOLS.
Corp. Elec. Wks. & Trwys. S. E. Britton, A.M.I.M.E., A.M.I.E.E., engr.
Dee Oil Co., Ltd., oil mfrs., Saltney.
Hunt, L. J., A.M.I.E.E., elec. engr., Sandycroft Fdy. Co.

Chester—*continued.*

Jones, F. J., & Son, elec. engrs., 134, Foregate-st.
Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs.
McMichael, J. A., B.A., B.SC., principal lect. on magn. & elec., School of Science & Art Tech. Schools, Grosvenor Museum.
Parry, S. T., mech. & elec. engr., Princess-st.
Sandycroft Fdry. Co., Ltd., elec. machy. mkrs.
Willans & Robinson, Ltd, engines, Queensferry.

Chesterfield.

Acland, R. L., A.M.I.E.E., boro' elec. engr. & trwys. mgr.
Alvey & Bower, elec. engrs. & contrs.
Corp. Elec. Wks. & Trams. R. L. Acland, engr.
Markham & Co., Broad Oak Iron Works.
Patent Electric Shot-Firing Co., elec. bell ftrs., &c., Sheffield-rd.
Sharman, R. T., elec. bell ftr., 45, Beetwell-st.
Staveley Coal & Iron Co., Ltd., iron pipes for cables.
Urton, W., elec. & mech. engr., West Bars.
Wright, E., & Co., Ltd., stoneware mfrs., Wheatbridge Potteries.

Chester-le-Street.

Armstrong, G. H., A.I.E.E., elec. engr.

Chichester.

Ballard, A., elec. engr., 7 & 8, East-st.

Chislehurst.

C. Elec. Sup. Co., Ltd. Res. engr., A. E. Darlington.
Darlington, A. E., res. engr., C. Elec. Sup. Co., Ltd.

Christchurch.

Bournemouth & P. Elecy. Sup. Co., Ltd. Res. engr., C. McCausland; asst., A. M. Johnson.

Church Stretton.

C. S. Elec. Sup. Co., Ltd. Engr., G. Payne.
Payne, G., res. engr., Elecy. Wks.

Cinderford.

Electric Blasting Apparatus Co., R.S.O.

Clacton-on-Sea.

Drake, W., elecn., Electric Parade.
Everitt, H. W., chf. engr., U.D.C. Elecy. Wks.
Lewellen, F. W., & Co., elec. lt. contrs.
Mayfield, J. S., elec. engr., Pier-ave.
U.D.C. Elecy. Wks. Engr., H. W. Everitt.

Cleckheaton.

Birket, F., & Sons, elec. engrs.
Crossley, G., Ltd., pulley mkrs., Albion Iron Wks.
Haley, S., & Son, Ltd., wire drs., Pyenot Hall Mills.

Cleckheaton—*continued.*

Hirst, C., & Sons, Ltd., wire mfrs., Exchange Mill.
Hodgson, E., elec. engr., Tofts Wks.
Law, S., & Sons, Ltd., wire drs., Moorland Mills.
Phelon & Rayner, elec. engrs., Valley-rd.
Pickersgill, A., engr., U.D.C. Elec. Wks. & Trwys.
Smith, E. A., & Co., Ltd., wire mfrs., Phœnix Wks.
Thornton, Robt., staple & wire mkr., Paragon Wks.
U.D.C. Elec. Wks. Engr., A. Pickersgill.

Clun, R.S.O. Salop.

Vicarey, R. W., Ltd., batt. exprts.

Coatbridge.

Coatbridge & Airdrie Electric Sup. Co., Ltd. Engr., J. A. Donachie.
C. Tech. School. *See* SCHOOLS.
Donachie, J. A., res. engr., Elec. Lt. Wks.
Palmer & Taylor, elec. & mech. engrs., 50, Wellington-st.

Colchester.

Blomfield & Co., elec. engrs., St. Botolph's-st.
Britannia Eng. Co., Ltd., tools.
Corp. Elec. Wks. & Trams. A. R. Sillar, M.I.E.E., A.M.I.M.E., engr.
Davey, Paxman & Co., Ltd., mech. engrs., Standard Iron Wks.
Gray, E. B., mfg. elec. engr., Hythe.
Joslins, Ltd., elec. contrs., 108, 109 & 145, High-st.
Kuner, J. A., elec. engr., 103, Greenstead-rd.
Mumford, A. G., Ltd., elec. & gen. engrs., Culver-st.
Peacock, F., elec. engr., 59, Station-rd.
Sillar, A. R., M.I.E.E., A.M.I.MECH.E., boro' elec. engr.
Williams & Co., elec. bell ftrs., High-st.

Colne.

Colne & Trawden Light Rlys. Co. Man. & engr., Marten Turner.
Cooper, A. G., A.M.I.E.E., boro' elec. engr., Willow Bank.
Corp. Elec. Works. A. G. Cooper, A.M.I.E.E., engr.
Fort & Bean, elec. engrs., Market-pl.
Smith, Harold, elec. engr., Netherheys.
Turner, M., elec. engr. & gen. mgr., C. & T. Light Rlys. Co.

Colwyn Bay.

U.D.C. Elec. Wks. Engr. & mgr., A. R. Tudman, A.M.I.E.E.

Consett.

Cleveland & Durham Elec. Pr. Co., Ltd. Res. engr., F. H. McLoughlin.

Cork.

Anglin, A. H., M.A., prof. of math., Queen's Coll.
Atkins, R. A., J.P., local director Nat. Teleph. Co., 91, South Mall.
Ballington & Clarke, elec. engrs., 48, S. Mall.
Cork Electric Trwys. & Ltg. Co., Ltd. Engr. & mgr., H. H. Nalder; trac. man., H. G. Whiting.
Crawford Mun. Technical Inst.
Cross, W. H., asst. supt. engr., Postal Teleg.
Eaton, W. Walton, elec. lt. contr., Nelson's-pl.
Fielding, C. F., A.I.E.E., 57, Grand Parade.
Lee, W., engr., Macroom & Dist. Elec. Ltg. Synd., Ltd.
Nalder, H. H., A.I.E.E., engr. & mgr., Cork Elec. Trwys. & Ltg. Co., Ltd.
Percival, A., elec. engr., Lady's Well Brewery.
Percival, G., elec. engr., 30, Old Georges-st.
Porte, F. C., elec. engr., 27, Marlborough-st.
Porte, F. C., & Co., E. L. contrs., 27, Marlborough-st.
Queen's College.

Cosham.

Portsdown & Horndean Light Rly. Res. engr., J. Fereday Glenn.

Coventry.

Bluemel, C. W., & Bros., elec. ignition devices, Wolston, nr.
Burbury & Co., elec. l. & p. contrs., 2, Earl-st.
Burdett, H. J., elec. l. & p. contr., Fleet-st.
Corp. Elec. Wks. J. A. Jeckell, engr. & mgr.
Coventry Elec. Trwys. Co., Priestley's Bridge. Man. & engr., T. R. Whitehead.
Herbert, A., Ltd., machine tools, Butts.
Jeckell, J. A., mgr. & engr., Corp. Elec. Wks.
Kalker, E., & Co., ins. wires, 141, Much Park-st.
Lee, F., & Co., jewel hole mkrs., Dover-st.
Matterson, Huxley & Nutson, Ltd., elec. bell ftrs., Cross Cheaping.
Meek, W., & Co., elec. engrs., Spon-st.
Mewburn, J., dis. mgr., Nat. Teleph. Co., Bankchbrs., Little Park-st.
Practical Electro-Pltg. & Enamelling Co., Ltd., Fleet Wks.
Raden, H. W. van, woven glass accum., 7, Ellys-rd.
Reynolds, T., & Co., elec. engrs., 19, High-st.
Standard Motor Co., Ltd., 128, Much Park-st.
Templer & Ranoe, Ltd., valves, Foleshill-rd.
Van Raden & Co., Ltd., engrs., 567, Foleshill-rd.
Victoria Garage & Electrical Co., 68, S. John-st.
Webster & Bennett, Ltd., mach. tools, Atlas Wks.
Whitehead, T. Ross, res. engr. & mgr. Coventry Elec. Trwys. Co.
Winslow, I. E., engr., Coventry Elec. Trys. Co.
Wyleys, Ltd., scien. app. mkrs., Wheatley-st.

Cowes.

Atkey, Pascall & Son, elec. lt. engrs., 29 & 30, High-st., West.
I. of W. Elec. Lt. & Pr. Co. Engr., F. T. Crowe.
Sparks, H. H., elec. engr., 24, High-st.

Crawley.

Bannister, W. W., & Co., elec. & gen. engrs.

Crewe.

Carrington & Button, elec. lt. contrs., 31, High-st.
Corp. Elec. Wks. Engr., H. H. Denton, M.I.E.E.
Denton, H. H., M.I.E.E., boro' elec. engr., Corp. Elec. Wks.
Milton, A., inst. contr., 18, High-st.
Thompson, A. M., M.I.C.E., M.I.E.E., L. & N. W. Rly.

Cromer.

Rogers, F. W., elec. bell mfr., New-st.
U.D.C. Elec. Wks. Engr., E. Hesketh, A.M.I.E.E.

Croydon.

Corp. Elec. Wks. & Trwys. Ch. engr., Alex C. Cramb, A.M.I.E.E.

Cwmbran.

S. Wales Elec. Pr. Dist. Co. Engr., T. H. Johnson.

Dalkeith.

Elecy. Works. Engr., H. A. Tulloch.

Darlaston.

Hartley, H., res. engr., S. Staffs. Try. (Lessee) Co., Ltd., Trys. Depôt.
Horton & Son, Ltd., mech. & elec. engrs., New Alma Wks., Station-st.
Simpson, James, & Sons, bolt mfrs.
South Staffordshire Tramway (Lessee) Co., Ltd., Tramways Depôt. H. Hartley, res. engr.

Darlington.

Corp. Elec. Wks. & Trwys. J. R. P. Lunn, engr.
Cox-Walkers, Ltd., elec. engrs., contrs. & mfrs.
Darlington Forge Co., Ltd., steel castings, &c.
Dove, W. E., & Co., Ltd., elec. engrs., Bondgate.
Lawson, J., elec. contr., 24, High-row.
Lunn, J. R. P., engr. & mgr. Elec. & Trwys. Dep.
Rennison, J. C., elec. bell ftr., Bondgate.

Dartford.

Pember, J. D., engr., U.D.C. Elec. Wks.
Phillips, A., & Co., elecns., 78, High-st.
U.D.C. Elec. Wks & Trams. Engr., J. D. Pember.

Dartmouth.

Simpson, Strickland & Co., Ltd., eng. mkrs.
Smith, G. E., engr., Urban Elec. Supply Co., Ltd.
Urban Elec. Supply Co., Ltd. Engr., G. E. Smith.

Darwen.

Corp. Elec. Wks. & Trwys. C. Garnett, A.M.I.E.E., engr.; trwys. man., R. W. Smith-Saville.
Fairhurst, W. V. F., elec. engr. & contr.
Garnett, C., A.M.I.E.E., boro' elec. engr.
Municipal Tech. School. *See* SCHOOLS.
Smith-Saville, R. W., man., Corp. Trwys.
Union Eng. Co., elec. engrs.

Daventry.

Reynolds Bros., elec. engrs., Tudor Wks.

Deal.

Frost, H. G., elecn., 54, High-st.

Derby.

Bassano & Sons, mfg. elec. engrs., 155, Bridge-st.
Bourne, Joseph, & Son, batt. jar & insulator mfrs., Denby Pottery.
Butler Bros., elec. engrs., Normanton-rd.
Butterley Co., engrs. & contrs., Butterley Iron Wks.
Corp. Elec. Supply. T. P. Wilmshurst, M.I.E.E., engr.
Davis, J., & Son (Derby), Ltd., elec. lt. & power engrs., All Saints' Wks.
Derby Elecl. Co., Ltd., Woods-la.
Fletcher, G., & Co., mech. engrs., &c., Masson & Atlas Wks.
Goodchild, W. C., Elec. Dept., Midland Rly.
Handyside, Andrew, & Co., Ltd., engrs., Britannia Iron Wks.
Harwood & Co., elec. engrs., London-rd.
Haslam, E., elec. engr., St. Helen's-st.
Hulme & Son, elecns., 8 & 9, Sadlergate.
Ley's Malleable Castgs. Co., Ltd., Vulcan Irn. Wks.
Newton Bros., dynamos & motors, Market-pl. & Alfreton-rd.
Nichol, G., A.I.E.E., Elec. Dept., Midland Rly.
Rickard, W., Ltd., wire mfrs., &c., Ashbourne-rd. Mills.
Sayers, J., M.I.E.E., teleg. supt., Midland Rly.
Sharon Chemical Co., Ltd., mfg. chem., Little Chester.
Smith Bros., lamp post mfrs., Abbey-st.
Smith, J., & Co. (Derby), Ltd., brass finishers, Cotton-lane.
Turner, S. R., & Co., elec. engrs., London-rd.
Unsworth, G. B., & Sons, Ltd., wire mfrs., Green-lane Mills.
Walley, J., engr. & boln. mkr., St. Mary's Bridge Wks.
Wilmshurst, T. P., M.I.E.E., boro' elec. engr.

Devizes.

Sloper, C., & Son, elec. bell & telep. ftrs., 11, 12, 14 & 15, Brittox.

Devonport.

Corp. Elec. Wks. & Trams. Engr., J. W. Spark.
D. & Dist. Trwy. Co. Manager, A. V. Mason.
Devonport Mun. Science, Art & Tech. School. *See* Schools.
Plymouth, Stonehouse & Devonport Trwy. Co. Mgr., G. Moreton.
Sale, D., elec. engr., 63, Fore-st.
Sharpe & Co., Ltd., elec. engrs., 40, St. Aubyn-st.
Spark, J. W., boro' elec. engr.
Worthington, Prof. A. M., C.B., M.A., F.R.S., R. Naval Eng. Coll.

Dewsbury.

Brown, J., & Co., Ltd., acids, &c., Savile Town.
Campion, R. H., A.M.I.E.E., engr., Corp.
Corp. Elec. Wks. & Trams. R. H. Campion, engr.
Dewsbury—*continued.*
Hirst, A., & Son, Ltd., elec. engrs., Crescent Wks., Victoria-rd.
Hood, G. J., elec. engr. & contr., Arcade.
Jubb, C., & Co., elec. engrs., Bradford-rd.

Diss.

Suffolk Elec. Supply Co., Ltd. Engr., N. Prentice.

Dollar, N.B.

Elec. Sup. Corp., Ltd. Engr., K. M. Scott-Moncrieff.

Doncaster.

Corp. Elec. Wks. & Trwys. E. S. Rayner, engr.
Fielden, S. H., elec. engr. & mg. dir. Rhodes Elec. Mfg. Co., Ltd.
Fisher, C. V., elec. & motor engr., Nether Hall-rd.
Northern Elec. Co., elec. lt. & p. contrs., 5, Printing Office-st.
Postlethwaite & Stacey, inst. contrs., Printing Office-st.
Rayner, E. S., A.M.I.E.E., boro' elec. engr. & trwys. mgr.
Rhodes Elec. Mfg. Co., Ltd., motors, Riverside Works.

Dorking.

D. Elecy. Sup. Co. Engr., C. L. Smith.

Douglas (Isle of Man).

D. Southern Elec. Trwys. Engr. & man., F. W. Ketley.
Edmondson, F., A.M.I.E.E., engr., Manx Elec. Rly. Co., 1, Strathallan-cres.
Gillmore, G., elec. engr., Athol-st.
Ketley, F. W., mgr. D. Southern Elec. Trwy.
Knox, R., engr., Bridge.
Knox, W., & Sons, engrs., Bridge.
Manx Elec. Rly., 1, Strathallan-cres. Engr., F. Edmondson, A.M.I.E.E.
Snaefell Mountain Rly. Engr., F. Edmondson.
Todhunter & Elliot, Ltd., iron & elecns., Duke-st.

Dover.

Corp. Elec. Wks. Engr., L. W. Woodman, M.I.E.E.
Corp. Trams. Gen. mgr., E. Carden.
Crofts, A., mod. dyn. mkr., Church-st.
D. School of Science, Art & Tech. *See* Schools.
Harpur, R. C., elec. engr., Corporation.
Holt, W., elecn., 83, Snargate-st.
Middleton & Winstanley, elec. engrs. & inst. contrs., 52, Castle-st.
Verey, A., & Co., elec. app. & gutta-pe. merch.
Woodman, L. W., M.I.E.E., boro' elec. engr.
Wright, J., & Sons, elecns. & wiring contrs., 15, Cannon-st.

Dublin.

Ampere Electrical Co., elec. engrs., 44, Fleet-st.
Armstrong, J. A., elec. engr., 34, Oakley-rd., Ranelagh.
Aston Bros., elec. contrs., Aston's Quay.

Dublin—*continued.*

Barrett, W. F., F.R.S., M.R.I.A., M.I.E.E., &c., prof. of exp. phys., Royal Coll. of Science.
Baxendale & Co., elec. engrs., Capel-st.
Blackburn, Starling & Co., Ltd., elec. engrs., 12, Fleet-st.
Boucher, J. W., A.I.E.E., Edison & Swan U. E. L. Co., Ltd., 12, Dawson-st.
Brew, Wm., M.I.E.E., Corp. Elec. Supply.
Brown, W., A.M.I.E.E., Royal College of Science.
Cadle, C., turb. mkr., 39, Wellington Quay.
Clarke, T. T., cons. elec. engr., 41, Fleet-st.
Clegg, W. H., engr. & rep., Nat. Elec. Con. Co., Ltd., 31 & 32, Nassau-st.
C. & Hill of Howth Trmrd. Co., Clontarf. Man., J. Kavanagh.
Close, A. F., elec. engr., Usher's Quay.
Coates, Wm., & Son, Ltd., elec. lt. & p. engrs., 5, Leinster-st.
Cooney, F. G., elec. engr., 130, Stephen's Green.
Corp. Elec. Wks. Engr., M. Ruddle, M.I.E.E., M.I.C.E.I., &c.
Cowley, F., supt. Nat. Teleph. Co., Crown-alley & Temple Bar.
Cummins & Sons, elec. engrs., 12, Lower Abbey-st.
Curtis, P. C., elecn., 2, Grafton-st.
Curtis, Wm., & Sons, elec. engrs., 98 & 99, Mid-abbey-st.
Davidson, H. S., A.I.E.E., Handley & Shanks, 12, Dawson-st.
Dillon, A., elec. agt., 61, William-st.
Donnelly & Moore, cons. engrs., 19, Nassau-st.
D. Elec. Sup. Stores, 41, Fleet-st.
Dublin General Agency, 18, Furlough-ter., Fairview.
D. & Lucan Elec. Rly. Co. Engr. & man., H. Harrison.
Dublin United Tramways Co. Engr., P. S. Sheardown, A.M.I.E.E.; man., C. W. Gordon.
Edison & Swan U. E. L. Co., Ltd., 12, Dawson-st.
Egan & Tatlow, elec. engrs., 20, Fleet-st., & 4, Prices-la.
Ferguson & Co., elec. engrs., 10, So. Anne-st.
Finlays, elec. engrs., Brunswick-st.
Fletcher, J. Y., A.I.E.E., elec. engr., Grosvenor Lodge, Rathgar.
Fletcher & Phillipson, 10, Lr. Baggot-st.
Fournier, E. E., elecn., Chapelizod.
General Elec. Co., Ltd., 16, St. Andrew-st.
Glenny & Co., inst. contrs., 32, Bachelor's Walk.
Gordon, J., elecn., Pim Bros., Gt. George-st.
Gt. Northern Rly. Co., Amiens-st. Terminus. Ch. engr., W. H. Mills; elec. engr., A. W. Whieldon.
Handley & Shanks, elec. engrs., 12, Dawson-st.
Harris, P., & Co., mfg. chem., 179, St. Brunswick-st.
Harrison, H., engr. & man. D. & Lucan Elec. Rly. Co.
Hartley, W. N., D.SC., F.R.S., &c., prof. of chem., Royal Coll. of Science, Stephens-green.
Henderson, W. N., & Co., elec. engrs. & contrs., 201, Gt. Brunswick-st.

Dublin—*continued.*

India Rubber, G. P. & Teleg. Wks. Co., Ltd., 15, St. Andrew-st.
Institution of Civil Engineers of Ireland, 35, Dawson-st.
Jackson, —, elec. engr., Brunswick-st.
Kerr & Co., install. contrs., George's Quay.
Limerick Elec. Trwy. Co., Ltd., Star Life-bldgs., College Green.
Local Section I.E.E. W. Tatlow, hon. sec., 20, Fleet-st.
Lucan & Leixlip Elec. Rly. Co., 25, Suffolk-st.
Luttrell-Elward, H., A.M.I.E.E., Elec. Lt. Sta.
Maguire & Gatchell, Ltd., elec. lt. engrs., 10, Dawson-st.
Mansfield & Meldon, elec. engrs., 43, Dame-st.
Mills, W. H., engr.-in-chf., Hill of Howth Elec. Rly., Amiens-st. Terminus.
Morris Bros., acid mfrs., 12, Priory-pl.
Murray, I. J., elec. agt., Victoria House, Sandymount.
New Brotherton Tube Co., Ltd., 57, Middle Abbey-st.
O'Hara, P. G., A.M.I.E.E., elec. engr., 103, Upper Dorset-st.
Pilditch, G. F., A.M.I.E.E., res. engr., Rathmines Elec. Wks.
Porte, A. E., M.I.E.E., cons. engr., 61, Dawson-st.
Price, S. L. R., res. elec. engr., Elec. Wks., Pembroke.
Pyper, W. J. S., A.I.E.E., elec. engr., Holywood St. Lawrence-rd., Clontarf.
Rathmines & Rathgar U.D.C. Elec. Wks., Rathmines. Engr., G. F. Pilditch, A.M.I.E.E.
Redmond, D. D., M.D., consult. elecn., 126, Sandford-rd.
Robinson, S., A.I.E.E., elec. engr., 28, Belgrave-rd., Rathmines.
Robinson, Norman, & Brunker, elec. engr., 37, College-green.
Royal College of Science for Ireland.
Royal University of Ireland.
Ruddle, M., M.I.C.E.I., M.I.E.E., city elec. engr., Corp. Cen. Sta.
Ryan, V., A.I.E.E., elec. engr., 22, Leeson Pk.
Sansom, C. I., elec. engr., St. James's Gate Brewery.
Sillar, G. C., M.I.E.E., 35, Poolberg-st.
Smyth, J., & Sons, elec. lt. ftgs., 17, Wicklow-st.
Sutton & Howth Elec. Rly. Gt. Northern Rly. Co. of Ireland. Engr., A. W. Whieldon, M.I.E.E.
Tayler Smith Electric Co., elec. engrs., 28, S. Anne-st.
Taylor, W., elecn., 17, Bishop-st.
Taylor Smith, E. C., elec. engr., 8, Cope-st.
Thrift, Prof. Wm. E., M.I.E.E., 80, Grosvenor-sq., Rathmines; & Trinity College.
Tomlinson, T., M.I.E.E., Northumberland House, Beresford-pl.
Trinity Coll. Elec. Eng. School.
Tuck & Co., Ltd., elec. engrs., 19–22, Lr. Abbey-st.
University of Dublin.
Veritys Ltd., elec. engrs., 52, William-st.

Dublin—*continued.*

Whieldon, A. W., M.I.E.E., elec. engr., G.N. Rly. Co. (I.), Sutton, co.
Woollcombe, Dr. R. L., 14, Waterloo-rd.
Yeates & Son, elec. & scien. app., 2, Grafton-st.

Dudley.

Corp. Elec. Wks. & Trams. Engr., C. E. Savage, A.I.E.E.
Danks, H. & T., Ltd., engrs., Crown Boiler Wks., Netherton.
Doulton & Co., Ltd., stoneware, Rowley Regis, nr.
Dudley Electrical Co., High-st.
Gibbons Bros., Ltd., elevtg. plnts., Dibdale Wks.
Smellie, James, Ltd., art met. wkrs., Ivanhoe Wks.
Theedam, E. C., Ltd., elec. engrs. & contrs., King-st. Elec. Wks.
Whittaker Bros., Ltd., elec. contrs.
Wilson, R., cons. engr., Elecy. Wks.

Dumbarton.

Denny, Wm., & Bros., elec. engrs. & shipbldrs.
Mitchelson, D., dis. mgr. Nat. Teleph. Co., Ltd., 25, Church-st.
Paul, M., & Co., engines.

Dundee.

Anderson, J. S., supt., Commercial Cable Co.
Baxter, R. & S., mica merch., 31, Murraygate.
Brown, W., dis. mgr. Nat. Teleph. Co., Ltd., 13, Panmure-st.
Carmichael, J., & Co., Ltd., engrs., Ward Fdry.
Corp. Elec. Supply & Trams. Engr., H. Richardson, M.I.E.E.; trwys. man., P. Fisher.
Douglas, G. C., & Co., pat. agts., 41, Reform-st.
D., Broughty Ferry & Dist. Tys. Co., Ltd. Engr. & man, J. H. Shepherd.
Edison & Swan U. E. L. Co., Ltd., 17, Castle-st.
Fidler, T. C., M.I.C.E., prof. of eng., University Coll.
Frain, W., rep. Edison & Swan U. E. L. Co., Ltd., Castle-st.
Kuenen, J. P., PH.D., prof. of phys., University Coll.
Lowdon Bros. & Co., mfg. elecns., Temple Elec. Wks.
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Maxwell, Son & Co., elec. & mech. engrs., King's-rd.
Nicoll, G. H., & Co., elec. engrs., 18, Bank-st.
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Richardson, H., city elec. & trwys. engr., Corp. Elec. Wks. & Trams.
Robertson & Orchar, engrs., Wallace Fdry.
Steggall, J. E. A., M.A., prof. of math., University Coll.
Stiven, D. R., cons. & insp. engr., 57, Meadowside.
Thomson, Son & Co., Ltd., engrs., Douglas Foundry.
University College, classes in elec. eng.
Urquhart, Lindsay & Co., Ltd., engrs.
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Dunfermline.

Lowdon Bros. & Co., mfg. elecns., 2, Abbot-st.

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Willis, J. E., elec. bell mfr., Flint House.

Durham.

Clark & Co., elec. engrs., 22, Cheapside, Spennymoor, co.
Co. of Durham Elec. Pr. Dist. Co. Mgr., A. S. Esslemont; dis. supt., W. S. Verrill.
Johnston Tech. School. *See* SCHOOLS.
Laidler, J., & Son, elecns., 83, New Elvet.
Tait, R. J., elecn., &c., Chester-le-Street.

Dursley.

Lister, G., elec. engr.
Lister Elec. Mfg. Co.
Mawdesley, H. St. Hill, M.I.E.E.

Eastbourne.

Bessant, A. J., elec. lt. engr., 32, Grove-rd.
Brading & Co., Ltd., elec. lt. engrs., 66, Grove-rd.
Brydges, J. K., A.M.I.C.E., M.I.E.E., Corp. Elec. Wks.
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Corp. Elec. Wks. J. K. Brydges, A.M.I.C.E., M.I.E.E., engr.
Hubbard, E., elec. engr., Junction-rd.
Knight & Co., elec. lt. engrs., 36, Terminus-rd.
McAlpin & Co., elec. engrs., 3, Langney-rd.
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Parks, R. W., elec. instr. mkr., 4, Central-bldgs., Seaside-rd.
Pearson, R. H. & J., Ltd., elec. lt. engrs., 102, Terminus-rd.
Prevette, E. A., elec. lt. engr., Station-st.
Quick, B. J., elec. engr., 3, Langney-rd.

Eccles.

Angus, H. W., boro' elec. engr.
Corp. Elec. Wks. & Trams. H. W. Angus, engr.

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Elec. Co., Ltd., mfg. elec. engrs., 42, N. Bridge-st.
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Finlay, W. & W., elec. contrs., 18, Frederick-st.
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Leith Corp. Elec. Wks. & Trams, Leith. Engr., A. P. Rutherford, A.M.I.E.E.
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Rolland, M'Kirdy & Co., elec. lt. ftgs. mfrs., 22, St. James-sq.
Royal Physical Society, India-bldgs.
Rutherford, A. P., A.M.I.E.E., burgh elec. engr., Leith Elec. Wks.
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Shotts Iron Co., Ltd., lmp. post mfrs., 130, George-st.
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Sinclair, Wm., elecn., 60, Thistle-st.
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Stevenson, J. R., & Co., elecns., 7A, Young-st.
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Elgin.

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Elland.

Horsfall, J. J., elec. engr., Victoria-rd.
U.D.C. Elec. Wks. Engr., A. V. Wardrop, A.M.I.E.E.

Epsom.

Foster, H. F., engr. to U.D.C.
U.D.C. Elec. Wks. Engr., H. F. Foster.

Erith.

Coveney, A., trys. engr. & general manager, U.D.C. Trwys.
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Royal Albert Memorial College. *See* SCHOOLS.
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Wippell Bros. & Row, elec. engrs. & contrs., 243, High-st.

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Edwards & Armstrong, wiring contrs., 10, High-st.
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Falkirk Iron Co., castings.
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Thomson & Co., installation contrs., Glebe-st.

Falmouth.

Blight, J., jun., elec. engr., 1, Frobisher-ter.
Robinson, A. C., supt. Direct Spanish Teleg. Co., Ltd.
Wilkinson, F. E., res. engr. & mgr., Elec. Sup. Corp., Ltd.

Fareham.

Blake, A., elec. engr., Urban District Council.
Tutte, H. E., A.M.I.E.E., 10, West-st.
Urban Dis. Coun. Elec. Wks. A. Blake, engr.

Farnworth.

Corp. Elec. Wks. & Trams. Engr., R. B. Leach.
Leach, R. B., engr., U.D.C. Elec. Wks.

Faversham.

Corp. Elec. Wks. Engr., G. Sommerville, A.M.I.E.E.

Felixstowe.

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Pritchetts & Gold, Ltd., elec. engrs.

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Fleetwood & Dis. Elec. L. & P. Synd., Ltd., Old Bank-chbrs., Albert-sq. Engr. & mgr., O. Hansom, A.M.I.E.E., A.M.I.M.E.

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Francis, Wm., wiring contr., Guildhall-st.
Hesketh, T., M.I.E.E., engr., F. Elec. Sup. Co.
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Jackman & Marchant, elec. engrs. & contrs., 74, Sandgate-rd.
Miles, D., inst. contr., 17, Swiss-ter.
Southee, T. W., wiring contr., 19, Brockman-rd.
Southey, E., inst. contr., Pembroke House, Guildhall-st.
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Fort William.

Fort William Electric Lighting Co., Ltd. Engr., I. Reid.

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Elecy. Wks. Engr. & mgr., F. H. Merritt.
Merritt, F. H., engr. & mgr., Elecy. Wks.
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Galashiels.

Miller, J. D., dis. mgr., Nat. Teleph. Co., Ltd., 72, High-st.

Galway.

Anderson, A., prof. nat. philos., Queen's College.
Queen's College, Galway. *See* SCHOOLS, &c.
Senier, A., PH.D., M.D., prof. chem., Queen's College.

Gateshead.

Carmichael, O., elec. engr., High West-st.
Clarke, Chapman & Co., Ltd., mfg. elec. engrs., Victoria Wks.
Combination Met. Pack. Co., Ltd., Hillgate.
Corking, J. T., elecn., Jackson-st.
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Haggie Bros., Ltd., lightning conductor mfrs.
Mason, Wilson & Co., elec. engrs., West-st.
Money, George W., A.M.I.E.E., 2, Avondale-ter.
Mountain, W. C., M.I.E.E., M.I.M.E., elec. engr., Close Wks.
Pigg, Jas., A.M.I.E.E., elec. engr., 27, Windermere-st., Coatsworth-rd.
Ritson, T., mech. & elec. engr., Redheughbridge-rd.
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Sunbeam Lamp Co., Ltd., incandescent lamp mkrs.
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Walker, H. J., A.I.E.E., M.I.M.E., Victoria Wks.
Whimster, T. F., engr., 153, Prince Consort-rd.

Gillingham.

Chalmers, A. D., A.M.I.E.E., A.M.I.MECH.E., Corp. engr.
Corp. Elec. Dept., Gillingham-rd. Engr., A. D. Chalmers, A.M.I.E.E., A.M.I.MECH.E.
Smith, A. F., elec. sundries, 58–68, Duncan-rd.

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Allan, James, sen., & Son, mfrs. elec. lmp. pillars, Elmbank Foundry.
Alley & MacLellan, Ltd., mech. engrs., Sentinel Wks., Polmadie-rd.
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Anderston Foundry Co., Ltd., high-spd. eng.
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Baird & Tatlock, chem. gl. & app. mfrs., 45, Renfrew-st.
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Beveridge, Ltd., elec. contrs., 11, Jamaica-st.
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Bolton & Sons, elecns., 153, Hope-st.
Bottomley, J. T., elec. cons. engr., 13, University-gdns.
Bottomley & Liddle, pat. agts., 154, St. Vincent-st.
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British Insulated & Helsby Cables, Ltd., 177, West George-st.
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Brown & Co., cabinet wk., 73–85, McAlpine-st.
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Bruce, A., & Co., teleg. poles, Bothwell-st.
Bryden, J., & Son, inst. contrs., 60, Renfield-st.
Bryden, Wm., & Son, elec. lt. engrs., 206, Bath-st.
Buchan, H., elec. lmp. mfr., 50, Oswald-st.
Burnet, L., & Co., engrs. & boiler mkrs., Moore Prk. Boiler Wks.; & Burnet's Siding, Govan.
Burns, J., ltng. cond. ftr., 27, White-vale-st.
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Caledonian Elec. Wire Co., Ltd., 65, Renfield-st.
Caledonian Wire Works, wire wkrs., 28, Thistle-st.
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Cartmell, J. M., dlr. 2nd hnd. elec. mach.

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Christie, W., & Co., carbon brushes, 50, Wellington-st.
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Clark, A. W., & Co., install. contrs., 8½, Douglas-st.
Clark, M., & Willmott, elec. ftgs., 217, St. Vincent-st.
Clarke, Chapman & Co., mfg. elec. engrs., 81, St. Vincent-st.
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Colquhoun, S. M., & Co., inst. contrs., 9, West-st., Bridgeton.
Corp. Elec. Supply, 75, Waterloo-st. Engr., W. W. Lackie.
Corp. Telephone Dept., 65, Renfield-st.
Corp. Trams. Gen. man., J. Dalrymple; engr., J. Ferguson, A.I.E.E.
Couldwell & Frew, inst. contrs., 38, Montrose-st.
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Craig, J. Richardson, elec. engr., 145, Bath-st.
Craigpark Electric Cable Co., Ltd., insulated wires, Springburn.
Croggon & Co., Ltd., elec. bells, 7, John-st.
Crombie, Jas., sup. E. Teleg. Co., 5, Royal Bank-pl.
Crompton & Co., Ltd., elec. engrs., 50, Wellington-st.
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Cruikshank & Fairweather, pat. agts., 62, St. Vincent-st.
Cryselco, Ltd., incand. lmp. mfrs., 50, Wellington-st.
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Davidson, W. M., & Co., elec. merchs. & agents, 101, Bothwell-st.
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Davison, Alex., elecn., 47, London-st.
Dempster, Moore & Co., Ltd., tools, 49, Robertson-st.
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Dick, R. & J., G. P. dr. band mfrs.
Dixon, J., elec. & mech. engr., 219, S. Vincent-st.
Dixon, W., M.I.E.E., 30, Kelvinside-gdns.
Dixon, W., & Co., elec. engrs., 59, Bath-st.
Dobbie, J. Thos., elec. engr., 58, Pollok-st.
Dobbie, McInnes, Ltd., elec. & eng. instr. mfrs., 45, Bothwell-st.
Donald, J. T., & Co., Ltd., mfrs. air propellers, 35, M'Alpine-st.

Glasgow—*continued.*

Dorman & Smith, mfg. elec. engrs., 196, St. Vincent-st.
Doulton & Co., Ltd., stoneware for elec. purposes.
Drake & Gorham, Ltd., elec. engrs., Baltic-chbrs., 50, Wellington-st.
Drysdale & Co., Bon Accord Engine Wks.
Duff, W., & Co., blr. cov., 69, Elliott-st.
Eadie, J., & Sons, tubes, Clydesdale Tube Wks., Rutherglen.
Edison & Swan U.E.L. Co., Ltd., 153, W. George-st.
Edward, G., & Co., mech. mfrs., Hercules Ir. Wks., Johnstone, nr.
Elecl. Co., Ltd., mfg. elec. engrs., Baltic-chbrs., Wellington-st.
Ericsson Bell Telephone Co., 50, Wellington-st.
Erskine-Murray, J., D.SC., F.R.S.E., cons. elecn., 219, St. Vincent-st.
Espie, James, elec. engr., 173A, St. Vincent-st.
Evered & Co., Ltd., electroliers, 33, Ann-st.
Ewing, J. L., & Co., elec. engrs. & contrs., 156, St. Vincent-st.
Falkirk Iron Co., castings, 32–34, Bothwell-st.
Ferguson, J., M.I.E.E., elec. instr. mkr., 61, Pollok-st., Pollokshaws.
Ferguson, J., A.I.E.E., chf. engr., Corp. Trys.
Finlay, J., & Co., Ltd., elec. lt. engrs. & contrs., 18, Renfield-st.
Fitzsimons, H., elec. engr., 9, Stanley-st., Govan.
Fletcher, Kilpatrick & Co., elecns., 15, East Vermont-st.
Fraser, W., elec. contr., 91 & 93, Waterloo-st.
Frazer, Borthwick & Co., inst. contrs., 91 & 93, Waterloo-st.
Fullerton, R. A., & Co., mfrs.' representatives, 116, Hope-st.
Fulton, T. C., cons. elec. engr., 44, West George-st.
Fyfe, Wilson & Co., elec. agts., 74, York-st.
Gardiner & Co., elec. bell ftrs., 53, St. Vincent-st.
Garroway, R. & T., mfg. chem., 58, Buchanan-st.
General Elec. Co., Ltd., elec. lt. ftgs., 71, Waterloo-st.
Gerrard, Alex., A.M.I.E.E., elec. engr., 5, Leslie-st., Pollokshields.
Gibson, G. A., M.A., F.R.S.E., Glasgow & W. of Scot. Tech. Coll.
Gibson, G. H., A.M.I.E.E., elec. engr., 246, Bath-st.
Glasgow Alum & Ammonia Co., Ltd., mfg. chem.
Glasgow Patents Co., Ltd., makers feed filter, 94, Hope-st.
Glasgow Rly. Engineering Co., Govan.
Glasgow & W. Scot. Tech. College.
Glenboig Union Fire Clay Co., Ltd., st. boxes for elec. mains, 48, W. Regent-st.
Glover, W. T., & Co., Ltd., cables, 196, St. Vincent-st.
Goodwin, R., elec. engr., 58, Renfield-st.
Goossens, E., Pope & Co., incand. lamps, 15, Douglas-st.
Gordon, J., inst. contr., 12, Cathedral-st.
Govan Corp. Elec. Wks. Engr., T. C. Parsons, A.M.I.E.E.
Gray, J., & Co., elec. agts., 212, St. Vincent-st.

Glasgow—*continued.*

Green, E., & Son, Ltd., fuel economiser mkrs.
Grindlay, Ross & Co., inst. contrs., 278, St. Vincent-st.
Haddow, W. M., M.I.E.E., 9, North Claremont-st.
Haddow & Co., elec. engrs., 107, Douglas-st.
Haggie, R., Hood & Son, Ltd., wire rope, 93, Hope-st.
Hamilton, Claud, Ltd., elec. lt. contrs., 247, St. Vincent-st.
Hamilton & Co., inst. contrs., 230, Berkley-st.
Harrower, P., export. elec. plant, 134, Bath-st.
Harvie, W., & Co., Ltd., elec. lt. engrs., 24, McAlpine-st.
Hendry, J., Laminated Leather Wks., Bridgeton.
Hendry Bros., spd. indic., 28–32, Robertson-st.
Holland House Elec. Co., Ltd., mkrs. artis. ftgs., 9, Holland-pl., & 121A, St. Vincent-st.
Holmes, J. H., & Co., elec. lt. engrs., 19, Waterloo-st.
Holmes, J. R., & Co., teleg. engrs., 55, W. Campbell-st.
Howden, Jas., & Co., high sp. eng., Scotland-st.
Hunt, E., & Co., pat. agts., 121, W. George-st.
Hunter & Jack, elec. lt. engrs., 101, St. Vincent-st.
Hurlet & Campsie Alum Co., mfg. chem., 115, Wellington-st.
Hurst, Nelson & Co., Ltd., elec. cars, 40, W. Nile-st.
Hutcheson, A., elec. engr., 97, Waterloo-st.
Hutcheson, J., elec. engr., 199, Bath-st.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 2, Royal Exchange-sq.
Inst. of Engrs. & Shipbldrs. in Sctld., 207, Bath-st.
Iron & Steel Fencing & Buildings Co., Baltic-chbrs., 50, Wellington-st.
Irvine Chemical Co., Ltd., 204, St. Vincent-st.
Irwell & Eastern Rubber Co., Ltd., 25, Hope-st.
Jack, W., LL.D., D.SC., prof. math., University.
Jamieson, J., agt., 212A, St. Vincent-st.
Jamieson, Prof. A., elec. eng. taught, 16, Rosslyn-ter., Kelvinside.
Johnston, A. W., A.M.I.E.E., cons. elecn., 286, Springburn-rd.
Johnston, J. J. H., M.A., A.M.I.E.E., A.AM.I.E.E., elec. engr., Oakfield, Lenzie, nr.
Johnston, Park & Co., elec. engrs. & contrs., 15, Oswald-st.
Jones, A. W., A.M.I.E.E., elec. engr., c/o W. L. Spence, 31, St. Vincent-pl.
Joyner, C., & Co., Ltd., ftgs., 130, W. Regent-st.
Kelso & Co., mfg. elecns., 55, Oxford-st.
Kelvin & James White, Ltd., elec. instr. mkrs., 18, Cambridge-st.
Kemp, Wm., & Co., mfrs. elec. lt. ftgs., 159, Buchanan-st.
Ker, W. A., cons. engr., 124, St. Vincent-st.
Kerr, Thomas, elec. bell ftr., 75, Norfolk-la.
Kilmacolm Elec. Ltg. Co., Ltd., 163, Hope-st.
Kinghorn, W. A., elecn., 81, St. Vincent-st.
Lackie, W. W., M.I.C.E., M.I.E.E., engr., Corp. Elec. Wks., 75, Waterloo-st.
Laing, D. F., inst. contr., 25, Eglinton-st.
Lancashire Dynamo & Motor Co., Ltd., Caledonian-chbrs., 87, Union-st.

Glasgow—*continued.*

Land, T., & Son, conduits, 73, Robertson-st.
Lang, J., & Sons, mkrs. lathes & tools, Johnstone.
Law, J. & A., arc lamp posts, Rae-st.
Leggat, J. F., & Co., elec. & gen. engrs., 94, Dobbies-loan.
Lester, W., & Co., elec. agts., 11, West Regent-st.
Leyland & Birm. Rubber Co., Ltd., insulating materials, 45, Hope-st.
Liddle, J., pat. agt., 154, St. Vincent-st.
Lindsay, A., elecn., 8, Bothwell-st.
L'pool Elec. Cable Co., Ltd., cable mfrs., 73, Robertson-st.
Local Section I.E.E. E. G. Tidd, hon. sec., 68, Gordon-st.
Lockie, J. R., elec. contr., 118, Mains-st.
Loudon Bros., tool mkrs., 39, West Campbell-st.
Lowdon Bros. & Co., mfg. elecns., 332, Argyle-st.
Lowson, J., A.M.I.E.E., elecn., 10, W. Campbell-st.
Lyle, J., mfg. elecn., 37, S. Portland-st.
McAulay, Wm., A.M.I.E.E., Ashfield, Pollokshields.
McCall, T., & Co., inst. contrs., 116A, Mains-st.
M'Culloch & Bennet, elec. engrs., 216, Dumbarton-rd., Partick.
M'Dermott, J., elecn., 168A, St. Vincent-st.
Macdonald, J., & Co., Bridge Turbine Wks., Pollokshaws.
McDowall, Steven & Co., Ltd., lmp. post mfrs., Milton Iron Wks.
Macfarlane Bros., reflectors, Roxburgh Wks., Scotstoun.
Macfarlane, W., & Co., mfrs. irn. elec. lt. pillars, Saracen Fdry.
Macfee, J., gen. mgr. P.O. Teleph.
McGeoch, L. A., A.I.N.A., 28, W. Campbell-st.
McGeoch, W., & Co., Ltd., mfg. elecns., W. Campbell-st., off Argyle-st.
M'Gibbon, D., elec. engr., 4, Ashton-place, Byres-rd., Partick.
M'Haffie & Co., elec. ship & st. lamps, 13, Margaret-st., High John-st.
Mackay, G. F., elec. engr., Cecil-st., Hillhead.
Mackenzie, J. D., & Co., elecns., 30, Woodlands-rd.,
McKinnon & Co., elec. bell ftrs., 10, Duncan-st., Bridgeton.
Maclay, W., elecn., Thornwood, Langside.
MacLellan, A., & Co., elec. engrs. & contrs., 63, Waterloo-st.
McLellan, G., & Co., I.R. mfrs., Maryhill-rd.
MacLellan, P. & W., Ltd., engrs., 129, Trongate.
McLucas, D., & Co., elec. engrs., 128, Sauchiehall-lane.
McWhirter, Wm., & Son, elec. engrs., 212, Holm-st.
Malcolm & Allan, elec. engrs., 29, Lilybank-rd.
Martin & McFie, elec. engrs., 8, Wellington-st.
Martin, W. C., & Co., elec. engrs., 10, West Campbell-st.
Mather & Platt, Ld., elec., mech. & hydr. engs., 124, St. Vincent-st.
Mathieson, Alex., & Sons, Ltd., Saracen Tool Wks.
Mavor & Coulson, Ltd., engrs. & elecns., 47, Broad-st., Mile-end.
Maxwell, H. B., res. elec. engr., Partick.

Glasgow—*continued.*

Mayer, A., elecn., Cathkin-rd., Langside.
Mechan & Sons, Ltd., elec. & gen. engrs., Scotstoun Iron Wks.
Meiklejohn, J. B., inst. contr., 115 & 115A, Bath-st.
Mellis, Wyllie, wholesale sup., 47, Oswald-st.
Menzies, D. P., elec. engr., Weem Wks., 30, Bishop-st.
Miller, J., Son & Co., mfg. chem., 79, W. Nile-st.
Milne, Jas., & Son, Ltd., elec. lt. engrs., 111, St. Vincent-st.
Mirrlees Watson Co., Ltd., condens. plnt., Scotland-st.
Moffat & Walker, elec. ftgs., 51, Buchanan-st.
Morris, D. Hossack, elec. engr., Lowdon Bros. & Co., 332, Argyle-st.
Morris, Warden & Co., engrs., 68, Gordon-st.
Morrison, W. G., & Co., dlrs. in supplies, 59, St. Vincent-st.
Morton, A. H., A.M.I.E.E., elec. engr., 130, Bath-st.
Morton, D. H., cons. engr., 130, Bath-st.
Morton, Wm., inst. contr., 21, Anderson-st., Partick.
Muir, E., elec. engr., Glasgow Athenæum, St. George's-pl.
Muir, R. W., h. speed eng. mkr., 97, St. James-rd.
Muirhead, J., forge master, Cart Forge.
Munro & Mackintosh, Richter's carbons, 103, Bath-st.
Murray, T. B., B.SC., M.I.E.E., Albion Motor Car Co., Ltd., Scotstoun.
Murray, A., & Sons, elec. engrs., Craigton Engineering Wks.
Murray, R. C., & Co., elec. ship lmp. mkrs., 7, Carlton-crt.
Nelson, R., elec. engr., 13, Orr-st., Bridgeton Cross.
New Brotherton Tube Co., Ltd., 198A, St. Vincent-st.
Nielson, J. F., elec. engr., J. Brown & Co., Ltd., Clydebank.
Nobel's Explosives Co., Ltd., mfrs. elec. fuses, 195, W. George-st.
N. Brit. Wire Mfg. Co., dyn. brushes, 71, W. Nile-st.
Oldfield, J., & Sons, Ltd., leather bltng., 8 & 20, Dixon-st. & Fox-st.
Osborne, H., elec. engr., 108A, West Regent-st.
Osborne & Hunter, elec. contrs. & engrs., 108A, West Regent-st.
Page, A., sta. supt., Corp. Elec. Dept.
Palmer, Wm. D., & Co., Ltd., elec. engrs., 50, Wellington-st.
Parsons, T. C., A.M.I.E.E., engr., Govan Town Council Elec. Wks.
Parsons, C. A., & Co., elecns., 99, Gt. Clyde-st.
Partick Town Council Elec. Wks. Engr., H. B. Maxwell, M.I.E.E.
Pat. Process Wire Weaving Co., Bridgeton.
Paterson, Bell & Co., Ltd., cons. & elec. engrs., 47, Waterloo-st.
Paterson, W., & Son, elec. bell con., 65, Pitt-st.
Pearson, Sons & Co., Ltd., iron & brass fdrs., 107, Cathcart-st., Kingston.
Penman & Co., boiler mkrs., Strathclyde-st.

Glasgow—*continued.*

Physical Society of Glasgow University.
Pollock, Whyte & Waddell, gas engines, Johnstone, nr.
Pope's Elec. Lamp Co., 15, Douglas-st.
Port-Dundas Pottery Co., Ltd., elec. apparatus, Port-Dundas.
Poynter, J., & Son Macdonalds, mfg. chem., 72, Gt. Clyde-st.
Prentice, J., res. engr., Kelvinside.
Rae Bros., elec. & scien. instr., 77, Renfield-st.
Raeburn & Duncan, elec. lt. ftgs., Vinicombe-st., Hillhead.
Reid, D., M.I.E.E., 18, Cambridge-st.
Renfrew, R. S., elecn., 136 & 140, North-st.
Rennie's Steel Casting Co., steel cstgs., Tollcross.
Reyrolle, A., & Co., Ltd., elec. engrs., 61, Pollok-st., Pollokshaws.
Richmond, D., & Co., Ltd., iron tube mfrs., City Tube Works, 35, Rose-st.
Riddell, Wm., & Co., wire drawers, 636, Springfield-rd., & 54, Mitchell-st.
River Plate Tel. Co., Ltd., 142, St. Vincent-st.
Robertson & Co., mkrs. elec. spec., 95, Bath-st.
Robertson, J. C., & Co., elecns., 11, Wemyss-pl.
Ross & Co., elec. bells, 62, Robertson-st.
Ross & Morrison, elecns., 9, Killermont-st.
Ross, R. G., & Son, gears, Greenhead.
Rowden, W. T., B.SC., cons. engr., Glasgow & W. Scot. Tech. Coll.
Rudd, J. A., & Co., elec. engrs., 68, Gordon-st.
Rutherford, A., A.M.I.E.E., 14, Hill-st., Garnett-hill.
Sayers, W. B., M.I.E.E., cons. elec. engr., 189, St. Vincent-st.
Sayers, J. E., & Caldwell, cons. engrs. & elecns., 157, W. George-st.
Scharina, W. E. H., M.I.E.E., 163, Hope-st.
Scott, Wm., elec. engr., 76, Stratford-st.
Scott, W., elec. engr., 196, St. Vincent-st.
Scottish Indiarubber Co., teleg. & teleph. wires, 12, Hanover-st.
Sexton, A. H., professor metall., Glasgow & W. Scot. Tech. Coll.
Shanks, T., & Co., tool mkrs., Johnstone, nr.
Shaw, J., & Co., iron fdrs., Maryhill Iron Works.
Shiels & Elliot, elec. lt. engrs., 190, Bath-st.
Short, J., & Co., lightning conduc., 46, E. Crawford-st.
Simplex Conduits, Ltd., 165A, W. George-st.
Smillie, S., mech. engr., Havelock Copper Wks., 71, Lancefield-st.
Smith, A. C. I., elecn., 12, York-st.
Smith, A., & Son, agts. I. R., G. P. & teleg. gds., 12, Hanover-st.
Somerville, Jas., inst. contr., 27, Harmony-row, Govan.
Spence, W. L., cons. engr., 31, St. Vincent-pl.
Springfield Steel Co., stl. cstgs., 777, London-rd.
Starr, D. A., elec. engr. & mgr., Clyde V. Elec. P. Co., 53, Bothwell-st.
Sterne, L., & Co., Ltd., emery wheels, Crown Iron Works.
Steven & Struthers, mkrs. eng. gov., Anderston Brass Fdry.

Glasgow—*continued.*

Stevenson, W., teleg. supt., Caledonian Rly.
Stevenson, McGuffie & Milne, cons. engrs., Caledonian-chbrs., 87, Union-st.
Stewart, D., sup. engr., Postal Telegraphs.
Stewart, W. M., cons. elec. engr., 55, W. Regent-st.
Stewart, C. & A., gauge mkrs., 14, Victoria-st.
Stewart, D., & Co. (1902), Ltd., mfrs. dynamos, London-rd. Iron Works.
Stewart, W. W., & Co., lightning conduc., 365, Scotland-st.
Stewarts & Lloyds, Ltd., tube mfrs., 41, Oswald-st.
Strathclyde Elecy. Sup. Co., Ltd., 53, Bothwell-st.
Tayler Smith Electric Co., The, elec. lt. & pr. contrs., 233, St. Vincent-st.
Telford, Grier & Mackay, Ltd., elec. engrs., 220–222, Broomielaw.
Thompson, R. B., & Co., gls. globe mkrs., 54, West Howard-st.
Thomson, W. R. M., & Co., cons. engrs., 96, Buchanan-st.
Tidd, E. G., M.I.E.E., cons. engr., 68, Gordon-st.
Tittensor, W. H., M.I.E.E., 19, Waterloo-st.
Tosh, D., & Son, lightning conduc., 77, Queen-st.
Tracey, H. J., mgr., Commercial Cable Co.
Trotter, J., elecn., 40, Gordon-st.
Tucker, J. H., & Co., elec. ftgs. mfrs., 11, Bothwell-st.
Tullis, J., & Son, Ltd., St. Ann's Leather Wks., John-st., Bridgeton.
Turnbull, A., & Co., Ltd., blr. mntgs., Bishopbriggs.
Turnbull, J., jun., & Son, turbines, Canal Basin Fdry., Dobbies Loan.
United Alkali Co., Ltd., mfg. chem.
United Wire Wks., Ltd., wire & dyns. brsh.
University, The.
Ure, R. A., A.I.E.E., elec. engr., 192A, St. Vincent-st.
Veritys, Ltd., elec. engrs., 40, Bath-st.
Walker, W., induc. coils, 81, Alexandra-prk.-st., Dennistoun.
Wallace Bros., iron fdrs., &c., 284–290, Crownpoint-rd.
Wallace, Wilkie, & Newton, I. R., 5, York-st.
Wassell, G., elec. engr., 25, Centre-st.
Waterson & Co., elec. engrs., 39, Glassford-st.
Watson, H., A.M.I.E.E., elec. eng., 9, Holland-pl.
Watson, Gow & Co., Ltd., elec. cable pipes, Etna Fdry., Lilybank-rd.
Watson, Laidlaw & Co., fric. gear, Dundas-st., S.
Weir, G. & J., Ltd., feed pumps, Cathcart.
Western U. Teleg. Co., 4, Waterloo-st., & 29, Gordon-st.
White, Jas., elec. engr., 396, Shields-rd., Pollokshields.
Whyte, R. A., & Co., lmp. mkrs., 140, Bath-st.
Wilson, D. T., elec. engr., 28, W. Campbell-st.
Wilson, R. M., A.M.I.E.E., elec. engr., 74, York-st.
Wilson, W. R., B.SC., M.I.E.E., elec. engr., 142, Hyndhead-rd.
Wilson, J., & Son, lead presses, Vulcan Wks., Johnstone, nr.

Glasgow—*continued.*

Woodward & Co., elec. engrs., 157, W. Nile-st.
Wrench, Wm. G., elec. engr., 5, Oswald-st.
Wright, T., A.I.E.E., 136, Bothwell-st.
Wylie & Lochhead, elec. ltg. contrs., 45, Buchanan-st.
Young, J. D., autom. circulators, 111, Union-st.
Young, T., M.I.E.E., 203, W. George-st.
Yuille, Wm. C., & Co., overhead mat. for elec. trac., 60, Brown-st., Tradeston.

Glossop.

Knowles, C. E., A.I.E.E., A.M.I.C.E., res. engr., Urban E. S. Co., Ltd.
Urban Elec. Sup. Co. Res. engr., C. E. Knowles, A.M.I.C.E.

Gloucester.

Beaven & Sons, Ltd., elec. engrs., Westgate-st.
Birchley & Co., inst. contrs., Oxford-st.
Brain, Frank, A.M.I.C.E., elec. & mining engr. & elec. fuse mfr., Trafalgar House, Drybrook.
Burley, T., teleg. engr., Midland Rly.
Butt, J. M., & Co., lmp. pst. mfrs., Kingsholm Iron Wks.
Corp. Elec. Wks. & Trams. Engr., Geo. R. White.
Engineering Society, Mun. Schools.
Fielding & Platt, Ltd., gas eng., Atlas Ir. Wks.
Fulton, D. B., dis. mgr., Nat. Teleph. Co., Ltd., 9, Berkeley-st.
Harris & Son, install. contrs., Market-parade.
Hutton Bros., elec. engrs., St. Aldate-st.
Johnston, L., gen. mgr. & engr., Corp. Light Rlys.
Meredith, W. L., & Son, cons. rlwy. & trwy. engrs., 7, Midland-rd.
Mitchell, L. C., & Co., inst. contrs., 15, St. Aldgate-st.
Moffatt & Co., wood csgs., Midland Mills.
Parsons, R. A., A.I.E.E., elec. engr., Eastgate-st.
Parsons Bros., elec. engrs., 16, Eastgate.
Sessions & Sons, Ltd., slate mfrs.
Sisson, W., & Co., Ltd., engines.
Walton, W. A., A.M.I.E.E., elec. engr., London-rd.
White, G. R., engr., Corp. Elecy. Wks.
Whiting, F. A., elec. engr., 5, Clarence-st.
Woodward & Co., elec. engrs., Commercial-row.
Wyman, W. M., & Son, elec. engr., Commercial-rd.

Godalming.

Luck, J. M., electric bell fitter.
Robertson, R. S., res. engr., Urban Elec. Supply Co., Ltd.
Urban Elec. S. Co., Ltd. Engr., R. S. Robertson.

Goole.

Illingworth, Ingham & Co., Ltd., wood csgs., Albert-st.
North Eastern Novelty Co., 20, Victoria-st.
Shackleton, J. F., & Son, conduits.

Goring.

Ellis, G. A., elec. engr., Charging Sta.

Gorseinon.

Gorseinon Elec. Light Co. Engr., D. Powell.

Gosport.

G. & Alverstoke E. L. Co. Engr., J. Fereday Glenn.
Prov. Tys. Co., Ltd. Engr. & man., J. Fereday Glenn.

Grangemouth.

Grangemouth Gas Co., Ltd., elec. lt. engrs., Grange-st.

Grangetown.

Cleveland & Durham Co. Elec. Pr. Co. Man., A. B. Gridley.

Grantham.

Edmundson, J. E., A.M.I.E.E., res. engr., Urban Elec. Supply Co., Ltd.
Hornsby, R., & Sons, Ltd., st. eng. mkrs., Spittlegate Iron Wks.
Howett, E., mfg. med. elecn., Welby-st.
Martin, Fitt, Thomas & Co., elec. lt. engrs., 7, High-st.
Urban Elec. Supply Co., Ltd. Res. engr., J. E. Edmundson, A.M.I.E.E.

Gravesend.

Corp. Elec. Wks. Res. engr., C. F. McInnes, A.M.I.E.E.
Fowle Bros., elec. bell ftrs.
G. & Northfleet Elec. Trwys. Mgr., A. W. Kipping.
McInnes, C. F., boro' elec. engr.
Purcell, E., elec. apparatus mkr.
Smith, W. H., elec. bell ftr., 28, Queen-st.

Grays.

Davies, Parker & Co., dyn. oil mfrs.
Long, E. D., engr., U.D.C. Elec. Wks.
U. D. C. Elec. Wks. Engr., E. D. Long, A.M.I.E.E.

Great Bridge.

Aird, Joseph, tubes for elec. conduc.

Great Grimsby.

Beckett, J. P., elec. engr. & wiring contr., Carysfort, Chantry-la.
Central Electrical Co., Ltd., elec. engrs., Victoria-st.
Channon, A. S., chf. asst. engr., Corp. Elec. Wks.
Cole, John R., elec. bell mfr., 61, Freeman-st.
Corp. Elec. Wks. Engr., W. A. Vignoles, M.I.E.E.
Dolby, D. J., elec. engr., Victoria-st.
Duke, J., elec. bell ftr., 4, Bethlehem-st.
Hall, E. A. S., elec. engr. & wiring contr., Old Market-pl.
Northern Elec. Co., elec. l. & p. contrs., 117, Cleethorpe-rd.
Prov. Trwys. Co. Mgr., H. L. White.
Robinson & Emerson, elec. engrs., 222, Victoria-st.
Vignoles, W. A., M.I.E.E., corp. engr.
White, H. L., trwys. mgr.

Greenock.

Aluminium Castings Co., Ingleston Fdry.
Anderson, A., & Co., elec. l. & p. engrs., 5, W. Blackhall-st.
Connal, D. L., & Co., elec. l. & p. contrs., Hunter-pl.
Corp. Elec. Wks. Engr., J. A. Robertson, M.I.E.E.
G. & Glasgow Elec. Co., elec. platers, 14, Charles-st.
G. & Port Glasgow Trwys. Co. Man., G. W. King.
Hastie, J., & Co., Ltd., engrs., Nicholson-st.
Kilpatrick, J., & Son, elec. engrs. & contrs., 34, West Blackhall-st.
Lamb, A. R., dis. mgr. Nat. Teleph. Co.
Maccallum, J. M., elec. chem., 43, Union-st.
Robertson, J. A., M.I.E.E., burgh elec. engr.
Tosh, D., & Son, ltng. cond., 12, Houston-st.

Groeslon, R.S.O.

Jones, Inigo, & Co., slate turners, Tudor Slate Wks.

Guernsey.

Bird, A. G., engr. & mgr. G. Elec. Sup. Co., Les Amballes.
Davis, A. L., engr. & mgr., Guernsey Electric Railway Co., Ltd.
G. Elecy. Sup. Co. Engr., A. G. Bird, A.M.I.E.E.
G. Rly. Co. Engr. & man., A. L. Davis, A.M.I.E.E.
Guernsey (States of) Teleph. Dept., St. Peter Port.
Langlois, T., & Co., elec. engrs., 31, Bordage-st.
Maclean, R., engr. & mgr. G. (States of) Teleph. Dept.

Guildford.

Alderton, H. L., engr., G. Elec. S. Co., Ltd.
Bowden, Higlett & Co., elec. lt. contractors, Onslow-st.
Carling, Gill & Carling, Ltd., elec. engrs., 59 & 60, High-st.
Dickinson & Burne, Ltd., mech. engrs., Church Acre Wks.
Drummond Bros., Ltd., lathe & tool mkrs., Rhydes Hill, nr.
G. Elec. Supply Co., Ltd., Onslow-st. Engr., H. L. Alderton.
Phillips, H. F., & Co., mfg. elec. engrs., Guildford Elec. Wks.

Halifax.

Automatic Standard Screw Co.
Bentley, W., cons. mech. engr., Royal Insurance-bldgs., Crossley-st.
Binns, J. & A., iron & stl. wire, West Mount Wire Wks.
Booth, G., & Co., mech. tool mkrs., Arundel-st.
Campbell Gas Engine Co., Ltd., Kingston.
Corp. Elec. Wks. & Trams. W. M. Rogerson, A.M.I.E.E., engr.; trwys. man., F. Spencer.
Emmott, W., M.I.C.E., M.I.E.E., 35, Commercial-st.
Fleming, Birkby & Goodall, lthr. dr. bands.
Foster, E., & Son, Ltd., engrs., Cen. Brass Wks.
Gath Elec. Eng. Co., Horton-st.
Greenwood, T., engr., Waterside.

Halifax—*continued.*

Hamer, J., & Co., mfg. elec. engrs., Broad-st.
Hardy, J. T., elec. engr., Abbey Walk, Coronation-rd.
Maud & Turner, engrs., Perseverance Wks., Gibbett-st.
Municipal Tech. College. *See* SCHOOLS.
Naylor, John, & Son, elec. bell ftrs., Cheapside.
Northern Electric Wire Co., The, Sedburgh Mills.
Richardson & Co., engrs.' tool mkrs., Bowling-green Tool Wks.
Rogerson, W. M., A.M.I.E.E., boro' elec. engr.
Royston, J., Son & Co., Ltd., wire mfrs., Shrogg's Mills.
Smith, B. G., elec. lifts, Stannery-st.
Smith, Frederick, & Co., Wire Manufacturers, Ltd., copper wire mfrs., Caledonia Wks.
Smith & Wilshaw, lathes, Kingston Wks., Hopwood-la.
Spencer, F., M.I.E.E., trys. man., Skircoat-rd.
Sunderland, J., & Co., elec. engrs., 183, Gibbett-st.
Sykes, E., elec. engr., 7, King Cross-st.
Whiteley Bros., insul. mat., Slitheroe Mills, Rishworth, nr.
Wilkinson, Wm., elec. engr., 22, Crosshills.
Wright & Wood, dynamos, Pellon-lane.

Hamilton.

Colson, T. M., A.M.I.E.E., engr. & mgr., Elec. Wks.
Corp. Elec. Wks. (Edmundson's Elecy. Corp., Ltd.). Engr., T. M. Colson, A.M.I.E.E.
Lanarkshire Trwys. Co. Man. & engr., G. F. Moller.
Whitelaw, John T., dist. mgr. Nat. Tel. Co., Ltd.

Hampton Wick.

Burgoine, Alfred, Ltd., elec. launches, Riverside.
Christian & Phipps, Ltd., elec. engrs.
Gridley, H. J., elec. engr.
Holgate & Redwin, inst. contrs., 1, Malden-ter., High-st.
Scotcher & Sons, elec. engrs., High-st.

Hanley (including Etruria, Shelton, &c.).

Adams, W., dep. boro' elec. engr.
Beck & Moss, Ltd., elec. platers, Faraday Wks.
Blackburn, Starling & Co., Ltd., elec. engrs., 72, Piccadilly.
Bullers, Ltd., porcelain mfrs., Fenton-rd.
Cauldon, Ltd., earthenware mfrs, Cauldon Place Wks., Shelton.
Clementson Bros., earthenware mfrs., Phœnix Wks., Broad-st.
Corp. Elec. Supply, Park-rd. Engr., C. H. Yeaman.; deputy engr., W. Adams.
Cowlishaw & Walker, engrs., Etruria.
Empire Porcelain Co., earthenware mfrs., Stoke-rd., Shelton.
Fenton, W., engr., Burton-pl.
Gosling & Gatersbury, engrs., Atlas Wks., Victoria-rd.
Grimwade Bros., earthenware mfrs, Winton Pottery, Stoke-rd.

Hanley (including Etruria, Shelton, &c.)
—continued.

Howson, G., & Son, earthenware mfrs., Clifford-st., Lichfield-st.
Lobley, J., M.I.C.E., boro' engr. & surveyor.
Lockitt, W. H., earthenware mfr., Wellington Pottery, Commercial-rd.
Meadows, W. A., elec. engr., Free Trade-bldgs., Percy-st.
Meadows, Teeton & Minshall, Ltd., elec. engrs., 7–9, Albion-st.
Meakin, J. & G., Ltd., earthenware mfrs., Lichfield-st.
National Telephone Co., Ltd., Telephone-bldgs. A. E. Ruddock, dist. man.
Ridgways, Ltd., earthenware mfrs., Bedford-st., Shelton.
Shaw, A., tile mfr., Shelton Tile Wks.
Shore & Son, engrs., Albion Fdy.
Taylor, Tunnicliff & Co., Ltd., earthenware for elec. purposes, Eastwood.
Twyfords, Ltd., earthenware mfrs., Cliffe Vale Wks., Shelton.
Warners & Son, mfg. engrs., Phœnix Foundry.
Yeaman, C. H., borough elec. engr., 85, Park-rd.

Harleston.

Stacey & Escourt, elec. engrs.

Harrogate.

Beanland, F., A.I.E.E., "Bega."
Corp. Elec. Supply Wks., Ripon-rd. G. Wilkinson, M.I.M.E., M.I.E.E., engr.
Falshaw, R., elec. engr., Albert-chbrs., Albert-st.
H. Tech. School. *See* SCHOOLS.
Lappin, A., testing supt., Corp. Elec. Dept., 33, Swan-rd.
Lawrence, J. P., A.M.I.E.E., elec. engr., 16D, Chapel-st.
McCourt, R., mains supt., Corp. Elec. Dept.
McLean, N., chf. asst., Elec. Sta.
Newby, G., elec. engr., Imperial-chbrs., James-st.
Ward, Barker & Co., elec. engrs., Chapel-st.
Wilkinson, Geo., M.I.E.E., M.I.M.E., corp. engr., 33, Swan-rd.
Wray, T., elec. engr., Petergate, James-st.

Harrow.

Cole, Wm., install. contr., 20, Greenhill-par.
H. Elec. Lt. & Pr. Co. Engr., P. Olver.

Hartlepool.

Gen. Elec. Trwys. Co., Ltd. Engr., W. H. Bettison.
Richardsons, Westgarth & Co., Ltd., elec. engrs.

West Hartlepool.

Barker, E. D., install. contr., Lynn-st.
Bland & Co., install. contrs., Church-st.
Central Marine Eng. Wks., marine engrs.
Corp. Elec. Wks. H. F. Friederichs, M.I.C.E., engr.
Friederichs, H. F., boro' elec. engr.

West Hartlepool—*continued.*

Geipel, E., A.M.I.E.E., install. contr., Scarbro-st.
Pounder & Sons, install. contrs., Park-rd.
Prescott, G. H., & Co., elec. & mech. engrs., 25, Whitby-st.

Haslingden.

Anderton & Halstead, Ltd., cable mfrs'. sundries.

Hastings.

Armstrong, E., Nat. Teleph. Co., 52, Cambridge-rd.
Botley, C. F., gas & elec. engr.
Bruce, F., A.I.E.E., 2, York-bldgs.
Coleman, C., elecn., Corp. Elec. Dept.
Corp. Elec. Dept. R. F. Ferguson, M.I.E.E., A.M.I.MECH.E., engr.
Edwards, W. V., elec. engr., H. & Dis. Elec. Trys. Co., Ltd.
Elgar, H. T., wiring contr., 19, Middle-st.
Ferguson, R. F., M.I.E.E., A.M.I.MECH.E., boro' elec. engr.
H. & St. L. Elec. Instal. Co., 37c, Robertson-st.
Holliday, T. B., engr. & mgr., H. & Dis. Trys. Co., Ltd.
Ticehurst, F. G., cons. engr., Langton House, Battle.
Webber, H., A.M.I.E.E., chief asst. elec. engr., Corp.

Haverfordwest.

Dutton, S., supt. Teleg. Dept., Relay Sta.
Elliott, J. R., elec. bell ftr., Gloucester-ter.

Hawick.

Urban Elec. Supply Co., Ltd. Engr., A. N. Ryc.

Hayes (Middlesex).

Brit. Elec. Transformer Co., Ltd., engrs. & contractors.
Lee, A., & Bros., Ltd., marb. & slate.

Hayle.

Hayle Gas Co., Ltd., elec. lt. contrs.

Hayward's Heath.

Knight, A. W., elecn., Cuckfield Iron Wks., Market-pl.
Walton, D., dyn. mkr., Silk Mills.

Hebden Bridge.

Blackburn, R. S., A.I.E.E., elec. engr., Commercial-st.
Garside, J. W., engr., U.D.C. Elecy. Works.
U.D.C. Elecy. Wks. Engr., J. W. Garside.

Heckmondwike.

Carter, G. H., engr., Corp. Elecy. Wks.
Corp. Elec. Wks. & Trams. G. H. Carter, A.I.E.E., engr.

Hednesford.

Bumsted & Chandler, st. eng. mfrs., Cannock Chase Fdry.
Williamson, R. S., elec. engr., Cannock & Rugeley Coal Co.

Helensburgh.

Maclean, M., elec. engr., Hanover-st.

Helsby.

British Insulated & Helsby Cables, Ltd.

Hereford.

Barber, H. S., elec. bell ftr., 41, Bridge-st.
Corp. Elec. Wks. W. T. Kerr, engr.
Edwards & Armstrong, elec. engrs., 39, Broad-st.
Harding Bros., elec. engrs., Commercial-st.
Kerr, W. T., res. engr., Corp. Elec. Wks.
Woolard & Co., elec. engrs., Hightown.

Herne Bay.

Edwards, E., elecn., West Cliff.
Welby, C. W., elec. bell ftr.

Hertford.

Bowman, J. M., man. engr., N. Met. Elec. Pr. Dist. Co., Ltd.
Ekins & Co., Ltd., elec. engrs., "Old Cross."
N. Met. Elec. Pr. Dist. Co., Ltd. Engr., J. M. Bowman.

Heston (Middlesex).

H. & Isleworth U.D.C. Elec. Wks. Engr. & mgr., P. E. Rycroft, A.M.I.E.E.

Hexham.

H. & Dist. Elec. Sup. Co., Ltd. Engr., W. E. Poole.

Heywood.

Corp. Elec. Wks. J. Stott, res. elec. engr.
Mun. Tech. School. *See* SCHOOLS.
Stott, J., engr., Corp. Elec. Wks.

High Barnet.

N. Met. Elec. Pr. Dist. Co., Ltd. Engr., H. B. Sale.

High Wycombe.

Brandreth, W. E., engr. & mgr., W. (Borough) E. L. & P. Co., Ltd.
Broom & Wade, Ltd., mech. & elec. engrs.
Davenport Vernon & Co., Ltd., elec. lt. ftrs., High-st.
Sanderson, J., & Co., elec. engrs. & contrs., 73, Easton-st.
Wycombe (Boro') E. L. & P. Co., Ltd. Engr., W. E. Brandreth.

Hindhead.

H. & Dist. E. L. Co., Ltd. Engr., T. Reader.
Reader, T., elec. engr., H. & Dist. E. L. Co., Ltd.

Hitchin.

Gatward, J., & Son, elec. lt. engrs., Swan Iron Wks.

Horley.

Eade & Sons, elec. bell & teleph. ftrs., Balcombe-rd.

Holyhead.

U.D.C. Elecy. Wks. Res. engr., P. Williams.
Williams, P., res. engr., U.D.C. Elecy. Wks.

Horsham.

Morgan, J. B., engr., U.D.C. Elecy. Wks.
Sendall, W. F., & Co., inst. contrs., 18, East-st.
U.D.C. Elecy. Wks. Engr., J. B. Morgan.

Horton Kirby.

N. S. Elec. Stor. Co., Ltd., mkrs. accum.

Hoylake.

U.D.C. Elec. Wks. Engr., C. J. Turner, A.I.E.E.

Huddersfield.

Armitage, T. A., elec. engr., 44, Buxton-rd.
Barron, C. A., & Lewin, patent agts., 32, John William-st.
Bower, W. R., A.R.C.S. (London), lect. on elec. eng., Technical College.
Broadbent, T. W., elec. engr., East Parade.
Broadbent, T., & Sons, Ltd., mech. engrs., Vulcan-st.
Brook, E., Ltd., elec. engrs., Colne-rd.
Broom, G. H., A.I.E.E., elec. engr., Tech. Coll.
Brown, D., & Sons, raw hide gears, Park Works, Lockwood.
Cooke, J., concrete for eng. beds, Folly Hall.
Corp. Elec. Supply, St. Andrew's-rd. A. B. Mountain, M.I.E.E., engr.
Corp. Elec. Trams. Engr., R. H. Wilkinson.
Crossley & Bould, elec. engrs., Cloth Hall-st.
Davies, F. W., A.M.I.E.E., elec. engr., Victoria Elec. Wks., East Parade.
Dyson, J. E., elec. engr., Shambles-lane.
Graham, J. W. & R., elecns., &c., Fitzwilliam-st.
Holmes, W. C., & Co., elec. lt. engrs., Turnbridge.
Honley U.D.C. Elec. Wks. H. Marsden, elec. engr.
Hopkinson, J., & Co., Ltd., gauge mkrs., Britannia Wks.
Littlewood, Beaumont, & Co., dynamos, Thirstin Ironwks., Honley.
Liversidge, E., elec. engr., 4, King's Head-bldgs., Cloth Hall-st.
Marchant, G. M., valves & lubr., Albert-st.
Marsden, J., & Co., elec. engrs., Market-pl.
Mitchell, J., & Sons, elec. & mech. engrs., Brockholes, nr.
Mountain, A. B., boro' elec. engr. & cons. engr., St. Andrew's-rd.
Robinson, J., & Co., Ltd., mfg. chem.
Schofield & Taylor, engrs., Turnbridge.
Shaw, J., & Son, Ltd., stm. valve mfrs., Albert Wks.
Sunderland Bros., elec. engrs., Halifax Old-rd.
Sykes, Jos., Bros., Ltd., mech. engrs., Acre Mills, Lindley.
Sykes, J., & Sons, Ltd., engrs., Turnbridge.
Sykes & Sugden, Ltd., elec. engrs., Spring-pl. Wks., Springwood-st.
Taylor, F. W., elec. engr., Golcar, nr.
Taylor, J. H., & Son, inst. contrs., Macauley-st.
Technical College.
Whiteley, Wm., & Sons, Ltd., dynamos, Prospect Iron Wks., Lockwood.

Huddersfield—*continued.*

Wicker, G. J. M., loc. mgr., Nat. Teleph. Co.
Wilkinson, R. H., mgr. & res. engr., Corp. Trwys., Longroyd Bridge.

Hull.

Beecroft & Wightman, Ltd., wood casings, Humber Sawmills, Burleigh-st.
Bell, H., A.M.I.E.E., chf. engr., Corp. Elec. Wks.
Castle & Co., compass mkrs., English-st.
Coote, A. W., sup. Edison & Swan Co., 3, Anne-st.
Corp. Elec. L. & P. Wks. Engr., H. Bell, A.M.I.E.E.
Corp. Trams. Engr., J. Wilkinson, M.I.E.E.; man., W. J. McCombe.
Dixon, E., elec. engr. & mg. director Blundell, Spence & Co., Ltd., Beverley-rd.
Edison & Swan U. E. L. Co., Ltd., 1, Ann-st.
Haggie, R., Hood & Son, Ltd., wire rope, Victoria Pier.
Hare, H., & Co., elecl. slates, Park-rd.
Harrison, W. L., inst. contr., 30 & 31, George-st.
Harrison, W. R., cons. engr., 477, Anlaby-rd.
Hyde, H., elec. engr., 48, Spring Bank.
Irwell & Eastern Rubber Co., Ltd., 58, Queen-st.
Jones, W., A.M.I.E.E., mains supt., Elec. Lt. Wks.
Kenningham, R. H., elec. engr., 9, Beverley-rd.
King & Co., Ltd., elec. lt. engrs., S. Church Side.
Lackenby & Co., try. cover mkrs., Anlaby-rd.
Lusby, A. J., 11, Haye's-ave., Ella-st.
Maxted, Knott & Coles, cons. engrs., Burnett-ave.
Muse, T., elec. app. mkr., 1, S. View, Newington.
Nat. Teleph. Co., Ltd., Telephone-bldgs., Mytongate.
Neale, G. A., teleg. engr., H. & B. Rly. Co.
Nicholson, J. H., elec. engr. & wiring contr., 59, Beverley-rd.
Parsons, E. M., elecn., 67, King Edward-st.
Priestman Bros., Ltd., pet. eng. mfrs., Holderness Fdry.
Rose, Downs & Thompson, Ltd., mech. engrs., Old Foundry, Cannon-st.
Shaw, A., elec. engr., 94, Prospect-st.
Stather, T., & Co., elec. engrs., 13, Lowgate.
Wade, R., Sons & Co., Ltd., teleg. poles, Garrisonside.
White, A. E., city engr., Town Hall.
Wilkinson, J., M.I.E.E., elec. engr., City Trams.
Willatt, W. H., elec. engr., Reckitt & Sons, Ltd.
Wokes, Chas., & Co., elec. engrs. & contrs., 68, Brook-st.

Hurst (Lancs.).

Garside, E., engr., U.D.C. Trwys.

Hyde.

Tinker, Shenton & Co., Ltd., Hyde Boiler Wks.
Tinkers, Ltd., boiler mkrs.

Hythe.

Folkestone Elec. Sup. Co., Ltd. Man. engr., T. Hesketh, M.I.E.E.; res. engr., A. C. Wampach.

Ilford.

Ajax Elec. Eng. Co., 291, High-rd.
Light Electric Motor Co., Ltd., elec. specialities, Seven Kings Electric Works.
U.D.C. Elec. Wks. & Trwys. Engr., A. H. Shaw, M.I.E.E.

Ilfracombe.

I. E. L. & P. Co., Ltd. Engr., A. A. Jenkins, A.M.I.E.E.
Jenkins, A. A., engr., I. E. L. & P. Co., Ltd.

Ilkeston.

Carpenter & Mayfield, elec. engrs.
Corp. Elec. Wks. & Trams.
Derbyshire & Notts Elec. Pow. Co. Engr. & man., A. E. Loos; res. engr.-in-charge, S. S. Foster.
McAlpin & Co., elec. engrs. & contrs., Wilmot-st.

Ingleton.

I. Elec. Ltg. & Pr. Co. Engr., D. Tattersall.
Tattersall, D., engr., I. Elec. Ltg. & Pr. Co.

Inverkeithing.

Caldwell & Co., elec. lt. engrs.

Inverness.

Hamilton, Claud, Ltd., elec. engrs.
N. of Scot. E. L. & P. Co. Engr., E. J. Williams.
Williams, E. J., engr., N. Scot. E. L. & P. Co.

Ipswich.

Ayton, F., chf. engr. & mgr., Corp. Elec. Sup. & Trys. Depts.
Barclay, W. J., & Co., elec. engrs. & contrs., 26, Museum-st.
Chapman, A. B., elec. engr., Corder-rd.
Collum, J. E., & Co., elec. contrs., Tanners-lane.
Corp. Elec. Sup. & Trams. Engr. & mgr., F. Ayton, A.M.I.E.E.
Crisp & Smith, elec. bell ftrs., Orwell-pl.
Hillyard, F. A., install. contr., 79, Princes-st.
Kettle, H. G., & Co., elec. lt. contrs., 24, Lr. Brook-st.
Mann, Egerton & Co., Ltd., install. contrs., 1, Arcade-st.
Martin & Newby, elec. bell ftrs., 2, Fore-st.
Monte-Callow & Co., elec. engrs.
Notcutt, S. A., elecn., Constitution Hill.
Orton, J., & Co., elec. bell ftrs., 43, Butter-mkt.
Ransomes & Rapier, elec. cranes, Waterside Iron Wks.
Ransomes, Sims & Jefferies, Ltd., mech. engrs., Orwell Wks.
Reavell & Co., Ltd., elec. lt. eng. bldrs.
Smyth Bros., elec. bell ftrs., 56, Fore-st.
Stearn, A., & Son, elec. bell ftrs., 21, Upper Brook-st.
Tamplin & Makovski, Ltd., elec. contrs.
Turner, E. R. & F., Ltd., stm. eng. & boilers.
Warner, H., & Sons, engrs., Lion-st.
Wood, F. J., & Co., elec. contrs., Dogshead-st.

Jarrow.

Co. of Durham Elec. Pr. Dist. Co. Gen. mgr., A. S. Esslemont.
Macro, A. J., chf. elec. engr., Palmer's Shipbuilding Works.

Jedburgh.

Elec. Sup. Corp., Ltd. Engr., K. A. Scott-Moncrieff.

Jersey.

Eady, H., dis. mgr., Nat. Teleph. Co., St. Heliers.

Keighley.

Corp. Elec. Wks., Coney-la. Engr., J. M. Smyth, A.M.I.C.E., M.I.E.E.
Dean, Smith & Grace, Worth Valley Tool Wks., Parkside.
Grace, A., elec. engr., 18, Gordon-st.
Grace & Sutcliffe, elec. & motor engrs., Cavendish-st.
Keighley Electrical Eng. Co., Ltd., Vulcan Wks.
Smith, M., & Co., elec. contrs.
Smyth, J. M., A.M.I.C.E., M.I.E.E., boro' elec. & try. engr.
Spencer, H., & Sons, elec. engrs., Lawkholme-la.
Sunderland, J., gear wheels, Fleece Mills.
Wilkinson, G., & Sons, tool mkrs.

Kendal.

Corp. Elec. Wks. W. Thomson, engr.
Gilkes, Gilbert, & Co., Ltd., turbine mfrs., Canal Iron Wks.
Thomson, W., engr., Corp.

Keswick.

K. Elec. L. Co., Ltd. Engr., G. A. Leighton.
Leighton, G. A., engr., K. E. L. Co., Ltd.

Kettering.

Barnett & Soans, elec. contrs., George-st.
Dixon & Co., elec. contrs., Crown-st.
Hall, C., elecl. contr.
Lea & Warren, elec. engrs., Glenroy Works.
Stanley & Co., elec. contrs., Crown-st.
Thompson & Co., elec. contrs., Wellington-st.
U.D.C. Elec. Wks. Engr., W. A. Walker.
Walker, W. A., engr., U.D.C. Elecy. Wks.

Keynsham.

K. Elec. Lt. & Pr. Co., Ltd. Engr., G. J. T. Parfitt.

Kidderminster.

Bowen, T. W., elec. engr., Mill-st.
Charlton, A., man. engr., K. & Dist. Elec. Ltg. & T. Co., Ltd.
Hughes, W. M., elec. engr., New-rd.
K. & Dist. E. L. & T. Co., Ltd. Engr., A. Charlton.
K. & Stourport Elec. Trwy. Co. Engr. & man., A. Charlton.
Law, G., elec. tramway contr.
Martin, W. W., elec. engr., Coventry-st.

Kildare.

Elec. Wks. Res. engr., H. Rylance.
Rylance, H., engr., Elec. Wks.

Killarney.

Kerry Electric Supply Co., Ltd. Engr., Valentine Ryan.
Ryan, V., engr., Kerry E. Sup. Co., Ltd.

Kilmacolm.

Brown, J., engr., K. Elec. Ltg. Co., Ltd.
K. Elec. Ltg. Co., Ltd. Engr., J. Brown, A.M.I.E.E.

Kilmarnock.

Burbidge, A. H., engr. & tram man., Corp. Elecy. Wks.
Corp. Elec. Wks. & Trams. Engr., A. H. Burbidge.
Dick, Kerr & Co., Ltd., trwy. engrs. & contrs.
Glenfield & Kennedy, Ltd., iron fdrs. & engrs.
McDonald, G. A., dis. mgr. Nat. Teleph. Co., Cross.
Stewart, T., & Sons, Ltd., elec. bell ftrs., Cross.
Wilson, J. Allan, elec. engr., Nat. Bank-bldgs.

King's Lynn.

Corp. Elec. Wks. J. Pilling, M.I.E.E., engr.
Dodman, A., & Co., Ltd., engrs., Highgate Fdry.
Johnson, B. W., inst. contr., Railway-rd.
Johnson, W. H., & Son, motor car engrs., St. James-st.
K. L. Elec. Eng. Co., Broad-st.
Lock, W. B., elecn., 15 & 16, Norfolk-st.
Paragon Motor Wks., Ltd., motor car engrs., London-rd.
Pilling, J., M.I.E.E., boro' elec. engr.
Savage Bros., Ltd., engrs.

Kinghorn.

Kinghorn Gas Light Co., Ltd., elec. lt. contrs.

Kingston-on-Thames.

Adams, W., elecn., Ashdown-rd.
Burgoine, A., Ltd., elec. launches.
Button, T., elecn., London-rd.
Corp. Elec. Supply, Down Hall-rd. J. E. Edgcome, M.I.M.E., M.I.E.E., engr.
Edgcome, J. E., M.I.M.E., M.I.E.E., boro' elec. engr., Corp. E. Lt. Sta.
Offer & Sons, elecns., Church-st.
Prestwich & Burt, elec. & mech. engrs., South-la.
Windybank & Ballard, elecns., Albert-rd.
Wright, J., elecn., 3, Surbiton-pk.-ter.

Kingussie.

Grant, J. M., teleph. contr.

Kirkcaldy.

Bryson, R., jun., elec. lt. contr., 130, High-st.
Corp. Elec. Wks. & Trams. Engr., O. F. Francis, A.M.I.E.E.
Francis, O. F., A.M.I.E.E., burgh elec. engr.
Melville, O., elec. engr., 310, High-st., Redburn Wynd.
Storrie, J. H., dis. mgr., Nat. Teleph. Co., 211, High-st.

Lanark.

Hunter, David, elec. engr.

Lancaster.

Abbot & Co., wiring contrs., Brock-st.
Calvert & Heald, elec. engrs., Market-st.
Corp. Elec. Supply & Trwys. W. A. Tester, A.M.I.M.E., A.M.I.E.E., cons. engr.; D. A. Hamilton, chf. assist.
Heap, S., elec. engr., 13, Quernmore-rd.
Lancaster Elec. Ftgs. Co., 10A, Market-st.
Parkinson, J., elecn., Meadowside.
Seward, A., wiring contr., Market-st.
Tester, W. A., A.M.I.M.E., A.M.I.C.E., boro' elec. & trwys. engr.
Wilson, R., wiring contr., King-st.
Wilson, R. P., elec. contr., 22, King-st.

Landore.

Richards, D., elecn., 44, Wern-rd.

Langley.

Beesley, J., elec. app. mkr., Horsemoor-green.

Larbert.

Falkirk & Dis. Trwys. Co., Larbert-rd.
Falkirk Elec. Construc. Synd., Ltd., Larbert-rd.
Scottish Central Elec. Pr. Co. Engr., W. D. Morgan.

Larne.

Larne Elec. Light Wks., Ltd. M. G. Smyth, A.M.I.E.E., engr. & mgr.
Smyth, M. G., engr. & man., Larne L. Wks., Ltd.

Launceston.

Rogers, R. B., A.M.I.C.E., cons. elec. engr., Hexworthy.

Leamington.

Brown & Parsons, elec. engrs., 63, Parade.
Holt, H., & Co., elec. engrs., 104, Warwick-st.
Jenkins, W., & Son, lghtng. conduc., 7, Trinity-st.
Jones, F. W. E., M.I.E.E., chief engr. & mgr., Midland E. L. & P. Co., Ltd., 17, Claremont-rd.
Midland Elec. Lt. & Pr. Co., Ltd. F. W. E. Jones, M.I.E.E., engr., Wise-st. Wks.
Parsons, W., & Co., inst. contrs., 66, Regent-st.

Leatherhead.

Blaker & Sons, elec. contrs.
L. & Dist. Elec. Co., Ltd. Engr., H. L. Dixon, A.M.I.E.E.

Leeds.

Ackroyd & Best, Ltd., oil lmp., Morley, nr.
Anderson, C., elecn., Lane House, Hunslet.
Bailie, J. D., A.M.I.E.E., Peacocks-bldgs., Park Row.
Beanland, Perkin & Co., solder, paste, School Close Wks., Neville-st.
Bennett & Co., batteries, 32, Park Cross-st.
Benton, W. J., A.M.I.E.E., M.I.M.E., cons. engr., 1, Chestnut-ave., Hyde Pk.

Leeds—*continued.*

Booth, Joseph, & Bros., Ltd., elec. cranes, Union Fdry., Rodley, nr.
Borland, F. J., & Co., elec. & gen. engrs., Old Mills, Camp-rd.
Braime, T. F., & Co., Ltd., oil cans, Goodman-st., Hunslet.
Bray, G., & Co., Ltd., diop. lntrns., Blackman-la.
Brit. Thomson-Houston Co., Ltd., elec. engrs., Greek-st.-chbrs.
Bryant Trad. Synd., Ltd., ftgs., 1, Oxford-pl.
Bulloch, W. M., elec. engr., 20, Calton-ter., Farsley, nr.
Burbridge, J., chief engr., City Tramways.
Butler, J., & Co., elec. battery, Stanningley.
Campbells & Hunter, Ltd., mach. tool mkrs., Dolphin Fdry.
Carr, G. M., M.I.E.E., sup. engr., Postal Telegraphs.
Carr, O., elec. engr., Headingley.
Catton & Co., Ltd., stl. cstgs., Black Bull-st., Hunslet.
Chloride Elec. Stor. Co., Ltd., City-sq.
Churton, T. H., & Co., elec. engrs., Atlas Wks., Water-lane.
Clayton, Son & Co., Ltd., boiler mkrs., Moore-end, Hunslet.
Clegg, B. W., & Sons, pat. agts., 18, Belinda-st., Hunslet.
Cockburn High School. *See* Schools.
Cohen, Morris & Co., Ltd., screws, &c., Hunslet Mills.
Collett, A. E., elecn., 1, Reginald-ter.
Commercial Elec. Co., 28, E. Parade.
Corp. Elec. Ltg. Dept., 1, Whitehall-rd. Engr., H. Dickinson.
Corp. Elec. Trams. J. Burbridge, engr.
Crompton & Co., Ltd., elec. engrs., Prudential-bldgs., Park-row.
Cryselco, Ltd., incand. lmp. mfrs., 11, Upper Mill Hill.
Cuttriss, S. W., M.I.E.E., elec. engr., Prudential-bldgs., Park Row.
Denison, T., & Co., mech. engrs., Arrow Wks., West-st.
Dickinson, F. W., Ltd., elec. engrs., St. Anne's Wks., Hunslet New-rd.
Dixon, S., & Son, Ltd., engrs., 31, Swinegate.
Drabble, W. T., elec. engr., West-st.
Edison & Swan U. E. L. Co., Ltd., 127, Albion-st.
Electric Circuit Breaker, Ltd., 72, Albion-st.
Elec. & Gen. Stores, 104, Albion-st.
Elec. Motor Agency.
Ellis, J., boro' elec. engr., Morley, nr.
Fawcett, D. L., elec. engr., 32, Sholebroke Mount.
Fisher, J. G., lub. mfr., 78, Harrogate-rd.
Flather & Co., Ltd., elec. engrs., Park Elec. Wks., Marshall-st., Holbeck.
Fowler, John, & Co., Ltd., mech. engrs.
Fox, H., M.I.E.E., Troy Wks., Stanningley, nr.
Franklin & Isaacson, Ltd., elec. & mech. engrs., 40, Gt. Wilson-st.
Gill & Co., elec. engrs., Holbeck-la.
Goodman, Prof. J., cons. engr., Yorks. Coll.

Leeds—*continued.*

Graham, Morton & Co., engrs., Carlton-chbrs., Albion-st.
Green, T., & Son, Ltd., engineers, machinists.
Greenwood & Batley, Ltd., el. engrs., Albion Wks.
Grover, F., cons. engr., Greek-st.-chbrs.
Hall, C. J., M.I.E.E., cons. elec. engr., 10, E. Par.
Harding, Richardson, Rhodes & Co., Ltd., spd. indic., Tower Wks.
Harrap, T., & Son, elec. engrs., Cardigan-rd.
Hartnell, Wilson & Co., Ltd., elec. engrs., Volt Wks., Kirkstall-rd.
Hathorn, Davey & Co., mech. engrs., Sun Fdry.
Headingley Motor & Eng. Co., Ltd., 18, St. Michael's-lane, Headingley.
Heaps, Arnold & Heaps, zinc merchs., Leeds Old Lead Wks.
Henry, J., pulley mkr., Manor-road Foundry.
Hepton, W., & Son, brass fdrs., Hunslet-lane.
Hill, H., elec. engr., Greenwood & Batley, Ltd.
Hinchcliffe, Green & Co., elec. contrs., Aire-st.
Horsfall, Wm., engr. & inv., Camp-rd.
Horsfall Destructor Co., Ltd., engrs., Lord-st. Wks., Whitehall-rd.
Hudswell, Clarke & Co., Ltd., pulley mkrs., Railway Fdry.
Hunslet Elecl. Pottery Co., Ltd., Balm-rd. Mills, Hunslet.
Illingworth, Ingham & Co., Ltd., casings, City Saw Mills.
Innes, A., elec. engr., S. Parade.
Isherwood, W. H., & Co., mfg. elec. engrs., Carlton Mills.
Jeken, H. G., chf. asst. elec. engr., City Trwys.
Johnson, C., elec. engr., Cookridge-st.
Johnson, W., & Sons (Leeds), Ltd., engrs., Castleton Fdry., Armley.
Jones, Westwood Elec. Mfg. Co., elec. engrs., Elland-rd.
Kaye, J., & Sons, Ltd., oil cans, Lock Wks.
Kershaw, A., elecn., Dorrington-st.
Kingfisher (1118), Leeds, lubricator mkrs.
Kirby Banks Screw Co., Ltd., bolts, screws, Albert Screw Wks., Meadow-lane.
Kirkstall Forge Co., iron mfrs.
Kitson & Co., mech. engrs., Airedale Fdry., Hunslet-rd.
Leadbeater & Gill, Ltd., hyd. engrs., Braithwaite-st., Holbeck.
Leech & Sinkinson, Ltd., elec. wire cov. mat.
Leeds Forge Co., Ltd., flat plates, &c.
Leeds Inst. Technical School, Cookridge-st. *See* Schools.
Lewis Motor Co., Ltd., 4, South Parade.
Local Section of the I.E.E. H. Dickinson, hon. sec., Corp. Elecy. Dept., Whitehall-rd.
Love, H., engr., Roundhay.
McLaren, J. & H., engs., Midland Eng. Wks.
Mason, J. F., & Co., elec. engrs., 136A, Woodhouse-la.
Mather & Platt Ld., engrs. & contrs., 28, East Parade.
Mathias, N., A.M.I.E.E., elec. engr., 199, Hyde Park-rd.

Leeds—*continued.*

Metcalfe, G. A., wks. mgr., T. Smith & Sons, Stm. & Elec. Crane Wks., Rodley, nr.
Milne, Jas., & Son, Ltd., elec. lt. engrs., 34, Wellington-st.
Moore & Haigh, motor mfrs., Star Wks., Kirkstall-rd.
Moorhouse, E., A.M.I.E.E., supt. Edison & Swan Co., 127, Albion-st.
Morley Corp. Elec. Wks. Engr., J. E. Ellis, A.M.I.E.E., nr.
Morley Elec. Eng. Co., Ltd., elec. engrs., Stanningley, nr.
Morten, W. V., dis. mgr., Nat. Teleph. Co.
Neville, V., & Co., elec. engrs. & contrs., 20, Park Cross-st.
Nicholson, J., & Sons, Ltd., sulph. acid, Hunslet.
Pickard, F. Hattersley, & Co., elec. fans, 15, King-st.
Pimp, C., elec. engr., Nydd.
Power, H., elec. goods, 34, Evanston-ave., Cardigan Fields.
Rawlinson, Ltd., elec. lifts, Hope Wks., Kirkstall-rd.
Reynolds & Branson, Ltd., elec. app. mfrs., 14, Commercial-st.
Rhodes, F. W., elec. engr., Commercial-st.
Rhodes, Gill & Co., elec. engrs., Primitive-st.
Roberts & Co., elec. sup. contrs., 3, Cookridge-st.
Scattergood, B. P., M.I.E.E., 7, Cookridge-st.
Scriven & Co., engrs'. tool mkrs., Mill-st.
Scupham & Wood, Ltd., casg., Mill-st. Turn.-mls.
Shepherd & Watney, civil engrs., Greek-st.-chbrs.
Shuttleworth, H., elec. contr., Cross-st., Briggate.
Simpkin, F., elec. engr., St. Anne's Elec. Wks.
Simpkin, Wilkinson & Gibson, mfg. elec. engrs., 66, Kirkstall-rd.
Simpson, C., & Sons, met. merchs., 15, Park-row.
Smith, T. H., & Co., elec. engrs., 8, East-par.
Smith, Thos., & Sons, elec. crane, Steam & Elec. Crane Wks., Old Fdry., Rodley.
Snowdon, W., cons. mech. engr., 24, Basinghall-st.
Speke, J. W. & H., elecns., 177, Spencer-pl.
Standard Engineering Co., Leeds, Ltd., elec. engrs., 28, Bond-st.
Stroud, W., M.A., D.SC., prof. phys., University.
Taylor Bros. & Co., Ltd., engrs., Clarence Irn. & Stl. Wks.
University of Leeds. *See* SCHOOLS.
Wallis & Watson, elec. engrs., Trinity-st.
Watney, Thos. S., M.I.E.E., Greek-st.-chbrs.
Wharam, Wm., A.M.I.E.E., elec. engr., Claypit-la.
Whitaker, J. W., elec. engr., 26, Victoria-rd.
Whitehead Bros., elec. engrs., Farsley.
Whittaker Bros., gen. & elec. engrs., Horsforth.
Winder, R. F., Belgrave Elec. Wks., 2, Cross Belgrave-st.
Woodhouse, W. B., A.M.I.MECH.E., A.M.I.E.E., Yorks. Elec. Power Co., Thornhill, nr. Dewsbury.

Leek.

U.D.C. Elec. Wks. Engr., R. M. Carr, A.M.I.E.E.

Leicester.

Ashton, J., dis. mgr., Nat. Teleph. Co., Rutland-st.
Ball, A. E., elecn., 38, St. Saviour's-rd.
Barton, W. E., supt. engr., Corp. Elec. Wks., Aylestone.
Bates, W. & A., Ltd., I. R. mfrs., St. Mary's Mills.
Brooks, E. E., elecn., Technical School.
Bunny & Osborn, elec. & mech. engrs., 4–6, York-rd., Welford-rd.
Coleman, G. T., elecn., 9, Cheapside.
Colson, A., M.I.E.E., elec. engr., Corp.
Corp. Elec. Wks. A. Colson, M.I.E.E., engr.
Cross, W., elecn., 159, Belgrave Gate.
Ellistown Collieries Co., conduit mkrs., Ellistown.
Gent & Co., Ltd., mfg. elecns., Faraday Works.
Gent & Hurley, elec. lt. engrs., 24, Belvoir-st.
Gimson & Co. (Leicester), Ltd., gen. & elec. engrs. & boiler mkrs., Vulcan-st.
Grimsley, F. C., elecn., Dorothea Wks., Belgrave-rd.
Grimsley & Co., elec. engrs., Queen-st.
Hollis Bros. & Co., timber importers.
Jarratt, J. T., lathe mkr., 57, Highcross-st.
Lester, J. E., elec. engr., 2, Cank-st.
Levi, W., mgr. Mid. Elec. Wire Co.
McAlpin & Co., elec. lt. engrs., Cank-st.
Mason & Brown, mfg. elecns., Volta Wks., 82, Rutland-st.
Mawbey, E. G., M.I.C.E., boro. & chf. trwys. engr.
Maxfield, W. B., pat. agt., 30, Belvoir-st.
Midland Electric Wire Co.
Nokes, C. S., elec. engr., 58, Braunstongate.
Price, L., loc. mgr., N. Teleph. Co.
Prismatic Shade Co., West Bridge.
Richardson, John, & Co., Leicester, Ltd., mfg. chem., Friar-lane.
Sharman Bros., model mkrs., 6, Free-school-lane.
Smith, T. R., A.M.I.E.E., elec. engr., Corp. Trys.
Stewart, J. E. M., supt., Corp. Elec. L. Dept.
Taylor & Hubbard, cranes.
Taylor, Taylor & Hobson, Ltd., sci. instr. mkrs., Stoughton-st. Wks.
Utley, C. J., & Co., elec. engrs., Overton & Quenby-rd.
Wainwright, G. A., electro-plater, Grape-st.
Wathes, T. H., & Co., Ltd., elec. engrs., Coronation-bldgs., High-st.
Webb, F., & Son, elec. engrs., 15, Cank-st.
Yates & Eagle, elecns., St. Nicholas-st.

Leigh (Lancs.).

Anchor Cable Co., Ltd., cable mkrs.
Boond, S., elec. lt. contr.
Boydell, W., & Sons, elec. lt. contrs., Brown-st. Iron Wks.
Corp. Elec. Wks. Engr., A. T. Smith.
L. Tech. School. *See* SCHOOLS.
Robert Bros., elec. lt. contrs.
Smith, A. T., boro' elec. engr.

Lewes.

Butler, C. F., A.M.I.E.E., engr., L. & D. Elec. Sup. Co.

Lewes—*continued.*

L. & Dist. Elec. Sup. Co., Ltd. Engr., C. F. Butler, A.M.I.E.E.
Wells, C. A., & Co., elec. engrs., Etna Iron Wks.

Limavady.

L. Pr. & Lt. Wks. Engr., A. Rankin; elecn. & prop., E. J. S. Ritter.
Rankin, A., engr., Pr. & Light Wks.
Ritter, E. J. S., elecn. & prop., Pr. & Lt. Wks.

Limerick.

Clifford, D., local mgr., Nat. Teleph. Co.
Corp. Elec. Wks. Cons. engr., J. Enright; res. engr., J. Gallinagh.
Mun. Tech. Schools. *See* SCHOOLS.

Lincoln.

Bescoby, J. & J., cable drum carriage mfrs., Cranwell-st.
Clayton & Shuttleworth, Ltd., eng. mkrs., Stamp End Iron Wks.
Clegg, S., M.I.E.E., city elec. & trwy. engr., Corp. Elecy. Wks. & Trams.
Corp. Elecy. Wks. & Trams. Engr., S. Clegg, M.I.E.E.
Duckering, C., lamp post mfr., Rosemary-lane.
Gregory, W., & Son, wiring contrs., 28, Steep Hill.
Hazzledine, H. T., inst. contr., Mint-st.
Howard, G. A., wiring contr., 24, Silver-st.
Humpherson & Co., elec. engrs., Woodhall Spa.
Hutton, F. H., elecn., Vicar's-ct.
Nevile, R. H. C., elecn., Wellingore.
Porter & Co., iron lmp. pst. mfrs., Gowts Bridge.
Rainforth, W., & Sons, Britannia Iron Wks.
Robey & Co., Ltd., steam eng. mfrs., Globe Wks.
Ruston, Proctor & Co., Ltd., mech. engrs., Sheaf Iron Works.
Smith, A. C., elec. engr., 271, Top of High-st.

Liscard.

Sayer, H. E., engr.-in-ch., W. U. D. C. Elec. Sup. Wks.
Whitworth, H., elec. engr., 19, Martin's-la.

Liverpool.

Aitken, Wm., M.I.E.E., B. I. & Helsby Cables, Ltd.
Angus, George, & Co., Ltd., leather mfrs., Princes-bldgs., 81, Dale-st.
Archer, W. F., & Sons, elec. bells, 73, Lord-st.
Aronsberg, C., elecns., 24, Manchester-st.
Autom. Elec. Co., Ltd., elec. autom. adnt. mach. mfrs., 12, St. John's-la.
Barron, J., & Co., elec. ltg. contrs., 16A, Fraser-st.
Bartlett, Wm., elec. engr., 211, Prescot-rd., Fairfield.
Bassnett, T., elec. bell mfr., 10, Bath-st.
Bates & Peard Annealing Furnace Co., Huyton.
Bath, H., & Son, agts. for Waclark Wire Co., 28, Chapel-st.
Baxendale Bros., elec. sup., 96, Whitechapel.
Beechey & Keizer, cons. engrs., 30, South Castle-st.

Liverpool—*continued.*

Beecroft & Wightman, Ltd., wood casing, Boundary-st., Commercial-rd.
Beswick, J. H., D. U. S. Cable Co., D6, Exchange-bldgs.
Bibby, J., Sons & Co., metal merchs., Garston Copper Wks., Garston.
Bigley, T. M., A.M.I.C.E., 19, Castle-st.
Blackwell, Geo. G., Sons & Co., Ltd., mang. merchs., Garston; & The Albany, Old Hall-st.
Blackwell, R. W., & Co., Ltd., elec. traction engrs., 20A, Chapel-st.
Boddy, G. M., & Co., incand. lmps., 18, Newington.
Bolton, W., supt. East Tel. Co., K13, Exchange-bldgs.
Boothroyd, H. T., Hyslop & Co., elec. & mech. engrs., Akenside-st., Bootle.
Bootle Corp. Elec. Wks. & Trams. Engr., T. D. Clothier.
Boron Battery Electrical Supply Co., carb. mfrs., 131, St. Domingo-rd.
Braby, F., & Co., Ltd., spelter, Havelock Wks., Pennington-rd., Litherland.
Brady, C. R., engr., Cheadle U.D.C. Trams.
Bramham, J., lightning conduc., 104, Dale-st.
British & Colonial Insulating Co., Ltd., Century-bldgs., 31, North John-st.
British Insulated & Helsby Cables, Ltd., Milton-rd., Edge-lane.
Brough, T., & Sons, elec. appar. agts., 66, S. John-st.
Brown, J. C., D.SC., prof. chem., University.
Bruce, J., & Son, teleg. instr. mkrs., 60, S. Castle-st.
Bucknall, W. G., elec. engr., 121, Mount Pleasant.
Callow, D. J., A.M.I.E.E., elec. engr, 51, N. John-st.
Campbell & Isherwood, mfg. elec. engrs., Raleigh-st., Bootle.
Chadburn's (Ship) Telegraph Co., Ltd., teleg. instr. mfrs., Cyprus-rd., Bootle.
Cheesbrough, F. J., pat. agt., 15, Water-st.
Clarke, W. H., elec. engr., Isawood, Chermside-rd., Aigburth.
Clarke, Chapman & Co., mfg. elec. engrs., Tower-bldgs., Water-st.
Claxton, R. H., Nat. Tel. Co., The Temple, Dale-st.
Clothier, T. D., boro' elec. engr., Bootle.
Clough, A., A.M.I.C.E., res. elec. engr., Corp.
Collet, C., civil engr., 51, So. John-st.
Collins & Price, elec. engrs., 28, Market-st., Hoylake.
Collis, W. H., deputy res. elec. engr., Corp.
Corp. Elec. Supply, Highfield-st. Res. elec. engr., A. Clough, A.M.I.C.E.
Cottrell, S. B., L'pool O. Rly. Co., 31, James-st.
Cottrell & Beszant, elec. lt. contrs., 5, Cases-st.
Croggon & Co., Ltd., elec. bells, 2, Bixteth-st.
Dargue, Griffiths & Co., Ltd., elec. engrs., 51, N. John-st.
Dee Oil Co., Ltd., oil mfrs., Colonial House, Water-st.
Ditton Oil Mills (1904), Ltd., 31, North John-st.
Edison & Swan U.E.L. Co., Ltd., Renshaw-st.
Elec. Contractors Assoc., Incorp., 47, Tithebarn-st.

Liverpool—*continued.*

Elec. Ltg. & Eng. Co., mech. & elec. engrs., 137 & 139, Duke-st.
Elliott's Met. Co., Ltd., tube mfrs., &c., 9, Irwell-st.
Eurich, H. O., elec. engr., 58, Trinity-rd., Bootle.
Everitt & Co., mang. & carbon, 40, Chapel-st.
Eyre, W., & Neph., iron merch., 1, Tithebarn-st.
Eyton & Co., lead merch., Chester Whf., Mann Island.
Falkirk Iron Co., castings, 22–24, South Castle-st.
Fawcett, Preston & Co., Ltd., mech. engrs., 17, York-st.
Forrester, E., & Co., elec. engrs., 8 & 10, Moorfields.
Fort, J., oil mfr., 19, So. John-st.
Furze, J., superintend., Com. Cable Co.
Gibbs, J., & Son, Ltd., ventilating fans, 72–78, Duke-st.
Glover, Taylor & Co., elec. engrs., 16, S. Castle-st.
Goodwin, G. S., & Co., consulting engrs., 19, James-st.
Goossens, E., Pope & Co., incand. lamps, 21, Manesty's-lane.
Griffiths, Knight & Co., pnt., 114, Ford-st., Vauxhall-rd.
Halse, W. H., & Co., gen. engrs., Beckwith-st.
Harford & Co., elec. engrs., 47, Tithebarn-st.
Healey, T., supt. Western U. Teleg. Co.
Henderson, T., mech. engr., 6, Trueman-st.
Herd, W. M., & Co., elec. engrs., 3, Redcross-st.
Hide, W. J., A.M.I.E.E., cons. elec. engr., 42, Produce Exchange-bldgs., 8, Victoria-st.
Hodkinson, R., elec. sup. dlr., 19, South John-st.
Holmes, A. B., M.I.C.E., M.I.E.E., cons. elec. engr., 36, Prince's-ave.
Horsfall, W. M., engr., L'pool Dis. Ltg. Co., Ltd., 16, Tithebarn-st.
Hosking & Callan, cons. engrs., 1, Thomas-st.
Howard Bros., time registers, 40, Paradise-st.
Howe Elec. Eng. Co., elec. engrs., 16, Redcross-st.
Hunter, J., & Co., elec. engrs., 11, Paradise-st.
Huston, F., elecn., 52, Creswick-st., Breck-rd.
Hutchin, G., elec. engr., 39A, So. Castle-st.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 54, Castle-st.
Inst. Chem. Tech. Lab., Hackin's Hey, Dale-st.
Johnson, W. B., elec. engr. & patent agt., 4, Clayton-sq.
Johnson, J. H. & S., scient. app., 6–10, Whitechapel.
Johnson, R., Clapham & Morris, Ltd., 23, Cheapside.
Jones, P. L., wd. csg., Romeo-st., Canada Dock, Bootle.
Jones, T., & Co., elec. engrs., 1, Central-chbrs., S. Castle-st.
Kellogg, E. H., & Co., dyn. oil, 8B, Rumford-pl.
Kershaw, J. B. C., chem. & elecn., W. Lancs. Laboratory, Waterloo.
King, J. T., pat. agt., 4, Clayton-sq.-w.
Lamb, J. P., & Co., lightningconduc., 24, Canning-pl.
Layborn, Daniel, & Co., met. merchs., Dutton-st.
Lee, L., & Son., elec. bell ftrs., 13, Gt. George-st.
Lewis, E., & Sons, tube mfrs., 56–58, John-st.

Liverpool—*continued.*

Lind & Co., elec. sup. & mfrs. agts., 60, Castle-st.
L. Dist. Ltg. Co. Engr., W. M. Horsfall, M.I.E.E.
L'pool Elec. Cable Co., Ltd., 292, Vauxhall-rd.
L. Elec. Supplies, Ltd., 3, Redcross-st.
Liverpool Eng. Soc., Royal Inst., Colquitt-st.
Liverpool Overhead Rly. Co., 24, North John-st. Engr., S. B. Cottrell, M.I.C.E., M.I.MECH.E.
L'pool Research Lab., 131, St. Domingo-rd.
L'pool Silver & Copper Co., Ltd., 5, Fenwick-st.
L'pool University Physical Soc. *See* SCHOOLS.
Magnetic Separator, Ltd., ironfdrs., elec. & mech. engrs., 37, Tithebarn-st.
Malley, J. D., elecn., 12, Richardson-st., Smithdown-rd.
Marr, J. J., & Co., elec. engrs., 18, Moorfields.
Martin, H. S., elec. & cons. engr., 13, Cumberland-st.
Matthews, R., engr., Parrs Ho., Heaton-Mersey.
Miller, T. L., & Wilson, cons. engrs., 7, Towerbldgs. N., Water-st.
Minton, R. R., & Co., paint mkrs., 39–71, Cheapside.
Morton, Francis, & Co., Ltd., lightning cond., Garston.
Morton, G. H., & Son, Ltd., 77 & 79, Bold-st.
Moulsdale, W. E., & Co., el. engrs., 24, Chapel-st.
Mun. Tech. School. *See* SCHOOLS.
Musker, C. & A. (1901), Ltd., Tue Brook.
Myer & Co., elec. engrs., 33, Mount-pleasant.
Naftel, P. H., inst. insp., Corp. Elec. Sup. Wks.
Nat. Rail. & Trwy. Appliances Co., Ltd.
Neville Bros., mach. mkrs., 7 & 9, James-st.
New Brotherton Tube Co., Ltd., 30, Paradise-st.
Newall, R. S., & Son, Ltd., cable mfrs., Linacre.
Northern Elec. & Ven. Co., contrs., Granite-bldgs., Stanley-st.
Owen, J., & Sons, Ltd., accu. boxes, Stanley Mills.
Owens, Felix J. A., A.M.I.E.E., elec. engr., 68 & 70, Wood-st.
Palatine Eng. Co., 10, Blackstock-st.
Perry, F., supt., Anglo-American Teleg. Co.
Pioneer Complete Furnishing Stores, inst. contrs., 9–19, Bold-st.
Pocklington, F. A., Simplified Underground Cond. Co., Ltd., 180, Crown-st.
Pope's Elec. Lamp Co., 21, Manesty's-la.
Premier Elec. Lamp Co., Ltd., Huyton Quarry, nr.
Prout, T. A., A.I.E.E., elecn., 19, Courtenay-rd., Waterloo.
Pulford Bros., Ltd., engrs., 108, Whitechapel.
Railway Signal Co., Ltd., Fazakerley.
Rankine Pat. Feed Water Filter Co., Ltd., mfrs., 14, Water-st.
Ransome & Marshall, engrs., 67, Tithebarn-st.
Riddell, H. G., elecn., Cuthbert's-bldgs., Clayton-sq.
Roberts, T., & Son, elecns., Juniper-st., Bank-hall.
Roberts, W., & Co., Crown Copper Mills, Garston.
Robinson & Carter, elec. & mech. engrs., 5, Thomas-st.
Robinson & Horsfall, cons. elec. engrs., 13, Castle-st.
Robinson & Price, motor engrs., 43, Pembroke-pl.
Robson, W., & Sons, 226, Westminster-rd.

Liverpool—*continued.*

Rowe, T., dis. engr., Nat. Tel. Co.
Rowlandson, W., elec. engr., 67, Lord-st.
Runcorn Technical Inst. *See* SCHOOLS.
Samuel, W. H., & Co., lubric. mfrs., Leeds-st.
Scott, J., elec. contr., 28A, Oriel-rd., Bootle.
Selenium Accumulator Co., 75, Beacon-la.
Sewill, J., ships' teleg. mfr., 61, S. Castle-st.
Simplified Underground Conductor Co., Crown-st.
Sloan & Lloyd Barnes, pat. agts., 34, Castle-st.
Sloane, W. Jay, cons. mech. & elec. engr., 15, Back Goree.
Smetham, A., ana. chem., 16, Brunswick-st.
Smith, G. A., elec. & mech. engr., 18, Regent-rd.
Standard Foundry Co., elec. fts. merch., 58 & 60, Paradise-st.
Stanwell, A., inst. contr., 19, Torr-st., Everton.
Stevenson & Parry, engrs., 16, S. Castle-st.
Stewarts & Lloyds, Ltd., tubes, 63, Paradise-st.
Supplies, Ltd., 9, Parr-st.
Symes & Co., Ltd., dlrs. app., 14, Hardmann-st.
Thomas & Strachan, manganese, 4, Fazakerley-st.
Thompson, W. J., mech. engr., 34, Park-lane.
Thompson, W. P., & Co., elec. pat. agts., 6, Lord-st.
Treasure, J. B., & Co., gauge gl., Vauxhall-rd.
Turner Son & Walker, elec. engrs., 59, Bold-st.
United Alkali Co., Ltd., 30, James-st.
University. *See* SCHOOLS, &c.
Vauxhall Eng. Co., elec. & gen. engrs.
Veritys Ltd., elec. engrs., 1, Hackin's Hey.
Vivian & Sons, copp. mfrs., 4, Crooked-lane.
Walsall Elec. Co., Ltd., 6, Central-chbrs., S. Castle-st.
Ward & Fulton, el. engrs., 4, Browne-st., Bootle.
Waring & Gillow, Ltd., elec. l. contrs., Bold-st.
Warren, H. N., & Co., chem. & elecns., 131, St. Domingo-rd., Everton.
Warrington Wire Rope Works, Ltd., 13, Goree Piazzas.
Watkinson, Prof. W. H., M.I.C.E., M.I.E.E., &c., University.
Welding, T. C., & Co., Ltd., fittings, 3, Redcross-st.
Wells & Co., elec. engrs., 8, Ashfield-rd., Aigburth, Vale.
Western Union Teleg. Co., 8, Rumford-st.
Whipple & Co., elec. engrs. & contrs., Cook-st.
Wilkinson, Heywood & Clark, Ltd., varnish, 138, Vauxhall-rd.
Williams, O. & D., fitgs., 402, Scotland-rd.
Wood, G. St. John, elec. engr., 60, Castle-st.
Woodhouse Bros., elec. engrs., 20, N. John-st.
Wright, F. & P., marine engrs., 21, Water-st.

Liversedge.

Goldston, R. C., res. engr., Yorks (Woollen Dis.) Elec. Trys., Ltd., Frost Hill.
Parkin, C., mfg. elec. engr., Huddersfield-rd.
Yorkshire Mach. Tl. & Eng. Wks. & Alma Fdry.

Llandilo.

U.D.C. Elec. Wks. Engr., T. Bowen.

Llandrindod Wells.

Llandrindod Wells Elec. Lt. & Pr. Co., Ltd. Engr., B. Thomas.

Llandudno.

Alcock, Wm. H., elec. engr., Willesden House.
Lance, H. W., elec. engr., 9, Tudno-st.
Morton, H., res. engr., U.D.C. Elec. Wks.
U.D.C. Elec. Wks. Engr., H. Morton.

Llanelly.

Elliott's Met. Co., Ltd., tube mfrs., &c., Burry Port, R.S.O.
Richmond, G. S., elec. engr.

Llangollen.

L. & Dist. E. L. & P. Co., Ltd., Bridge-st. Engr., H. W. Edwards.

Llanrwst.

L. Elec. Sup. Co., Ltd., 13, Church-st. Engr., C. F. M'Innes.

Londonderry.

Buncrana Elec. Sup. Co., B., nr. Sta. engr., J. K. Swan.
Corp. Elec. Sup. & Trms., Strand-rd. R. V. Macrory, engr., A.I.E.E.
Mun. Tech. School. *See* SCHOOLS.
Stewart, Jas., dis. mgr., Nat. Teleph. Co.

Long Eaton.

Harrington Electric Light Co., Ltd. Engr., Geo. Coe.
McAlpin & Co., elec. lt. engrs., Orchard-st.
U.D.C. Elecy. Wks. Engr., F. Worrall, A.M.I.C.E.
Worrall, F., engr., U.D.C. Elecy. Wks.

Longport.

Billington & Newton, elec. engrs.

Longton.

Corp. Elec. Wks. Engr., W. Langford.

Loughborough.

Allen, W. H., engr., Corp. Elec. Wks.
Brush Elec. Eng. Co., Ltd., mfg. elec. engrs.
Corp. Elec. Wks. Engr., W. H. Allen.
Kahn, Dr. M., elec. engr., 120, Park-rd.
Morris, Herbert & Bastert, Ltd., engrs.
Steinitz, J. J., M.I.E.E., Brush E. E. Co., Ltd.

Louth.

Smith, C. A., elecn., 4, Eastgate.

Lowestoft.

Brooke, J. W., & Co., Ltd., elec. lift mkrs.
Bruce, G. A., res. elec. engr., Corp. Elec. Wks.
Corp. Elec. Wks. & Trms. G. A. Bruce, M.I.E.E., engr. & mgr.
Hatt, J. J., M.I.E.E., 410, London-rd. South.
Mann, Egerton & Co., Ltd., elec. engrs., 5, Waveney-rd.
Morling & Cullum, elec. bell ftrs., High-st.
Smith, Savory & Co., elec. engrs., London-rd.

Ludlow.

L. E. Light Co., Ltd., 14, Corve-st. Cons. engr., J. Parker.

Luton.

Barrett, W. J., install. contr., 25, Park-sq.
Bonathan, J. A., dis. mgr. Nat Teleph. Co., 3, Cheapside-chbrs.
Brown & Green, elec. & gen. engrs., Windsor-st.
Cooke, W. H., A.M.I.E.E., chief elec. engr., Borough Council Elec. Wks.
Corp. Elec. Wks. Engr., W. H. Cooke, A.M.I.E.E.
Hill & Wood, elec. & gen. engrs., Chapel-st.
King, P. T., inst. contr., Bute-st.
Shoolbred & Connell, inst. contrs., 11, Cheapside.

Lydbrook.

Smith, H. W., & Co., elec. wires & cables.

Lymington.

L. Elec. Lt. & Pr. Co., Ltd. Glynn Salter, engr.
Salter, Glynn, engr., L. E. L. & P. Co., Ltd.

Lynmouth.

Jones, B., inst. contr., Castle Hill.
Kimmins, P. T., engr., Lynton & L. E. L. Co., Ltd.
Lynton & Lynmouth Elec. Light Co., Ltd. Engr., P. T. Kimmins.

Macclesfield.

Wharfe, J., elec. engr., 3, Charlotte-st. West.

Macroom.

M. & Dist. Elec. Ltg. Synd. Engr., W. Lee.

Maidenhead.

Arundell, W. H., elec. engr., Market-st.
Bloomfield, F. J., elec. engr., 71A, King-st
Botting, C., elec. engr., West-st.
Cooper, J. K., & Son, elec. engrs., Castle Hill.
Corp. Elec. Wks. Engr., C. O. Milton.
Hews, J., elec. engr., High-st.
Holman, James & Co., Ltd., elec. engrs., 100, Queen-st.
Milton, C. O., engr., Corp. Elec. Wks.
Pearce, J. E., elec. engr., Broadway.
Ray Motor Co., elec. engrs., Boulter's Island.

Maidstone.

Corben, R., & Co., elec. ltg. contrs., West Borough.
Corp. Elec. Wks. E. E. Hoadley, M.I.E.E., engr.
Gardner & Co., elec. engrs., Brewer-st.
Haynes Bros., Ltd., elec. engrs., Gabriels Hill.
Hoadley, E. E., M.I.E.E., boro' elec. engr.
Jones, Oswald, & Co., elec. engrs., 7, Mill-st.
Smith, S. J., dis. mgr., Nat. Teleph. Co., 40, Earl-st.
Stevens, W. A., Ltd., elec. engrs., St. Peter-st.
Stevens & Barker, elec. contrs., St. Peter-st.
Woolley, A. H., elec. engr., Pudding-la.

Malton.

Chandler, J., engr., N. Cos. Elecy. Sup. Co., Ltd.
N. Cos. Elecy. Sup. Co., Ltd. Engr., C. W. Fairweather, M.I.E.E.; res. engr., J. Chandler.

Malvern.

Baker, W. J. R., engr., U.D.C. Elecy. Wks.
Santler, C., & Co., elec. engrs.
U.D.C. Elecy. Wks. Res. engr., W. J. R. Baker.

Manchester (including Salford, Pendleton, Blackley, &c.).

Adams & Co., elec. lt. ftgs., Knowsley-st., Cheetham.
Adamson, D., A.M.I.E.E., Sunnybank, Haughton Green, nr.
Adamson, D., & Co., stm. eng. mfrs., Eng. Wks., Dukinfield.
Aldred & Bevan, stampings, Cheadle.
Altrincham Elec. Supply, Ltd., Stamford New-rd., Altrincham. Engr., H. C. Caldwell, A.M.I.E.E.
Ammon, A. F., elec. agt., 5, Cross-st.
Anderson, F. C., elec. engr., 196, Deansgate.
Anderson, W. T., A.M.I.E.E., 17, King's-ave., Old Trafford.
Andrew, L., & Co., elec. agts., 2, Carr-st., Blackfriars.
Andrews, W. O., elec. engr., 73, Bignor-st., Cheetham; & 27, New Bailey-st., Salford.
Anglo-Italian Asbestos Co., Marsden-st.
Angus, G., & Co., Ltd., lthr. mfrs., 93, Bridge-st., Deansgate.
Archer, A., A.M.I.E.E., 30, Egerton-rd., Chorlton-cum-Hardy.
Aronsberg, A., elecn. & optn., 12, Victoria-st.
Asbestos Fireproof Paint Co., Ltd., 34, Deansgate.
Ashton, H., elec. engr. & contr., 8 & 10, Bull's Head-yd.
Ashton, J., & Son, lthr. belt., Gorton Tannery, nr.
Atlas Engineering Co., mach. tool mkrs.
Ayrton, W., & Co., engrs., &c., Gorebrook Iron Wks., Longsight.
Babcock & Wilcox, Ltd., engrs., 14, Deansgate.
Baerlein & Co., engrs., 12, Blackfriars-st., Salford.
Bailey, W. H., & Co., Ltd., record. instrs., Albion Wks., Salford.
Baker, Bauer & Co., elec. agents, 3, Garden-st., Withy-grove.
Ball, R. H., elec. engr., 24, Cornbrook-st., Old Trafford.
Barber & Coleman, Ltd., mech. & elec. engrs., 38, King-st. W.
Barlow, H. B., elec., engr., H. A. Jackson & Co., Caxton Hall, Chapel-st., Salford.
Barlow, H. B., & Co., cut gearing, Pendleton Gear Wks.
Baxendale & Co., elec. engrs., Miller-st.
Beckett, G. E., & Co., elecns., 79, Oxford-rd., C.-on-M.
Beech, W. D., elec. bell agt., 8, Chatham-bldgs.
Bell's Asbestos Co., Ltd., 8 & 9, South Parade.
Bennett, J. M., & Sons, elec. lt. casing mkrs., Hyde-rd., Ardwick.
Bentley, H. J., & Co., elecns., 17, Newton-st., Piccadilly.
Bentley, I., & Co., Ltd., oil refrs., Vinoleo Oil Wks., Trafford Park.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Benton, L. C., A.I.E.E., elec. engr., 578, Chester-rd., Old Trafford.
Berry Bros., elec. engrs., Birch-lane, Longsight.
Berry, Skinner & Co., mfg. el. engrs., 65, King-st.
Beyer, Peacock & Co., Ltd., engrs., tool mkrs., Gorton.
Bilsborough, J., elec. bell mfr., Alderley Edge.
Birch, G., & Co., engrs., Islington Tool Wks., Salford.
Bist, Alfred, & Co., Ltd., elec. & mech. engrs., 18, Tib-st.
Blackwell, R. W., & Co., Ltd., elec. traction engrs., Deansgate Arcade.
Blasberg Engineering Co., engrs. & contrs., 78, Cross-st.
Bolton, E., elec. engr., 8, Alan-rd., Withington.
Bolton & Co., superheaters, 49, Deansgate.
Bowden, G. Harland, & Co., elec. pr. engrs., Royal London-bldgs., 196, Deansgate.
Bowker, W. R., cons. try. engr., 19, Huxley-ave., Cheetham.
Bowman, F. H., D.SC., F.R.S.E., M.I.E.E., 4, Albert-sq.
Brand, E., cable mach., 35, Shakespeare-st.
Bremner, J. A., & Co., lubricant merch., Albert-st.
Bridge, D., & Co., engrs., Iron Wks., Castleton.
Briggs, Thos. (Manchester), Ltd., insulat. mat., 21, Major-st.
Brit. Ins. & Helsby Cables, Ltd., 2, Parsonage.
British Recovered Rubber Co., Ltd., Clayton, nr.
Brit. Thomson-Houston Co., Ltd., mfg. elec. engrs., Star Life-bldgs., 30, Cross-st.
Broadhurst & Co., Ltd., I. R. mfrs., 126, Market-st.
Broughton Copper Co., Ltd., cop. merch.
Browett, Lindley & Co., Ltd., eng. & blr. mkrs., Sandon Eng. Wks., Patricroft.
Brown, A. G., elec. engr., 23, King-st. West.
Brown, E. A., & Co., Collyhurst Wire Wks.
Brown, F. V., & Co., engrs., 49, Deansgate.
Brunton, S. L., A.M.I.C.E., M.I.E.E., elec. engr., B. W. Co., Ltd., Trafford Park.
Bryce & Rumpff, chem. agts., 58, Fountain-st.
Budden, R. W., supt., Commercial Cable Co., 18, Moult-st.
Buffoline Noiseless Gear Co., Ltd., Chapel-st., Levenshulme, nr.
Burtles, Tate & Co., shade mkrs., Poland-st. Glass Wks.
Butterworth Bros., Ltd., Newton Heath Glass Wks.
Butterworth, W., & Son, elec. engrs., King-st. W.
Caiger, G., elecn., 29, Radnor-st., Hulme.
Calderbank, H., mfrs'. agt., 78, King-st.
Caldwell, H. C., engr., Altrincham Elec. Sup., Ltd., Broadheath & Altrincham.
Cannington, Shaw & Co., Ltd., battery jars, 84, Silk-st.
Cardin, E., A.M.I.E.E., 108, Acomb-st.
Carlyle Bros. & Gumbrell, 52, Corporation-st.
Carter, J., Sons & Co., Ltd., engrs., &c., New Bailey-st., Salford.
Casartelli, J., & Son, optn. & instr. mkrs., 43, Market-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Central Elec. Co., wholesale merchs., 26 & 28, Queen-st., Albert-sq.
Chapman, F. W. M., A.I.E.E., Peel Wks., Adelphi.
Cheetham, H., patent agent, 18, St. Ann's-st.
Cheshire Lines Committee, Rly. Elec. Lt. Station.
Chisholm, G. S., elec. engr., Siemens Bros. Dynamo Wks., Ltd.
Chloride Elec. Stor. Co., Ltd., Clifton Junction.
Churchill, Chas., & Co., Ltd., import. Am. mach. 2, Charlotte-st., Mosley-st.
Clark, Sons & Co., I. R. felt mfrs., Failsworth.
Clarke, C. A., wholesale agent for Mix & Genest, Ltd., 26, Seymour-rd., Crumpsall.
Clarke, Chapman & Co., mfg. elec. engrs., 22, 23, Arcade-chbrs., St. Mary's Gate.
Clarke, R., & Co., turb. mfrs., Union Iron Wks., Queen's-rd.
Colledge, Roy & Co., oil mfrs., Brown-st., Red Bank.
Collier, J., & Co., elec. engrs., King-st. West.
Commercial Electric Co., 2, Victoria-st.
Connolly Bros., Ltd., ins. wire & cable mkrs,, Blackley Vale Mills, Blackley.
Cooke, E. J., leather, 2 & 4, Parsonage-st.
Cooper, J. S. S., M.A., B.SC., elec. engr., c/o Brit. West. Co., Trafford Park.
Copland, C. D., M.I.E.E., cons. elec. engr., 16, John Dalton-st.
Core, Prof. T. H., University.
Corp. Elec. Trams. Engr., J. J. MacMahon; man., J. M. McElroy.
Corp. Elec. Wks., Dickinson-st. Engr., S. L. Pearce, A.M.I.C.E., M.I.E.E., M.I.MECH.E.
Coubrough, A. C., elec. engr., Mather & Platt, Ld.
Coulson-Crawford, H., elec. engr., 15, Chorlton-ter.
Cowans, Ltd., elecns., Springfield-la., Salford.
Cowburn Safety Valve Co., Ambrose-st., West Gorton.
Cramp, W., cons. elecn., Atlantic-chbrs., Brazennose-st.
Crews & Handford, cons. elec. engrs., 11, Blackfriars.
Crompton & Co., Ltd., elec. engrs., 70, Barton-arcade.
Crookell, W., & Co., elec. lt., power & teleph engrs., Water-st., Middleton.
Crossley Bros., Ltd., gas engs., Openshaw.
Crowley, J., & Co., Ltd., cstgs., 69, Corporation-st.
Cruse Controllable Superheater Co., 5, Blackfriars-st., Salford.
Cryselco, Ltd., incand. lmp. mfrs., 43, Cannon-st.
Cunliffe & Croom, Ltd., mach. tool mkrs., Broughton Iron Wks.
Cussons, G., elec. app., Technical Wks., Lr. Broughton.
Cutler, Wardle & Co., elecns. & engrs., 35 & 37, Dickinson-st.
Dalton Lacquer Mfg. Co., Ltd., 8, St. James's-sq.
Davenport, H., elec. engr., Canada-chbrs., 36, Spring-gdns.
Davenport, Sparrow & Co., elec. engrs., Blackfriars-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Davies, W. H., lect. on mech. eng., Tech. School.
Davies, G., & Son, chart. pt. agts., 4, St. Anne's-sq.
Davies & Metcalfe, Ltd., 4, St. Anne's-sq.
Dick, Kerr & Co., Ltd., trmwy. engrs., Northern Assurance-bldgs., Albert-sq.
Dixon, H. B., prof. of chem., Owens Coll.
Dixon, W. H. T., Cen. Sta., C.L.C. Rly. Co.
Dixon, W. F., & Co., raw hide gears, 60, Percival-st., C.-on-M.
Dobson, R. & H., elec. engrs., 39, Dean-rd., Salford.
Donovan & Co., Ltd., mech. & elec. engrs., Broughton Bridge Iron Wks., Salford.
Dorman & Smith, mfg. elec. engrs., Ordsal Elec. Wks., Salford.
Doulton & Co., Ltd., stnwr. for elec. purps.
Drake & Dauncey, elec. engrs., 94, Market-st.
Drake & Gorham, Ltd., elec. engrs., 47, Springgdns.
Dugdill, John, & Co., elec. ftgs., Failsworth, nr.
Dugdill, E. J., & Co., elec. engrs., Failsworth, nr.
Dutton, E. K., & Co., cons. engrs., &c., Queen's-chbrs., 5, John Dalton-st.
Easton Lift Co., Ltd., elec. & hyd. lifts, 4, John Dalton-st.
Eckstein, A., M.I.E.E., elec. engr., 5, Chapel Walks, Cross-st.
Eckstein, Heap & Co., mfg. elec. engrs., 5, Chapel Walks.
Economic Elec. Installations Co. (Humm & Co.), 20, Blackfriars-st., Salford.
Edison & Swan U. E. L. Co., Ltd., Marble-st.
Edmeston, A., & Sons, clutches, Springfield Engineering Wks., Patricroft.
Edwards, S. B., elec. agent, 5, Cromford-ct., Market-st.
Elec. Co., Ltd., mfg. elec. engrs., Grosvenor-chbrs., 33, Blackfriars-st.
Elec. & Ord. Access. Co., 78, King-st.
Elecl. Contrs. Assoc., Incorp. Hon. sec., W. Cross, 4, St. Nicholas-bldgs.
Elecl. Sundries Mfg. Co., 84, Ashton Old-rd.
Electrofons Co., elec. engrs., 26, Corporation-st.
Electromotors, Ltd., elec. motors, Openshaw.
Elliott's Met. Co., Ltd., tubes, 14, Brown-st.
Ellis, W. I., M.I.C.E., turb. mfr., 49, Deansgate.
Evans, E. M., & Son, install. contrs., 18B, Fountain-st.
Farmer, Sir J., & Sons, Ltd., engrs., Adelphi Ironwks., Salford.
Farrell, H. O., elec. engr., Moss Side.
Fawcus, G. H., elec. & mech. engr., 38, Deansgate.
Fawcus, W. P. J., elec. engr., 38, Deansgate.
Fazakerley, J., elec. engr., Victoria Sta.
Firth, D., & Son, elec. contrs., 14, Cannon-st.
Fletcher, G. E., A.M.I.C.E., M.I.E.E., cons. elec. engr., 77, King-st.
Fletcher Bros., elec. engrs. & contrs., 130, Gt. Clowes-st., Broughton.
Forest City Electric Co., comm. segments, 13, Cornbrook-rd., Chester-rd.
Fowler, W. H., cons. engr., 53, New Bailey-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Frankenburg, I., & Sons, Ltd., elec. lt. cables, Salford.
Franks, A., mfg. elecn., 95 & 97, Deansgate.
Frictionless Eng. Packing Co., Ltd., Hendham Vale Works, Harpurhey.
Frith, Julius, M.SC., A.M.I.E.E., The Homestead, Victoria Park.
Gardner, E., cons. engr., Patricroft.
Gardner, T. H., cons. engr., Patricroft.
Gardner, L., & Sons, Ltd., Barton Hall Engine Wks., Patricroft.
Gee, W. W. H., B.SC., M.SC.TECH., A.M.I.E.E., School of Technology.
General Elec. Co., Ltd., elec. engrs., Victoria Bridge; & Peel Wks., Adelphi, Salford.
Generators Ltd., mfg. el. engrs., 79, Corporation-st.
Giddings & Dacre, Ltd., elec. lt. ftgs. mfrs., Victoria Wks., Chapel-st., Salford.
Glover, W. T., & Co., Ltd., insu. wire & cable mfrs., Trafford Park.
Glyco Metal Co., 9, South Parade.
Goadsby & Co., mang. merch., 2, Albert-bridge.
Goldsworthy, T., & Sons, Britannia Emery Mills, Hulme.
Goodwin, F. H., elec. engr., 28, Sefton-rd., Sale.
Gould, C., elec. engr., Trafford Pk. Estates, Ltd., Trafford Pk.
Gratrix, S., jun., & Bros., Ltd., elec. ftgs., Alport Wks., Quay-st., Deansgate.
Gt. Cen. Rlwy. (Elecl. Engr.'s Dept.), Guide Bridge.
Green, E., & Son, Ltd., fuel econ. mfrs.
Gresham & Craven, Ltd., engrs., Ordsall-lane.
Hart Accumulator Co., Ltd., secondary batteries, Temple-chbrs., 33, Brazennose-st.
Heenan & Froude, mech. engrs., Newton Heath Iron Wks., 4, Chapel Wlks.
"Hellewell" Rubber Co., 15/19, Corporation-st.
Henderson, J. H., elecn., 46B, Lancaster-ave., Fennel-st.
Herbert, E. G., Ltd., tool mkrs., Rosamond-st. E.
Hetherington, J., & Sons, gen. engrs., Ancoats.
Hewitt & Rhodes, cons. engrs., Tower-chbrs., Brown-st.
Heys, W. E., M.I.E.E., 51, Deansgate Arcade.
Heywood, S. H., motor start. switches, 37A, Fountain-st.
Higginbottom & Mannock, Ltd., elec. cranes, Crown Ironwks., W. Gorton.
High-Speed Braid. Mach. Co., Ltd., 7, Norfolk-st.
Hill, Geo., & Co., elec. engrs., Trafford Elec. Wks., Cornbrook.
Hodgkinson, James (Salford), Ltd., mech. stoker, Pendleton.
Hodgson, Hartley, Ltd., 55, Victoria-bldgs.
Holden & Brooke, Ltd., injec. mfrs., Sirius Wks., West Gorton.
Holmes, J. H., & Co., elec. lt. engrs., Examiner-bldgs.
Hopkinson, C., cons. elec. engr., 29, Princess-st.
Hopkinson, E., M.A., D.SC., M.I.C.E., M.I.E.E., Salford Iron Wks.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Howard Asphalt Troughing Co., Ltd., undergr. conduits, Trafford Park.
Hudson & Bowring, Ltd., trm. access., Temple-chbrs., 33, Brazennose-st.
Hudson Engineering Co., Ltd., elec. & gen. engrs., 30, Spring-gdns.
Hughes, E., M.I.E.E., 35, Belfield-rd., Didsbury.
Hughes, Fawcett & Co., mach. tool mkrs., Hebden Bridge.
Hurst, G. H., F.C.S., anal. chem., 22, Blackfriars-st.
Hurst, Nelson & Co., Ltd., elec. cars, Northern Assurance-bldgs., Albert-sq.
Hyde Tech. School, Hyde. *See* SCHOOLS.
Illingworth, Ingham & Co., Ltd., wood casing, 61, Whitworth-st. West.
I. R., G. P. & Tel. Wks. Co., Ltd., 9, Sussex-st.
Industrial Eng. Co., dyn. & mtrs., Hyde.
Irwell & Eastern Rubber Co., Ltd., Mill-st., Ordsal-lane, Salford.
Jackson, F., & Co., elec. app. mkrs., 14, Cross-st.
Jackson, H. A., & Co., mfg. elec. engrs., Caxton Hall, Chapel-st., Salford.
Jackson, P. R., & Co., Ltd., engrs., Salford Rolling Mills.
Johnson, C. H., & Sons, Ltd., Manchester Wire Wks., Smedley-rd.
Johnson, R., Clapham & Morris, Ltd., dynamo brushes, 24–26, Lever-st.
Johnson, Richard, & Nephew, Ltd., wire drs., Bradford Iron Wks.
Jones & Horsfield, boiler cov., Denton, nr.
Kay, H., elec. supp. dlr., 15A, Watling-st.
Kelley, H., & Co., mech. engrs., 26, Pall Mall.
Kendal & Gent, Ltd., tool mkrs., Gorton.
Kendal, J. Lomax, & Co., Ltd., elec. engrs., 4, John Dalton-st., Deansgate.
Kenyon, W., & Sons, cot. drvg. ropes, Chapel Field Ropery, Dukinfield.
Kerr, R. L., mach. agt., 41, John Dalton-st.
Kershaw, J., & Co., Ltd., elec. bell ftrs., Market-st.
Key Eng. Co., Ltd., elec. engrs., 38, Deansgate.
Kirkpatrick & Rastall, elec. engrs., Victoria Fdry., Barrack-st., Hulme.
Lacey, Sillar & Leigh, cons. engrs., 78, King-st.
Laidlaw, Laidler & Co., elec. engrs., Nutsford Vale Works, Longsight.
Lancs. Dynamo & Motor Co., Ltd., elec. engrs., Trafford Park.
Lancs. Elec. Pr. Co., 196, Deansgate.
Lancs. Elec. Sup. Co., Ltd., 27A, Blackfriars-st.
Lancaster & Tonge, Ltd., engrs., Pendleton.
Larmuth, T., & Co., elec. mach. mkrs., Salford.
Leach Bros. & Co., contrs., Deansgate.
Leigh, F. A. C., cons. engr., 78, King-st.
Leyland & Birm. Rubber Co., Ltd., insulating materials, Tower-chbrs., 29, Brown-st.
Lightfoot Bros., elec. engrs., 15A, Cooper-st.
Lomax, C. J., engr., Corp., Gorton.
Lowcock, G. W., M.I.E.E., 57, King-st.
Lynde, F., cons. engr., St. Ann's-pass., King-st.
Mabbs, H. G., elec. engr. & agt., Canada-chbrs., Spring-gdns.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

McGregor, J. J., engr. & mgr., Trafford Power & Light Supply (1902), Ltd., Trafford Park.
Macintosh, C., & Co., Ltd., I.R. mfrs., Cambridge-st.
MacMahon, J. J., engr., Corp. Elec. Trams.
Macpherson, Donald & Co., Ltd., colour & varnish mfrs., Knott Mill.
Madan, C. S., & Co., Ltd., injec. mfrs., Crowther-st., Salford.
Mallinson, A. B., A.M.I.E.E., elec. engr., Swain Lea, Prestwich Park, nr.
Manchester Assoc. of Engrs., 29, Brown-st.
Manchester Municipal School of Technology.
Manch. Section of the I.E.E. Hon. sec., H. W. Wilson, 19, Brazennose-st.
Manchester Steel Castings Co., Trafford Park.
Marks & Clerk, cons. engrs., pt. agts., 30, Cross-st.
Mason, W. F., Ltd., engrs., Mona Works, Levenshulme.
Mason, W. H., & Co., elec. engrs., 12, Broad-st., Pendleton.
Massey, B. & S., mech. engrs., Openshaw.
Mather & Platt, Ld., engrs. & contrs., Salford Iron Wks.
Matthews, H., & Sons, cgs. & clts. mkrs., Stockport-rd.
Matthews & Yates, Ltd., elec. vent., Swinton.
Maycock, W. P., M.I.E.E., cons. elec. engr., The Residential Club, Trafford Park.
Medhurst, Page & Lloyd, cons. elec. engrs., Clarendon-chbrs., St. Ann's-sq.
Meldrum Bros., Ltd., engrs., Timperley.
Mercier, M., cons. elec. engr., 83, Camp-st.
Metcalf, G., & Co., wire rlrs., &c., Virgil-st., Cornbrook.
Metzger, G. F., M.I.C.E., M.I.E.E., mech. & elec. engr., 17, Cooper-st.
Middleton Corp. Elec. Wks. & Trams. Engr., S. Pauls, A.M.I.E.E.
Miller, T. L., & Wilson, cons. engrs., 19, Brazennose-st.
Mitchell's Emery Wheel Co., Mill-st., Bradford.
Moon & Co., elec. agts., 43, Cannon-st.
Moore, J., elec. & gen. engr., 22, Arcade-chbrs., St. Marysgate.
Moores, Martin & Co., elec. sup., 35 & 37, Blackfriars-st.
Morris, H. N., & Co., acid mfrs., Gorton Brook Chem. Wks.
Moseley, D., & Sons, Ltd., I.R. mfrs., Chapelfield Wks., Ardwick.
Moss, J., M.I.E.E., elec. & mech. engr., 60, Darnley-st., Brooks Bar.
Moston Malleable Casting Co.
Mottershead & Co., med. batt., 7, Exchange-st.
Muir, W., & Co., Ltd., tools, Sherbourne-st.
Needham, J., & Sons, tubes, 16, Old Mill-gate.
New Brotherton Tube Co., Ltd., 24A, High-st.
Nicholson, R. J., & Co., elec. engrs., Macdonalds-la., Corporation-st.
North. Access. Co., Carr-st., Blackfriars-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Northern Steel & Hardware Co., Ltd., wire makers, Bloom-st., Salford.
O'Brien, J. O., M.I.M.E., patent agt., Bank-st.
O'Brien, R., & Co., elec. engrs. & contrs., 5, Brazennose-st.
Okell, Geo. H., & Co., Ltd., elec. engrs., 31 & 33, Blackfriars-st.
Oldham, Ashton & Hyde Elec. Tramways, Ltd., Trmy. Depôt, Denton, nr. Engr., E. T. Todd.
Ormerod, J., & Sons, Ltd., lthr. dvg. bnd. mkrs., Castleton, nr.
Page, F. W., elec. engr., Clarendon-chbrs., St. Ann's-sq.
Palmer, Howe & Co., teleg. code expts., Princess-st.
Parkinson, J. B., elec. engr., York-st.
Parmiter, Hope & Sugden, mfg. elec. engrs., Hulme.
Partington, W. E., & Co., elec. engrs., Farmside-pl., Levenshulme.
Pauls, S., engr., Middleton Corp. Elecy. Wks. & Trams.
Pearce, S. L., M.I.E.E., engr., Corp. Elec. Wks., Dickinson-st.
Pearn, F., & Co., Ltd., gen. engrs., W. Gorton.
Pearson, C. H. J., elec. contr., 37, Park-st., Greenhayes.
Peers, Geo. R., A.M.I.E.E., med. elecn., 344, Bury New-rd.
Peers, Copland & Cardin, cons. elec. engrs., 16, John Dalton-st.
Percival, Vickers, & Co., Ltd., globes, Jersey-st.
Pochin, E. A., mach.-cut gear., Trafford Park.
Pollock & Macnab, tools, Deansgate.
Poole, T. G., elec. engr., c/o Veritys, Ltd., Hardman-st., Deansgate.
Preece, G. G. L., A.M.I.E.E., M.I.M.E., elec. engr., W. T. Glover & Co., Ltd., Trafford Park.
Princess Art Metal Wks. Co., 183, Princess-st.
Putz, F. R., eng. sundries, 8 & 9, S. Parade.
Pybus Bros., elec. engrs., 8, Bank-pl., Salford.
Raffael Bros., comp. for commutators, John Dalton-st.
Ratcliff, H. A., A.M.I.E.E., elec. engr., 15, Fileyrd., Fallowfield.
Renold, H., Ltd., dvg. chain mkrs., Brook-st.
Rhodes, W. G., D.SC., M.I.E.E., cons. elec. & mech. engr., Adelphi-chbrs., Brown-st.
Richards, Geo., & Co., Ltd., pulley mkrs., Broadheath, nr.
Richardson, A. W., arc lamps, Skew Bridge Works, Patricroft.
Richardson, C. W., cons. elec. engr., 57, Lillie Bank, New-lane, Patricroft, nr.
Richardson & Co., teleg. engrs., Nelson-st., Stretford-rd.
Richmond & Chandler, mech. engrs., Globe Wks.
Ritchie, R. O., M.I.E.E., 86, Cross-st.
Ritchie, T. E., elec. engr., Royce, Ltd.
Roberts Bros., fuel econ. & mach. tool mkrs., Dukinfield.
Robinson, A. E. & H., & Co., eng. mfrs., 78, Gt. Bridgewater-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Robinson, J., & Co., ins. wire mach., Springfield Iron Wks., Salford.
Robisher, J., elecn., 60, Vine-st., Higher Openshaw.
Rose, W., & Co., fire extg. app. mfrs., Salford.
Rossendale Belting Co., Ltd., 10, West Mosley-st.
Rowland, B. R., & Co., Ltd., boilers, Reddish, nr.
Roy, W. H., & Co., water cool. app., Towerchbrs., 30, Spring-gdns.
Royce, Ltd., elec. engrs., Trafford Park.
Royles, Ltd., feed water htrs., Irlam, nr.
Royse, S. W., & Co., chem. merchs., 20, Albert-sq.
Russell & Wardrop, elec. engrs. & contrs., Pritchard-st., C.-on-M.
Rust, H., A.M.I.E.E., elec. engr., 3, Anfield-rd., Sale.
St. George's Iron Wks., Ltd., whls. & plys., Hulme.
Sale U.D.C. Elec. Wks. Res. engr., C. J. Wood.
Salford Corp. Elec. Wks. & Trams.
Schaffer & Budenberg, Ltd., governor mkrs., Whitworth-st.
Schiele Union Eng. Co., Ltd., Pollard-st.-east, Ancoats.
Scholes, G. H., & Co., elec. engrs. & contrs., Blantyre-st., Hulme.
Scholes & Son, engrs. & conts., 168, Corporation-st.
Schuster, A., Prof., M.I.E.E., Victoria Park.
Scott, J., Nat. Telep. Co., Ltd., 102, Portland-st.
Scott & Hodgson, Ltd., eng. mkrs., Guide Bridge.
Sharples, Hill & Co., elec. engrs. & contrs., 7, Brazennose-st.
Shaw, J., M.I.E.E., Fern Lea, Grosvenor-sq., Sale.
Simplex Conduits, Ltd., 6, Bull's Head-yd., Corporation-st.
Slacke, R. B., A.M.I.E.E., elec. engr., 38, Deansgate.
Slater Bros., elec. engrs. & contrs., 25, Dickinson-st.
Sloan Elec. Co., Ltd., John Dalton-st.
Small Power Dynamo & Motor Co., Old-la., Higher Openshaw.
Smart, A., & Co., asb. mfrs., Collyhurst.
Smith & Coventry, Ltd., lthe. & tl. mkrs., Ordsall-la., Salford.
Smith, Frederick, & Co., Wire Mfrs., Ltd., copper wire, Anaconda Wks., Salford.
Smith, F. W., & Co., elec. engrs., Chapel-st., Salford.
Smith, Wm., & Co., domestic elecns., 243, Broad-st., Pendleton.
Smithson, H., elec. engr., 18, Park-ave., Alexandra Park.
Smithson, Sharpe & Co., mfg. elec. engrs., Sykes-st., Hulme.
Southgate, H. McL., M.I.E.E., 5, Cross-st.
Spencer, J., & Co., cranes, &c., Chamber Iron Wks., Hollinwood.
Spencer, Perceval, Ltd., mfg. elec. engrs., Eccles.
Spherical Met. Pack. & Eng. Co., try. req., Hendham Vale.
Staniar, J., & Co., Manchester Wire Wks.
Statham, H., & Co., I. R. & G. P. mfrs., 9, 10 & 11, Corporation-st.
Steinthal, G. A., elec. supp., 1B, Cooper-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Sterling Varnish Co., Brougham-st., Blackfriars-rd.
Stewarts & Lloyds, Ltd., tubes, 42, Deansgate.
Stirling Boiler Co., Ltd., water tube blrs., 17, St. Ann's-sq.
Stocks & Co., engrs. & exp., 37, Deansgate Arcade.
Stonier, F. & G. W., & Co., wire wkrs. & mfrs., Harris-st., Strangeways.
Storey, I., & Sons, met. merchs., Cornbrook.
Stott & Sons, cons. engrs., 60, Hawarth's-bldgs., Cross-st.
Sutcliffe Bros., bltg., &c., Grosvenor Wks., Godley.
Sutcliffe & Sutcliffe, bltg. mfrs., Magnet Wks.
Taite, C. D., engr. & mgr., Lancs. Elec. Pr. Co., 196, Deansgate.
Tennants & Co., mfg. chem., 49, Faulkner-st.
Tetley & Co., elec. engrs., Falcon Wks., Poland-st., Oldham-rd.
Theermann, W. P., & Co., elec. engrs., Oxford-rd.
Thomas, B., elec. engr., Worsley-st., Hulme.
Todd, E. T., engr., O. A. & H. Elec. Try., Denton.
Traders Supply Co., elec. lamps, 40, South King-st.
Trafford Park Estates, Ltd., Trafford Park. Elec. engr., C. Gould.
Trafford Power & Lt. Sup. (1902), Ltd., Trafford Park. Engr., Jno. McGregor.
Turner, C. L., M.I.E.E., cons. elec. & mech. engr., 26, Brown-st.
Turner, Atherton & Co., Ltd., elec. engrs., Denton.
Tweedales & Smalley, Ltd., machine mkrs., Castleton, nr.
Underwood, H., & Co., elec. engrs., Renshaw-st., Hulme.
United E. L. & P. Sup. Co., Ardwick-pl., 184, Stockport-rd.
United Electric Supply Co., Micklehurst, Mossley, nr.
Universal Elec. Supply Co., elec. sund., 60, Brook-st., C.-on-M.
Vaughan & Son, Ltd., engrs., &c., West Gorton.
Veritys, Ltd., elec. engrs., 3, Hardman-st., Deansgate.
Victoria Univ. of Manchester. *See* SCHOOLS.
Vint, M. E. M., & Co., el. engrs., 92, Rusholme-rd.
Vulcan Boiler & Gen. Insce. Co., Ltd., 67, King-st.
Wainwright Bros., elec. contrs., 27, Pritchard-st.
Walker, E. O., & Co., elec. engrs., Trevelyan-bldgs.
Wallwork, Henry, & Co., Ltd., dyn. cstgs., Roger-st., & Charter-st.
Walmsley, J. T., elec. engr., Dis. Council, Denton.
Walters & Son, mfg. elecns., 57, Lower Mosley-st.
Ward & Goldstone, elec. engrs., Sampson Wks., Springfield-la.
Waring & Gillow, Ltd., elec. l. contrs., Deansgate.
Welch, F. B., & Co., gen. & elec. engrs., Manchester-chbrs., Market-st.; & 5, Deansgate.
Wells, M., & Co., lub. oils, Hardman-st. Oil Wks.
Western U. Teleg. Co., 7, Bank-st., Royal Exchange.
Wheeler, E. H., & Co., I. R. goods, &c., 8 & 9, S. Parade, Deansgate.
Whitaker, J., agent, Crown-ct., Blackfriars-st., Salford.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

White & Co., elec. engrs., Blackfriars-rd., Salford.
Whitelow, E. T., A.M.I.C.E., patent agt., 70, Deansgate.
Whitmore, H. B., A.M.I.E.E., elec. engr., 5, Chatham-grove, Withington.
Wihl, Ed., & Co., ins. mat. mfrs., 17, Nicholas-st.
Willis & Co., mfg. elec. engrs., 2, Commercial-st., Knott Mill.
Wilson, A. H., elec. engr., 578, Chester-rd., Old Trafford.
Wilson, J. G., pat. agt., 55, Market-st.
Wilson, J. R., elec. lt. engr., 20, Oxford-rd., Chorlton-on-Medlock.
Wilson, L. E., & Co., teleph. experts, 20, Cross-st.
Wolstenholme, J., eng. mkr., Albert Wks., Radcliffe, nr.
Wood, H. S., & Co., elec. engrs., 3, Clarence-st.
Wood & Newland, valuers, 42, Spring-gdns.
Wragge, G., Ltd., ling. cond. mfrs., 152, 154, 156 & 165, Chapel-st., Salford.
Wright, Methuen, & Co., Ltd., inst. contrs., 34, Pall Mall.

Mansfield.

Allen, Wm., A.M.I.E.E., elec. engr., 50, Westfield-la.
Corp. Elec. Wks. & Tram Supply. E. Holcombe Hewlett, M.I.E.E., M.AM.I.E.E., engr.
Greenwood, R. A., elec. l. & p. contrs.
Hewlett, E. H., engr., Corp. Elec. Wks. & Tram Supply.
M. & Dist. Tys., Ltd., Co., Sutton-rd. Engr. & man., C. R. Walker.
Mansfield Eng. Co., elec. l. & p. contrs.
Maude & Co., arc post makrs. & engrs.
Meggitt, B. Westgate, elec. l. & p. contr.
Sanderson & Robinson, Ltd., engrs. & fdrs.
Thorpe, S., elec. l. & p. contr.
Walker, C. R., engr. & man., M. & Dist. Tys., Ltd.
Woods, R. S., & Co., elec. l. & p. contrs.

Mardy.

M. E. Light Co., Ltd. Engr., W. W. Ross.

Margate.

Coles Bros., elec. engrs., High-st.
Doughty, F. J., elec. engr., 9, Queen-st.
Eagar, H. T., elecn., Merdwei Cottage, Pleasant-pl.
Isle of Thanet Elec. Tram. & Ltg. Co. Engr., R. Humphries.
Kingston & Co., Ltd., elec. engrs. & contrs., 8, Trinity-sq.
Simpson, J. W., elec. bell mfr., King-st.
Wheeley, C., elecn., The Jetty.

Market Drayton.

Bottomley, C. F., engr., M. D. E. L. & P. Co., Ltd.
M. D. Elec. Lt. & Pr. Co., Ltd. Engr., C. F. Bottomley.

Masham.

Mackwell, A., elec. lt. engr., Park-st.

Matlock.

Hall & Co., elec. bell & teleph. ftrs., Dale-rd.

Melrose, N.B.

Elecy. Sup. Corp., Ltd., Elecy. Wks.

Melton Mowbray.

Joseph, H., A.M.I.E.E., res. engr., Elecy. Wks.
M. M. Elec. Lt. Co. Engr., H. Joseph, A.M.I.E.E.

Merthyr Tydvil.

Charlton, G., res. elec. engr., M. E. T. & L. Co., Ltd.
Jenkins, T. A., elec. engr., Heolgerrig.
M. Elec. Tr. & Ltg. Co., Ltd. Man. engr., G. Charlton.

Mevagissey.

Hill, J. H., engr., M. E. L. Co., Ltd.
Mevagissey E. L. Co., Ltd. Engr., J. H. Hill.

Mexborough.

Fisher, C. V., elec. engr., 1, West-st.
Senior, J., engr., U.D.C. Elecy. Wks.
U.D.C. Elec. Wks. Engr., J. Senior, A.I.E.E.

Mickleham.

Leatherhead & Dist. E. Co., Ltd. Engr., H. L. Dixon, A.M.I.E.E.

Middlesbrough.

Anderston Foundry Co., Ltd., iron fdrs.
Cleveland & Durham Elec. Pr., Ltd., Hinton's-bldgs.
Corp. Elec. Works. H. M. Taylor, engr. & mgr.
Dodsworth, G., blr. mkr., Depôt-rd. Boiler Wks.
Dorman, Long & Co., Ltd., steel & iron mfrs.
Hill, Richard, & Co., Ltd., teleg. wire mfrs., Newport Wire Mills.
Imperial Trwys. Co. Engr. & man., J. Clifton Robinson.
Ingham, W. P., engr. & gas prod. mfr.
Jarvis Bros., Ltd., mfrs.' agts., Bridge-st.
L'pool Elec. Cable Co., Ltd., cable mfrs., 31, Albert-rd.
Lugard, C. E., A.M.I.E.E., cons. elec. engr., Field's-bldgs.
Martin, Thos. R., & Co., Ltd., elec. engr., 31, Albert-rd.
Martin Bros., elec. bell mkrs., 9 & 11, Corporation-rd.
Morrish, C. A. Esmarch, & Co., elec. lt. & p. engrs., 62, Albert-rd.
Richardsons, Westgarth & Co., elec. engrs.
Rogers, R. F., res. engr. & mgr. Middlesbro', Stockton & Thornaby Trwys.
Sadler & Co., Ltd., mfg. chem., Cleveland Chemical Wks.
Sproates, H. G., inst. contr., Wood-st.
Stevenson, Jno., elec. engr. & contr.
Tattersall & Smith, elec. engrs., 87, Albert-rd.
Taylor, H. M., boro' elec. engr.

Middlesbrough—*continued.*

Warren, S. N., elec. engr., Lr. Commercial-st.
Warren, Beattie & Co., Ltd., elec. lt. & p. engrs., Lr. Commercial-st.

Milford-on-Sea.

M. Elec. Sup. Co. Engr., L. Nicholson.
Nicholson, L., engr., M. Elec. Sup. Co.

Minehead.

M. Elec. Sup. Co., Ltd. C. Mounsey, engr.
Mounsey, C., engr., M. Elec. Sup. Co., Ltd.

Mirfield.

Lomas, Jno., elecn., U.D.C. Elecy. Wks.
Manchester, C., elec. bell mfr., Eastthorpe-la.
U.D.C. Elecy. Wks. Cons. engr., A. B. Mountain ; elecn., Jno. Lomas.

Monmouth.

Corp. Elec. Wks. A. E. Wilkins, engr.
Wilkins, A. E., boro' elec. engr.

Montrose.

Hale, H., engr., N. Scot. E. L. & P. Co., Ltd.
N. of Scotland Elec. L. & P. Co., Ltd. H. Hale, A.M.I.M.E., A.M.I.E.E., engr.

Morecambe.

Annetts, A. W., chf. asst. engr., Town Council.
Corp. Elec. Wks. Engr., W. H. Hall, A.M.I.E.E.
Marsden & Mawdsley, elec. l. contrs., Queen-st.

Morpeth.

North. Cos. Elecy. Sup. Co., Ltd. Engr., W. H. Bibby.

Morriston (Glam.).

Evans Bros., Ltd., elec. engrs., Woodfield-st.

Motherwell.

Clyde Valley Elec. Pr. Co.
Colville, D., & Sons, Ltd., iron & stl. mfrs.
Corp. Elec. Wks. Engr., S. Williams.
Grieve, J., & Co., crane mfrs.
Hendry & Co., elec. engrs., Windmillhill.
Lancs. Steel Co., Ltd., stl. mkrs.
Marshall, Fleming & Jack, elec. crane mfrs., Dellburn Wks.
Pott, Cassels & Williamson, elec. appar. mfrs.
Russell, G., & Co., Ltd., elec. cranes, Alpha Wks.
Stirling Boiler Co., Ltd.
Williams, S., engr., Corp. Elec. Wks.

Musselburgh.

Brunton, W. N., & Son, wire mfrs., Wire Mills.
Hunter, T., engr., M. & Dis. E. L. & T. Co., Ltd.
M. & Dist. E. L. & Trac. Co., Ltd. Engr., T. Hunter.

Neath.

S. Wales Elec. Power Dist. Co.

Nelson.

Corp. Elec. Supply & Trams. Engr., D. Helme.
Helme, D., boro' elec. & trys. engr.

New Barnet.

Bygrave, W., elec. engr., E. Barnet.

Newark.

Abbott & Co. (Newark), Ltd., arc lmp. winches.
Barham & Co., elecns., Tuxford.
Harrison, W. P. L., & Co., Beaumond Cross.
Howitt, J., & Sons, elecns. & engrs., St. Mark's Wks.; & 36, Stodman-st.
Nicholson, W. N., & Sons, Ltd., gen. engrs.
Tudsbury, Rd., & Sons, influence mach. mkrs., Edwinstowe.

Newburn.

Newcastle & Dist. E. L. Co. Engr., W. D. Hunter, M.I.E.E..

Newbury.

Plenty & Sons, Ltd., engrs. & blr. mkrs., Eagle Iron Wks.
Urban Elec. Sup. Co., Ltd. Engr., H. W. Bush.

Newcastle-on-Tyne.

Angus, George, & Co., Ltd., drvg. band mkrs., 46, Grainger-st., W., & 18, Lombard-st.
Armorduct Mfg. Co., Ltd., cond. & cable, 17, Eldon-sq.
Armstrong College. *See* SCHOOLS.
Armstrong, Sir W. G., Whitworth & Co., Ltd., mech. engrs., &c., Elswick Wks.
Barker, Hall & Harvey, cons. elec. engrs., 2, Collingwood-st.
Barnett, Rowland & Co., Ltd., elec. engrs., 3, Hanover-sq.
Bell, R. G., elec. engr., 27, Mosley-st.
Bigge, D. Selby, & Co., elec. power engrs., 27, Mosley-st.
Bradford, F., A.M.I.E.E., elec. engr., Kingsholm, Wolveleigh-ter., Gosforth.
Brady & Martin, Ltd., elec. & scien. app. mkrs., Northumberland-rd.
Brit. Insulated & Helsby Cables, Ltd., 8, Mosley-st.
Brit. Thomson-Houston Co., Ltd., mfg. elec. engrs., Collingwood-bldgs.
Brown, C. S. Vesey, cons. elec. engr., Milburn Ho.
Brown, J., jun., cons. engr., Mercantile-chbrs., Quayside.
Brown, M. Walton, mining engr., &c., Neville Hall, Westgate-rd.
Buck, M. W., elec. engr., N. Elec. Sup. Co., Royal Exchange-bldgs.
Burdis, R., elec. merch., 10, Grosvenor-gdns., West Jesmond.
Capell Fan Co., 13, Mosley-st.
Carnegie, A. Q., elec. engr., 31, Manor House-rd.
Carr, G. E., elec. & mech. engr., 46, Goldspink-la.
Carter, T., A.M.I.E.E., elec. designer, 16, Heaton Hall-rd., Heaton.
Charlton, R. B., & Co., domestic elecns., Manors Rly. Station Wks.

Newcastle-on-Tyne—*continued.*

Churchill, Chas., & Co., Ltd., imprtrs. machinery, Albion-bldgs., St. James-st.
Cookson & Co., Ltd., lead & antim. Milburn Ho.
Corlett Elec. Eng. Co., Ltd., Union-bldgs., St. John-st.
Corp. Elec. Wks. & Trams. Trwys. engr. & mgr., E. Hatton; asst. elec. engr., W. Dalton, A.I.E.E., A.M.I.M.E.
Crosier, Stephens & Co., carbons, &c., 2, Collingwood-st.
Cross, Wm., elec. engr., 4, St. Nicholas-bldgs.
Cryselco, Ltd., incand. lmp. mfrs., 3, S. Nicholas-bldgs.
Dalton, W., asst. elec. engr., Corp. Elec. Wks.
Dargue, W. H., elec. engr., 57, Grey-st.
Dinning & Cooks, elec. bell fitters, 91, Percy-st.
Dixon, R., & Son, elec. agts., Pudding Chare.
Easten, S., & Co., elec. contrs., 23, Bush-la.
Edison & Swan U. E. L. Co., Ltd., 38, Grey-st.
Eldon Elec. Co., Ltd., imprtrs. & merchs., 61, High Bridge.
Elecl. Co., Ltd., mfg. elec. engrs., Milburn Ho., Dean-st.
Elecl. Eng. Supply Co., Haymarket-la.
Esslemont, A. S., gen. mgr., Co. of Durham Elec. Pr. Sup. & Dis. Cos.
Fairweather, C. W., cons. elec. engr., Milburn Ho.
Falconar, O. L., elec. engr., 4, St. Nicholas-bldgs.
Falconar, Cross & Co., elec. engrs., 16, Lisle-st.
Gee, J. H., & Co., elec. engrs., 5, Nun-st.
General Elec. Co., Ltd., elec. fittings, 6, Clayton-st. E.
Gent & Co., Ltd., mfg. elecns., 67, High-bridge.
Gibson, M., teleg. engr., Pilgrim-st.
Gowdy, S. H., A.M.I.E.E., elec. engr., 39, Queen's-ter., Jesmond.
Graham, J. P., elec. agt., 26, Cloth Market.
Haggie, R., Hood & Son, Ltd., wire rope mfrs., Cathedral-bldgs., Dean-st.
Hall, W., A.M.I.C.E., elec. engr., 2, Collingwood-st.
Hanning, T., A.M.I.C.E., cons. elec. engr., N. Assurance-bldgs., 2, Collingwood-st.
Hardwick, G. H., A.M.I.E.E., elec. engr., 85, Brighton-grove.
Hartvigsen, L. L., Gt. North. Teleg. Co.
Heaviside & Boutch, elec. engrs., 14, Neville-st.
Holmes, J. H., & Co., elec. lt. engrs., Portland-rd.
Hunt, F. O., & Co., elec. engrs., 65, Blackett-st.
Hunter, W. D., M.I.E.E., man. dir. & engr., N. & Dis. Elec. Ltg. Co., Ltd., 38, Grainger-st.-west.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 59, Westgate-rd.
Innes, C. H., M.A., prof. of app. maths., Rutherford Coll.
Institution of Mining Engrs., Neville Hall, Westgate-rd.
Jennings, E. J., A.I.E.E., West Walls, Westgate-rd.
Jobling, J. A., manganese, St. Nicholas-chbrs.
Jude, R. H., D.SC., Rutherford Coll.
Lamb, G., corp. inspector.
Lancs. Dynamo & Motor Co., Ltd., Star-bldgs., Northumberland-st.
Leith, Alex., & Co., elec. engrs., 10, Neville-st.

Newcastle-on-Tyne—*continued.*

Maling, C. T., & Sons, Ford Potteries.
Manthorpe, A., res. engr., N. Cos. Elec. Sup. Co., Hebburn.
Martin, T. R., elec. engr., 77, High Bridge.
Mawson, Clark & Co., lubricants, Pandon-bldgs., City-rd.
Mawson & Swan, scien. instr. mkrs., &c., 11/15, Mosley-st.
Merz, C. H., M.I.C.E., cons. engr., Collingwood-bldgs.
Mills, John, & Sons, brass fdrs., Walker-gate Brass Works.
New Brotherton Tube Co., Ltd., 2, Collingwood-st.
Newcastle & Dis. Elec. Lighting Co., Ltd., 38, Grainger-st.-west. Man dir. & engr., W. D. Hunter, M.I.E.E.
Newcastle-upon-Tyne Elec. Supply Co., Ltd., Royal Exchange-bldgs., Hood-st.
Nicholson, Wadley & Co., elec. contractors, 14, Neville-st.
N. E. Coast Institution of Engrs. & Shipbldrs., 4, St. Nicholas'-bldgs.-west.
N. of Eng. Institute of Mining & Mech. Engrs., Neville Hall.
Northern Counties Elec. Sup. Co., Milburn Ho., Dean-st. Man., C. W. Fairweather.
N. Cos. Elecy. Sup. Co., Ltd., Hebburn. Engr., A. Manthorpe; elecn., W. Bates.
Northern Elecl. Supply Stores, Ltd., 92, Northumberland-st.
Ormrod, W., elec. engr., Corlett Elec. Eng. Co., Ltd., Union-bldgs:, St. John-st.
Parsons, C. A., & Co., mfg. elecns., Heaton Wks.
Patterson, W., dyn. brushes, Walker-gate.
Patton, G., elec. ltg. contr., Bath-la.
Percy, S., elec. contr., Osborne-rd.
Pochin, H. D., & Co., Ltd., sulph. of alu., Willington-quay.
Polglase & Co., Tyne Vale Chem. Wks., Skinnerburn-rd., Forth Banks.
Potter & Tizzard, consulting engrs., 17, Collingwood-st.
Priestman Power Co., Ltd., Milburn House.
Proctor, C. F., M.I.E.E., &c., elec. engr., Edison & Swan U. E. L. Co., Ltd., Benwell.
Proctor, W. W., F.I.C., anal. chem., 33 & 35, Side.
Reichwald, A., steel & metal merch., Lombard-st.
Reid, F., Ferens & Co., elec. engrs., Orchard-st.
Reyrolle, A., & Co., Ltd., elec. & gen. engrs., Hebburn.
Richardson Bros., met. merch., Cathedral-bldgs.
Robson & Coleman, elec. engrs., Haymarket-la.
Roy, A. W., dyn. & mot. mkr., 151, Shields-rd., Heaton.
Rutherford College.
Saunders, Todd & Co., met. merch., &c., Maritime-bldgs., King-st.
Short, M., A.I.E.E., Elec. Supply Co., Ltd., Royal Exchange-bldgs., Hood-st.
Sleigh & Wood, elec. & mech. engrs., Milburn Ho.
Snowball & Co., mach. valuers, Prudential-bldgs., Mosley-st.

Newcastle-on-Tyne—*continued.*

Spencer, J., & Sons, castings, Newburn Steel Wks.
Spencer & Watson, chem. merchs., Ward's-bldgs., High Bridge.
Stephenson, R., & Co., Ltd., eng. & blr. mkrs., Hebburn.
Stoney, G., B.E., M.I.E.E., M.I.C.E., engr., Oakley, Heaton-rd.
Stroud, Prof. H., M.A., D.SC., M.I.E.E., prof. of phys., Armstrong Coll.
Sunbeam Lamp Co., Ltd., 19, Northumberland-st.
Travers, L., jun., elec. engr., Rodney House.
Tremain, F., A.I.E.E., supt. engr., Post Office.
Tyneside Elec. Development Co., Ltd., St. Nicholas-chbrs., Amen Corner.
Tyneside Sup. Co., wholesale elec. suppliers, 1, St. Nicholas-bldgs.
United Alkali Co., Ltd., mfrs.
United Wire Wks., Ltd., wire gauze mfrs., Trafalgar Wks., Shields-rd. West.
Usher, Thos. G., & Co., elec. engrs., 44, Leazes Park-rd.
Veritys Ltd., elec. engrs., 26, Eldon-sq.
Walker, Henry, & Son, Ltd., elec. bell mkrs., Gallowgate.
Watson, H., & Sons, mech. engrs., High Bridge Wks., Walker Gate.
Weighton, R. L., prof. elec. eng., Durham Coll. Sci.
Western U. Teleg. Co., 1, Side.
Wills, R., B.SC., cons. engr., Elswick Mechanics Institute & Tech. School, 26, Beech Grove-rd.
Wyand, F. W., A.M.I.E.E., elec. engr., Elswick Wks.

Newcastle, Staffs.

Bagguley & Wood, elec. engrs., 23, High-st.

Newcastle-under-Lyme.

Corp. Elec. Wks. Engr. & elecn., G. Holding.
Silvester, F., & Co., elec. & gen. engrs., Castle-hill Works.

Newmarket.

Newmarket Electric Light Co., Ltd., High-st. F. A. Simpson, engr.

Newport, Isle of Wight.

Isle of W. Elec. Lt. & Pr. Co., Ltd. Engr., F. T. Crowe.

Newport, Mon.

Aberavon Dis. Trys. Synd., Ltd., 4 & 5, Commercial-st.
Alger, T. E., elec. engr., Pembroke House, Fields Park-rd.
Alger, R., & Sons, elec. lt. engrs., 160, Dock-st.
Arnold, A. G., & Son, elec. engrs., Market-st.
Bishop, H. Collings, M.I.E.E., boro' elec. & tramway mgr.
Corp. Elec. Supply Wks. & Elec. Trams. H. Collings Bishop, M.I.E.E., engr.
Evans, W., bltg. mfr., 24, High-st.
Foslett, J., elec. bell mfr., 8, Charles-st.
International Rubber Co., 144, Commercial-st.

Newport, Mon.—*continued.*

Isca Foundry Co., gen. engrs.
Jones, B. G., & Co., engrs., powr. spec., 33, Commercial-st.
Liscombe, J., beltg. mfr., 10, Commercial-st.
N. Borough Tech. Inst. *See* SCHOOLS.
Newport Enam. Slate Co., Ltd., Old Dock-rd.
Perman, E., elec. lt. engr., 50, Dock-st.
Phillips, C. D., mech. engr., Emlyn Iron Works.
S. Wales Glass Mfg. Co., Ltd., batt. jars, Crindau.
Spittle, T., Ltd., mech. engrs., Cambrian Foundry.
Tredegar Dry Dock & Eng. Co., Mill Parade.
Uskside Eng. Co., mech. engrs., Uskside Iron Wks.
Wood, Arthur, elecn. & ironmgr.

Newquay, Cornwall.

Newquay Elec. L. & P. Co., Ltd. Res. engr., A. S. Hawkins.

Newton Abbot.

Hexter & Humpherson, cable cond. mkrs.
Parker Bros., elec. bell ftrs.
Pay, F. C., engr. & mgr. Urban Elec. Sup. Co.
Urban Elec. Sup. Co., Ltd. Engr., F. C. Pay, A.M.I.E.E.

Newton-le-Willows.

Vulcan Foundry, Ltd., subm. cable mach. mfrs.

Newtownsmyth.

Galway Elec. Co., Ltd. Engr., J. Perry.
Perry, J., M.E., M.I.C.E., elec.engr., Galway Elec. Co.

Normanton.

Bentham, J., elec. engr., New Sharlston Collieries, nr.

Northallerton.

N. Elec. Lt. & Pr. Co. Engr., F. R. Batty, A.M.I.E.E.

Northampton.

Adkins & Co., gen. elecns.
Allchin, W., Ltd., mech. engrs., &c., Globe Wks.
Corp. Trams. Mgr., — Gottschalk.
Dickins, A. C., elec. lt. & teleph. contr., 14, Kingswell-st.
Duckenfield, E. E. Vernon, & Co., elec. engrs. & contrs.
Finnegan, R., trwy. contr., East Park.
Garrett Bros., elecns., 19, Cowper-st.
Gottschalk, —, mgr. Corp. Trams.
Jackson, G. H., M.I.E.E., M.I.M.E., chief engr., Northampton E. L. & P. Co., Ltd.
Lea & Warren, elec. engrs., 53, Gold-st.
McMahon, J., M.I.E.E., corp. elec. trwys. engr., Castle-st.
N. & County Modern & Tech. School. *See* SCHOOLS.
Northampton E. L. & P. Co., Ltd., 25, Bridge-st. Engr., G. H. Jackson, M.I.E.E., M.I.M.E.
Premier Accumulator Co., Cattle Market-rd.

Northampton—*continued.*

Trenery, E. T., & Sons, casing mkrs., Bridge-st.
Watkin Bros., Ltd., engrs., West Bridge Wks.

Northfleet.

Bamford, W. W., Ltd., elec. & mech. engrs., Deepwater Pier.

Northwich.

Boyd, W., engr., N. Elec. Sup. Co.
Brunner, H. B., elecn. & chem., Winnington Pk.
Brunner, Mond & Co., Ltd., alkali, Winnington.
N. Elec. Supply Co. Engr., W. Boyd, A.M.I.E.E., A.M.I.M.E.
Thomas, Bertram & Co., elec. engrs., Castle-st.

Norwich.

Banister, A. N., engr., N. Elec. Tys. Co.
Cannell, E. S., elec. lt. engr., City Asylum.
Clark, W. H., elec. ltg. contr., St. Laurence's-la.
Corp. Elec. Wks., Duke-st. Engr., F. M. Long.
Frazer, Norwich, Ltd., casings, &c., Palace Plain Joinery Wks.
Laurence, Scott & Co., Ltd., elec. engrs., Gothic Wks., Thorpe.
Long, F. M., A.M.I.E.E., city elec. engr.
Mann, Egerton & Co., Ltd., elec. I. engrs., Bank Plain.
Nat. Teleph. Co., Ltd. O. W. Stevens, dis. mgr.
N. Elec. Trwys. Co. Engr. & man., A. N. Banister.
Pank, A., & Son, elec. engrs., Bedford-st.
Parish, H. J., elec. ltg. contr., 119, Dereham-rd.
Thompson, E. C., inst. contr., 11, Exchange-st.
Woolnough, F., dyn. & motor mfr., St. Stephen's.

Nottingham.

Aldworth, J., mgr. Corp. Tramways.
Ames Crosta Sanitary Engineering Co., Ltd., conduit mkrs., City-chbrs., South Parade.
Armitage, A., A.M.I.E.E., Elec. Dept.
Astbury, W. H., tool mkr., Brougham-chbrs., Wheeler Gate.
Barton, Prof. E. H., A.M.I.E.E., D.SC., University Coll.
Baxter, A. H., elec. engr., 37, Millicent-rd., West Bridgeford.
Blackburn, Starling & Co., Ltd., elec. engrs. & ltng. cond. mkrs., Gresham Works.
Blakey Bros., elec. signs, Bridlesmith Gate.
Brit. Boiler Water Circulator Synd., 2, Ashforth-st.
Cable Trough Co., Canal-st.
"Cantie" Switch Mfg. Co., switch mfrs., 69, Mount-st.
Chapman, A. E., teleg. engr., Postal Telegs.
Clifford, A., A.M.I.E.E., asst. engr., Elec. Dept.
Codd Arc Lamp Co., Ltd., mfg. elec. engrs., Standard Wks., Dame Agnes-st.
Corp. Elec Supply, Talbot-st. Engr., H. Talbot, M.I.E.E.
Cropper, Charlton & Co., elec. engrs., Station-st.
Danks, T., & Co., Ltd., elec. engrs., Thurland-st.

Nottingham—*continued.*

Elecl. Improvements, Ltd., 44, Parliament-st.
Farr, J., elec. & mech. engr., Sherwood-st.
Furse, W. J., & Co., elec. engrs., Traffic-st.
Goddard, Massey & Warner, Ltd., elec. engrs. & contrs.
Gough, H. W., pat. agt., 28, Heskey-st.
Gowthorpe, E. L., & Son, engrs., Victoria-bldgs., London-rd.
Greenall, E. B., elec. engr., 5, Gertrude-rd., W. Bridgford.
Greenhalgh, W., elec. engr., 57, Beauvale-rd.
Guy & Co., cabinet wk., 38 & 40, Bridlesmith-gate.
Harvey, E. A., elec. engr., 26, Burton-st.
Haynes, S., mfrs'. agt., 84, Lord's-chbrs., Parliament-st.
Hazzledine, H. T., elec. engr., S. Sherwood-st.
Heaton, Prof. W. H., M.A., M.I.E.E., prof. of phys., &c., University Coll.
Howard, M., elec. engr., 54, Peveril-st.
Irving, G., & Co., Ltd., elec. engrs., 12, Canal-st.
Kendall, F., elec. engr., 10A, N. Church-st.
Knight & Farr, elec. engrs., 25, Mansfield-rd.
Lee & Hunt, Arkwright Tool Wks., Crocus-st.
Manlove, Alliott & Co., Ltd., gen. engrs., Bloomsgrove Wks.
Mason, J. E., elec. contr., 43, Carrington-st.
Nott. Camera Co., cabinet wk., Bridlesmith-gate.
Peacock Patent Steel Grip Lock Nut & Fish Bolt Syndicate, Ltd., Prudential-bldgs., Queen-st.
Pearson Bros., elec. lt. engrs., 54–56, Long-row.
Pearson, G. H., & Co., casings, Traffic-st.
"Premier" Gas Engine Co., Ltd., Sandiacre, nr.
Railway Elec. Fog Signal Synd., St. Peter's Church-walk.
Robinson, W., M.I.E.E., &c., prof. of eng., University Coll.
Sands, G., & Son, elec. & gen. engrs., 5, Holland-st., Goose Gate.
Smith, G. E., cons. elecn., 1, Sprice-yd., Sherwood-st.
Smith, J. S., elec. engr., Parliament-st.
Smith, J. W., elec. lt. contr., 6, Low Pavement.
Smith, Sydney, & Sons, Basford Brass Wks.
Standard Machine Works, Ltd., Dame Agnes-st.
Starling, F. H., A.I.E.E., Gresham Wks.
Talbot, H., M.I.E.E., Corp. Electricity Dept.
Taylor, F. G., M.A., B.SC., lect. in math., University Coll.
Thorp, Payne & Simpson, elec. engrs., Shakespeare-st.
Universal Eng. Co., Ltd., ltng. cond. mfrs.
University College.
Walker, Hill & Co., cons. engrs., &c., 2, Churchgate, Low Pavement.
Webster, G. M., elec. contr., 71, Up. Parliament-st.
Whitaker, A. E., A.I.E.E., elec. l. & p. engr., 97A, Upper Parliament-st.
Williamson, E., dis. mgr., Nat. Teleph. Co., Telephone-bldg., George-st.

Nuneaton.

Gibson, S. C., engr., U.D.C. Elecy. Wks.
Lester, J. E., elec. engr., Newdigate-st.

Nuneaton—*continued.*

Parsons, Sherwin & Co., Ltd., install. contrs.
Stanley Bros., Ltd., mfrs. stone conduits.
U.D.C. Elec. Wks. Engr., S. C. Gibson, A.M.I.E.E.
Wilson, G., elecn., Abbey-st.

Oakamoor.

Bolton, T., & Sons, cop. teleg. wire.

Oakengates.

Maddock, J., & Co., Ltd., mall. iron cstgs.
Rollason & Slater, Ltd., iron wire & rivets, Wombridge Iron Wks., nr.

Oban.

Campbell, J., elecn., 31, Stafford-st.
Day, T. H., elec. engr. & contr., Breadalbane-pl.
Town Council Elec. Wks. Engr., M. P. Plunkett.

Ogmore Vale.

Ogmore Valley Elec. L. & P. Supply Co., Ltd., Ash-grove, Dunraven-pl.. Elecn., A. E. Marks.

Oldbury.

Bagnall, J., & Son, steel forgings, Langley Forge.
O. Steel Conduits, Ltd., Birchfield-la.
Watson & Sons, elec. lt. contrs., 17, Birmingham-st.

Oldham.

Ball, J., ltng. cond. erector, York Castle.
Bradbury & Co., Ltd., lathe mkrs., Wellington Wks.
Buckley & Taylor, Ltd., eng. mkrs., Castle Iron Wks.
Bullivant & Co., elecns., 70, Lees-rd.
Butterfield Bros., elecns., 48, Yorkshire-st.
Carter, W., asst. elec. engr., Elecy. Wks.
Charlesworth, S., & Co., elec. engrs., 6, Clegg-st.
Corp. Elec. Wks. & Trms. S.W. Newington, engr.
Day, G. St. John, elec. engr., Mumps Elec. Wks.
Ferranti, Ltd., mfg. elec. engrs., Hollinwood.
Gunther & Co., turbines.
Haigh, W. B., & Co., Ltd., elec. & gen. engrs., Globe Iron Wks.
Hall, J. P., & Co., gen. & elec. engrs., Blackriding Iron Wks., Werneth.
Humphreys, J. H., & Sons, dynamos, Horsedge Electric Wks.
Jackson, J., elec. engr., 131, Union-st.
Newington, S. W., boro' elec. engr.
Norris, J. R., elec. engr., Manchester-st.
O., Ashton & Hyde Elec. Trwys.
Schofield, B., elec. push mkr., Diggle, nr.
Shaw, G., & Co., elec. bell ftrs., Manchester-st.
Stott, J., & Co., elec. fan mkrs.
Summer, G., Rhodes Bank Lubricator Wks.
Wild, John, & Co., Ltd., mech. & elec. engrs., Falcon-st.

Oswestry.

Oswestry Elec. Ltg. & Power Co., Ltd., 6, Salop-rd. Engr., E. Bremner Smith.

Otford.

Freeman, W. S., elec. engr., Invicta Wks.

Oulton Broad.

O. B. Elecy. Co., Ltd. Engr., B. Barber.

Oxford.

Clifton, R. B., prof. of exp. phil., The University.
Dick, J. R., B.SC., M.I.E.E., W. Lucy & Co., Ltd.
Eagleston & Son, inst. contrs., St. Clement's.
Elliott, J. E., cons. elec. engr., 22, George-st.
Francis, F. H., A.M.I.E.E., chief engr., Oxford Elec. Co., Ltd.
Gill & Co., ironmgrs. & elecns., High-st.
Lucy, W., & Co., Ltd., elec. & mech. engrs. & fdrs., Eagle Iron Wks.
Madgen, F. J., A.M.I.E.E., W. Lucy & Co., Ltd.
Odling, W., M.A., F.R.S., prof. of chem., The University.
Oxford Electric Co., Ltd., 45, Broad-st. Engr., F. H. Francis, A.M.I.E.E.
Pierce, J. F., A.M.I.E.E., elec. engr., 45, Broad-st.
Turner & Sons, ironmgrs. & elecns., 5, Woodstock-rd.
University of Oxford. *See* SCHOOLS, &c.
Watson, G. W., elec. engr. & contr., 14, Hurst-st.
Wyatt, G., & Son, ironmgrs. & elecns., 67, St. Giles.

Paignton.

Fawcett, E. M., elec. engr., 4, Sydney-ter., New-st.

Paisley.

Bow, McLachlan & Co., Ltd., engrs., &c.
Corp. Elec. Wks. C. F. Parkinson, M.I.E.E., A.M.I.M.E., engr.
Coutts, F., mgr. P. Dist. Trwys. Co.
Doulton & Co., Ltd., stoneware for elec. purposes.
Fisher & Co., engrs., Macdowall-st.
Fullerton, Hodgart & Barclay, Ltd., eng. mkrs.
Hanna, Donald & Wilson, turb. mfrs., Abbey Wks.
Haran, N. G., & Sons, elec. engrs., 99 & 100, Causeyside-st.
Hunter & Goudie, elec. engrs., Causeyside-st.
Kilpatrick, J., & Son, elec. engrs., High-st.
Lawrie, J., engr., Corp. Elec. Wks.
P. Dist. Trwys. Co. Engr. & man., F. Coutts.
Parkinson, C. F., res. elec. engr., Elec. Wks.
Pollock, S., & Sons, eng. mkrs., Williamsburgh.
Reid Gear Co., mkrs. gears & pinions, Linwood.
Robertson & Co., elec. engrs., 55, Back Sneddon-st.
Slater, A., elec. engr., J. & P. Coats, Ltd.

Pangbourne.

Hull, W. G., A.I.E.E., elec. & mech. engr.

Pelaw.

Felling Elecy. Wks. (N. C. E. S. Co., Ltd.). Cons. engrs., C. S. Vesey Brown & C. W. Fairweather.

Pemberton.

U.D.C. Elec. Wks. J. B. Robb, engr.

Pembroke, Dublin.

Dis. Coun. Elec. Wks. S. L. R. Price, engr.

Penarth.

Cameron, H., elec. engr., P. Elec. L. Co., Ltd.
Leech, S. G., M.I.E.E., elec. engr., 127, Stanwell-rd.
Moore, F. C., & Co., elec. engrs. & contrs., 1, Windsor-ter.
P. Elec. Ltg. Co., Ltd. Engr., H. Cameron.

Penrith.

Bowman, J., cons. elec. engr., 25, Middlegate.
Hetherington Bros., elecns., &c.

Penzance.

Chambers, E., West. Union Teleg. Co.
Floyd, R. N., elec. bell ftr., 4, East-ter.
Penzance Gas Co., Ltd., elec. lt. contrs., 95, Market Jew-st.

Pershore.

Bomford & Evershed, Ltd., engrs.

Perth.

Corp. Elec. Wks. & Tys. J. Lambert, engr.
Frew & Co., Ltd., engrs., 6 & 7, Mill-st.
Lambert, J., res. elec. engr. & trys. mgr., Corp.
Tomey & Sons, gauge gls. mfrs., Tay Glass Wks.
Westwood, A., & Son, elec. bell ftrs., 21, Princes-st.

Peterborough.

Ames & Son, elec. contrs., Long Causeway.
Beech, E., elec. contr., Lincoln-rd.
Corp. Elec. Wks. Engr., J. C. Gill, A.M.I.C.E.
Hall, J. P., & Sons, Ltd., mech. engrs., London-rd.
McAlpin & Co., elec. light engrs., 50, Narrow-st.
Montgomery Motor Co., elec. contrs., Lincoln-rd.
Noble, J., & Son, elecns.
Perkins, J. E. S., elec. engr., Queen-st. Iron Wks.
Peterborough Motor Co., elec. contrs., Cowgate.
Sharpe & Son, elec. contrs., Huntly Grove.

Pinner.

Inglis, H., mg. dir. Omnium Wholesale Sup. Co.

Plymouth.

Andrews, T. N., A.I.E.E., Charles School of Science.
Baron, W. H., elec. engr., 4, Wesley-ave.
Brown, H. W., elec. engr., 9, Seaview-ter.
Clemens, E. T., elec. bell ftr., 187, Union-st.
Corp. Elec. Wks., Prince Rock. Engr., E. G. Okell, M.I.E.E.; trwys. man., C. R. Everson.
Corse, W. J., & Co., mfg. elecns., 53, Union-st.

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Harris, J., mech. & elec. engr., Langstone-rd., Peverell.
Hearder, W., PH.D., F.L.S., F.S.A., med. elecn., 195, Union-st.
Heath, W. G., & Co., elec. engr., Frankfort-st.
Lawry, H., Ltd., install. contrs., Old Town-st.
Lee, Arthur, & Bros., Ltd., marble & slate slabs, Clock Tower-chbrs., Sutton-rd.
Lord & Shand, Ltd., elec. engrs., 24, Lockyer-st.
Okell, E. G., M.I.E.E., Elec. Dept., Prince Rock.
P. Mun. Tech. School. *See* SCHOOLS.
Plymouth, Stonehouse & Devonport Trwys. Co. J. Glenn, engr.
South Western Brass Fdy., Ltd., elec. ftgs., Mill-st. & Russell-st.
Stark, W. B., & Co., Ltd., engrs. & elecns.
Treglohan, T. P., elecn., c/o Plymouth & Dis. Students' Assoc.

Pontypool.

Pegler, W., jun., elecn., The Cross.
Pontypool Elec. Light & Power Co., Ltd., Club-chbrs. Engr., W. T. Maybery.

Pontypridd.

S. Wales Elec. Pr. Distrib. Co. Res. engr., H. N. Holland.
Teasdel, J. E., res. engr. & mgr., U.D.C.
U.D.C. Elec. Wks. Res. engr., J. E. Teasdel, A.M.I.E.E.

Poole.

Bacon & Curtis, Ltd., elec. app. mfrs., High-st.
Scanlan, H. E., elec. bell ftr., Towngate-st.

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Greeves, O. V., elecn.

Portrush.

Giants' Causeway & Portrush Elec. Trwy. Co. Engr., W. A. Traill.

Portsea.

Walker, F. W., & Co., elec. lt. engrs., 124 & 125, Queen-st.

Portsmouth.

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Corp. Elec. Trwys. V. G. Lironi, M.I.M.E., A.M.I.E.E., engr.
Couzens, G. E., elec. engr., 223, Commercial-rd., Landport.
Crocket, G. H., elec. engr., 49, Farlington-rd.
Foale, W. S., engr. & mgr., Corp. Elec. Wks.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 49, High-st.
Lironi, V. G., engr., Corp. Elec. Trwys.
Murch, P., boro' engr., Town Hall.
Pearson Bros., motor mfrs., 52, Elm-grove.

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Stirling, J., mgr. P. & I. W. Dis., Nat. Teleph. Co., Ltd., Pearl-bldgs.
Vosper & Co., Ltd., elec. launch bldrs., Broad-st.

Prescot.

Bates, D., M.I.E.E., Brit. Ins. & Helsby Cables, Ltd.
Brit. Ins. & Helsby Cables, Ltd., elec. engrs., &c.
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Doudney, S. P., A.M.I.E.E., B.I. & H. Cables, Ltd.
Elecy. Wks. Brit. Ins. & Helsby Cables, Ltd., props. Res. engr., R. P. Nash.
Glover, R., meter movements, Cronton, nr.
Nash, R. P., engr., Elecy. Works.
Nisbett, G. H., M.I.E.E., Brit. Ins. & Helsby Cables, Ltd.
Saggerson, T., & Co., meter movements, West-st.
Sinclair, D., M.I.E.E., Brit. Ins. & Helsby Cables, Ltd.

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Attwater & Sons, eng. packing, Hopwood-st. Mills.
Barker, W., elec. engr., Derby-st.
Berry, J., elec. engr., Woodcock's-ct., Fishergate.
Brierley, R., elec. bell ftr., 27, Fylde-st.
Corp. Trams. Engr., J. F. Simpson, M.I.E.E.
Dewhurst, E., elec. engr., Mount St. Elecl. Wks.
Dick, Kerr & Co., Ltd., trmwy. engrs., Strand-rd.
Elec. Wks. Nat. Elec. Sup. Co., Ltd., prop. Engr., J. H. Tonge.
Harris Inst. & Victoria Tech. School. *See* SCHOOLS.
Iddon Bros., Ltd., elec. wire mach., Brookfield Iron Wks., Leyland, nr.
Irvin & Sellers, hard wood turners.
Leyland & B'ham Rubber Co., Ltd., Leyland, nr.
National Elec. Supply Co., Ltd., 119A, Fishergate. Engr., J. H. Tonge, M.I.E.E., A.M.I.C.E.
Simpson, J. F., M.I.E.E., boro' engr. & trys. mgr., Corp.
Starkie, Jas., & Sons, Ltd., wire gauze mfrs.
Stevenson & Co., Ltd., engrs., Canal Foundry.
Tonge, J. H., M.I.E.E., A.M.I.C.E., engr., Nat. Elec. Supply Co.
United Elec. Car Co., Ltd., Strand-rd.
Williams, A., elec. engr., Mount-st.

Pudsey.

Corp. Elecy. Wks. Res. engr., E. Denton.

Queenstown.

Cork Elec. Trwys. & Ltg. Co., Ltd. Engr., W. H. Joyce.
Joyce, W. H., res. engr., Cork Elec. Trwys. & L. Co., Ltd.

Radcliffe.

U.D.C. Elec. Wks. Engr., H. Wilkinson.

Ramsgate.

Coveney, Ed., A.I.E.E., elec. engr., 20, Belle Vue-rd.
Dunn, E. E., elecn., Queen-st.
Farrer, M., A.M.I.E.E., res. engr., R. & Dis. Elec. Sup. Co., Ltd.
Lednor, C., engr. & elecn.
Philpot, R. W., & Co., elec. l. contrs.
R. & Dist. Elec. Sup. Co., Ltd. Engr., M. Farrer.
Southey, E., elec. l contr.

Rawmarsh.

Johnson, H., engr., Mexborough, Swinton & Rawmarsh Tys. Co., Ltd.

Reading.

Baughan, A. H., A.M.I.E.E., cons. engr., 8–10, London-st.
Baughan & Co., mfg. elecns., London-st.
Binns, W., gen. mgr. & engr., Corp. Tram. Sta., Mill-la.
Bowen, J., A.M.I.C.E., boro' engr. & surveyor.
Broadbent, J. E., Col., R.E., C.B., M.I.E.E., Fynesbury.
Callas, Sons & May, Ltd., elec. lt. contrs., &c., 68–76, Oxford-st.
Calver, W. G., chf. inspector of trwys.
Cooksey, D. F., A.M.I.C.E., M.I.E.E., cons. engr., 5, Maitland-rd.
Corp. Trms. Engr., W. Binns.
Felgate, A. E., elec. engr., 10, Queen Victoria-st.
Gilkes Engraving Works.
Griffith, S., elec. & mech. engr., Rly. Fdry. & Eng. Wks.
Hart & Sons, elec. lt. engrs., 13 & 14, Gun-st.
Hawkes & Sons, elec. wiring contrs., 7, High-st.
Herbert & Co., elec. engrs., 22, St. Mary's Butts.
Hill, E. R., mg. engr., Read. Elec. Supply Co., Ltd., Vastern-rd.
Mackies, Ltd., elec. & gen. engrs., Berks Iron Wks.
Pulsometer Eng. Co., Ltd., pumps, Nine Elms Ironwks.
Reading Elec. Supply Co., Ltd., Vastern-rd. E. R. Hill, engr.
Smith, F. A., elec. & gen. engr., De Bohun-rd.
Spencer, J. T., elec. bell ftr., 25, London-rd.
Terras, J. S., dis. mgr., Nat. Teleph. Co.
Webb, T., elec. bell ftr., 45, Gt. Knollys-st.
Whitchurch & Pangbourne Elec. Sup. Co., Ltd., King Edward-bldg.
Williams, T. C., & Sons, Ltd., iron fdrs. & elec. lt. engrs., London-st.

Redditch.

Ferguson, W. J., engr., U.D.C. Elec. Wks.
U.D.C. Elec. Wks. Engr., W. J. Ferguson.

Redhill.

Cook, W. G. R., elec. engr., 29, Clarendon-rd.
Lanaway, T., & Son, elec. bell mfrs., Station-rd.
Marriage, T. S., & Co., elec. bell ftrs., Station-rd.
Tamplin & Makovski, Ltd., elec. contrs.

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Hanning, F. S., engr., Urban E. Sup. Co., Ltd.
R. School of Mines & Art. *See* Schools.
Urban Elec. Sup. Co., Ltd. Engr., F. S. Hanning.

Reigate.

Corp. Elec. Wks. W. S. Ross, engr.
Goundry, J. E. J., elec. engr., 31, High-st.
Marriage, T. S., & Co., elec. bell ftrs., Bell-st.
Ross, W. S., boro' elec. engr., Elec. Wks.

Renfrew.

Babcock & Wilcox, Ltd., engrs.

Retford.

Bradshaw, R. A., & Son, pillars, &c.
Clark, C., elec. & mech. engr., 2, Moorgate.
Cooke, F. W., M.I.E.E., asst. teleg. supt., G. N. Rly. Co.
Ireland, T., chf. teleg. supt. & engr., Gt. Northern Rly. Co.

Rhondda Valley.

Williams, B. D., elec. engr., Gwaun-Adda, Dinas.

Rhyl.

U.D.C. Elec. Wks. Engr., E. H. Wright, A.M.I.E.E.

Richmond, Surrey.

Annels, Wm., elec. engr., 77, Mortlake-rd.
Beard, H., & Co., elec. engrs., Duke-st.
Hemingway & Pritt, elec. engrs., 10, Eton-st.
R. Elec. Lt. & Pr. Co. Res. engr., L. C. B. Trimnell.

Ripon.

Harrison & Co., mech. & elec. engrs., Ure Bank Eng. Wks.
Scott, Wm., scientific instr. mkr., 3, Bateman's-ct., High Skellgate.

Rochdale.

Adamson, G. L., elec. engr., 116, Yorkshire-st.
Atchison, C. C., boro' & trwys. elec. engr.
Corp. Elec. Wks. & Trams. C. C. Atchison, M.I.E.E., engr.
Greenwood, Luke, & Co., elec. app., Trafalgar Wks.
Grindrod, J. K., elec. engr., &c., Oulder Hill.
Humphreys, T., A.M.I.E.E., elec. engr., 158, Whitworth-rd.
Moffet, J. S. D., Corp. trwys. mgr.
R. Elec. Co., Ltd., elecy. meters, Shawclough.
Sutcliffe, F., & Co., dyn. & mot., 30, Drake-st.
Watson, Wm. D., elec. engr. & mg. dir. Rochdale Elec. Co., Ltd.
Whipp & Bourne, elec. engrs., Molesworth-st.

Rochester.

Bemrose, W. S., inst. contr., 37, High-st.

Romsey.

Roles, Wm., & Sons, elec. bell ftrs., Bell-st.

Ross.

Gray, C. E., elec. engr., Elec. Wks.
R. Elec. L. & P. Co., Ltd., Bank Offices. Elec. engr., C. E. Gray.

Rotherham.

Barclay, W. R., 168, Ferham-rd.
Barnaby, W. F., elec. engr., 16, Lindum-ter., Doncaster-rd.
Corp. Elec. Wks. & Trams. Engr., E. Cross.
Cross, E., A.M.I.E.E., boro' elec. engr., Elec. Wks.
Smith Bros., Rotherham, Ltd., motor engrs., 14, High-st.

Rothesay.

Burgh of Rothesay Elec. Wks. E. B. Stiven, engr.
R. Trwys. Co. Engr., A. Wilkes; man., A. Robertson.
Stiven, E. B., engr., Elec. Wks.
Wilkes, A., engr., R. Trwys. Co., Ltd.

Rugby.

Brit. Thomson-Houston Co., Ltd., elec. engrs.
Burdett, H. J., elec. engr., "Electra Ho.," Regent-st.
Clough, F. H., A.I.E.E., elec. engr., Brit. T.-H. Co.
Fell, A., elec. engr., 22, Pennington-st.
Hopps, B., A.I.E.E., elec. engr., 22, Pennington-st.
Larke, W. J., M.I.E.E., 121, Clifton-rd., Rugby.
Lee, A. E., engr., R. School E. L. Co.
Rosling, P., M.I.E.E., elec. engr., Netherleigh.
Rugby School Elec. Ltg. Co., Ltd., Dunchurch-rd. Engr., A. E. Lee.
Shenton, T. S., res. elec. engr., Elecy. Dept., Benn-bldgs., High-st.
U.D.C. Elec. Wks. Engr., T. S. Shenton.
Waring, J. W., & Co., inst. contrs., Regent-st.
Willans & Robinson, Ltd., engrs., Victoria Wks.
Young & Garratt, elec. engrs., Railway-ter.

Rushden R.S.O.

Brown, F. G., elec. engr., 42, North-st.
Cox & Brown, elec. & mech. engrs., 70, Higham-rd.

Ryde.

Ashton & Holt, elec. engrs.
Crowe, F. T., engr., I. of W. Elec. Lt. & Pr. Co.
I. of Wight Elec. Lt. & Pr. Co., Ltd. Engr., F. T. Crowe.
Ryde Pier Co. & Electric Railway.

Sabden.

Hindle, Robert, & Co., Ltd., elec. sup. mfrs.

Saffron Walden.

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St. Andrews, N.B.

Elec. Sup. Corp., Ltd. Engr., B. G. Drummond.
Lowdon Bros. & Co., mfg. elecns., 132, Market-st.

St. Anne's-on-Sea.

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Clothier, J. H., elec. engr., Elec. Wks.
Leake, H., & Co., wiring contrs., The Elms, Lytham-rd.
Norris, J. R., & Co., wiring contrs., Wood-st.
Russell, W. E., elec. engr., Wood-st.
Russell & Co., Ltd., wiring contrs.
Speight, J. W., M.I.E.E., A.M.I.MECH.E., The Elms, Lytham-rd.
U.D.C. Elec. Wks. Engr., J. H. Clothier.

St. Austell.

Child, A. B., engr., St. A. E. L. & P. Co., Ltd.
Coon, J. M., cons. elec. engr.
Francis & Son, elec. bells, High Cross-st.
Hill, J. G., elecn. & mech. engr., Trevarrick.
Hill, T., elecn., St. A. E. L. & P. Co., Ltd.
St. A. E. L. & P. Co., Ltd., Menacuddle-st. Engr. & man., A. B. Child.

St. Helens.

Beddow, Jas., elecn., 112, Brynn-st.
Bishop, S. & C., & Co., gauge glass mkrs.
Cannington, Shaw & Co., Ltd., Sherdley Gls. Wks.
Corp. Elec. Wks. & Trams. E. M. Hollingsworth, engr.; trwys. man., W. Hutchings.
Critchley Bros., wiring contrs., Hall-st.
Derbyshire, P., wiring contr., Duke-st.
Else, J. E. C., wiring contr., Duke-st.
Forster & Sons, Ltd., glass tube mkrs.
Gamble Inst. Mun. Tech. School. *See* SCHOOLS.
Hollingsworth, E. M., chief elec. engr., Corp.
Holman, Michell & Co., Cornwall Lead Wks.
McNelly & Co., elec. contrs., Church-st.
Savage, J., elec. engr., 114, Westfield-st.
Swire, W., wiring contr., George-st.

St. Ives.

Ruston, F. T., & Son, elec. sund.

St. Leonards.

Skinner, T. W., elec. & gen. engr., Silchester-rd.

St. Peters.

I. of T. Elec. Trwy. & Ltg. Co. Engr., R. Humphries.

Salisbury.

Dean & Burden Bros., Ltd., Scout Motor Wks.
Parsons, J., & Son, elecns., 48, Bedwin-st.
Randall, A. B., M.I.E.E., engr., S. E. L. Co., Town Mill.
S. Elec. Lt. & Sup. Co., Ltd. Engr., A. B. Randall, M.I.E.E.

Saltburn-by-Sea.

Cleveland Trust, Ltd., elec. wks. Engr., W. Miriam.
Miriam, W., engr., Cleveland Trust, Ltd.
Raine, A., elecn., Cleveland Trust, Ltd.
Wordley, F., wiring contr., 33, Norman-rd.

Sandown (I. of W.).

Isle of W. E. Lt. & Pr. Co., Ltd.

Scarborough.

Archer, W. H., elec. lt. engr., Hanover-rd.
Baker's Patent Appliances Co., Ltd., Melrose Street Wks.
Holden, F. G., engr., S. Elec. Sup. Co.
Sanderson, C. L., elec. lt. engr., 109, Westborough.
Scarborough Elec. Sup. Co., Ltd., Seamer-rd. Engr., F. G. Holden.
S. Trys. Co. Man., W. E. Nicoll.
Walker & Hutton, elec. engrs., 37, Huntriss-row.
Wells, G. F., elec. lt. engr., Waterhouse-la.

Settle.

Tamblyn-Watts, T. M. F., A.M.I.E.E., elecn., Goldielands.

Shanklin.

I. of Wight Elec. Lt. & Pr. Co. Engr. & man., A. E. Mayes, A.M.I.E.E.

Sheerness.

Hounsell & Sons, inst. contrs., High-st.
Murray & Sons, inst. contrs.
Sheerness & Dis. E. P. & T. Co., Ltd. Engr., A. A. Watkins, A.M.I.E.E.
Sheppey Water & Ltg. Co., Ltd., 4, Edward-st.
Watkins, A. A., A.M.I.E.E., engr., S. & D. Elec. P. & T. Co.

Sheffield.

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Allen, E., & Co., Ltd., tool mfrs.
Anderson, T. S., M.I.E.E., A.M.I.C.E., Roy. Insurance-bldgs.
Ashberry, P., & Sons, Ltd., electro-platers, 21, Bowling-green-st.
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Badger & Sons, Long Croft Wks., Wadsley Bridge.
Baker, C. K., ana. chem., 16, Change Alley.
Bakewell, W., elec. contr., Volt Wks., Worksop-rd.
Beauchamp, J. W., dep. mgr., Corp. E. S. Dept.
Beesley, W. T., & Co., stl., Attercliffe-rd.
Bessemer, H., & Co., Ltd., stl. fdrs.
Brit. Thomson-Houston Co., Ltd., mfg. elec. engrs., 41, Church-st.
Brown Bayley's Steel Works, Ltd., cstgs.
Burnand, W. E., & Co., elec. engrs., Lowfield Wks., Chippinghouse-rd., Heeley.
Cammell Laird & Co., Ltd., steel mfrs., Cyclops Works.

Sheffield—*continued.*

Carr, B., elecn., lect. elec. metall., Tech. Sch.
Chester, J. E., engr., Cen. Sec. School.
Chesterman, J., & Co., gauge mkrs., Bow Wks.
Cockayne, T. B. & W., elec. contrs., Angel-st.
Constantine, C., elec. engr., 90 & 92, Fargate.
Corp. Elec. Supply. S. E. Fedden, engr. & mgr.
Corp. Elec. Trwys. Gen. mgr., A. E. Feanley; chf. engr., H. E. Yerbury, M.I.M.E.
Crapper, E. H., cons. elec. engr., University.
Cravens, Ltd., rly. car. bldrs., Darnall, nr.
Crowley, J., & Co., Ltd., cstgs., Meadow Hll. Wks.
Davy Bros., Ltd., boiler mkrs., Park Iron Wks.
Denner, E., & Co., elec. contrs., West-st.
Dewhursts Eng. Co., Ltd., elec. & mech. engrs., 68, Attercliffe-rd.
Dover, F. W., switch & elec. blocks, 114, Rockingham-st.
Dronfield Casting Co., Dronfield, nr.
Durant, B. & R., elec. contrs. for mine ltg., Chapeltown, nr.
Durham, Churchill & Co., motors, Grimesthorpe.
Eadon, Moses, & Sons, Ltd., tools, President Wks.
Easterbrook, Allcard & Co., mach. tools.
Elecl. Co., Ltd., mfg. elec. engrs., 17, York-st.
Emery, W., & Co., Albion Br. Wks., 167, Arundel-st.
Evans, Jos., & Son, Highfield Tool Wks.
Fedden, S. E., M.I.C.E., M.I.MECH.E., gen. mgr. & engr., Corp. Elec. Sup.
Ferranti, S. Z. de, M.I.E.E., Grindleford Bridge.
Fisher, S., & Co., mal. cstgs., Pelham Works, Mitchell-st.
Flockton, Tompkin & Co., Ltd., Newhall Stl. Wks.
Gallimore, W., & Sons, wire, Arundel Wks.
Gee, L., elec. engr., 102, Albert-rd.
Gorrill, J., wire, Sydney Wks., Sydney-st.
Griffith, W., & Sons, rly. & trwy. springs.
Groves, R., & Sons, Ltd., tools, Beehive Wks.
Hadfield, R. A., M.I.E.E., Parkhead House.
Hadfield's Steel Fdry. Co., Hecla Wks.
Hall, C. E., clutch mfr., Standard Iron Wks.
Hall & Matthews, elec. & mech. engrs., 46 & 80, West-st.
Hallam, G., & Co., Havelock Steel & Wire Mills.
Hansell, F. L., & Co., trm. wheels & axles.
Hardcastle, W. H., batt. jars, 172, Alexandra-rd.
Hartley, J., & Co., Sheaf Stl. Mills, Heeley.
Hattersley & Davidson, elec. contrs., Norfolk-st.
Hawksley, Wild & Co., engrs.
Hawksworth, Eyre & Co., Ltd., lamps, Rockingham-st.
Hibbert, G., ivory, &c., name plts., 69, Arundel-st.
Hicks, W. M., D.SC., F.R.S., phys. prof., University.
Howell & Co., Ltd., tube mkrs.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 28, Angel-st.
Jagger, J. & G., Old Wire Mills, Thurgoland.
Jessop, W., & Sons, Ltd., steel mfrs., Brightside Wks.
Johnson & Appleyards, Ltd., elec. engrs., Fargate & Leopold-st.
Johnson, Wm., & Co., elecns., 49, Leopold-st.
Jonas & Colver, Ltd., mag. stl., Cont. Stl. Wks.
Kenyon, J., & Co., stl. mfrs., Millsands.

Sheffield—*continued.*

Latch & Batchelor, Ltd., stl. mkrs., Avon Steel Wks.
Leahy, A. H., M.A., prof. math., University Coll.
Lee, Arthur, & Sons, Ltd., stl. & wire, Crown Steel & Wire Mills.
London & Provincial Patent Agency, 15, St. James'-row.
Lucas, E., & Son, iron fdrs., Dronfield Fdry.
Makin & Co., Ltd., elec. engrs., 23 & 25, Division-st.
Meadows, C., & Co., Ltd., steel mfrs.
Midland Mfg. Co., Ltd., lathes & tools.
Nash, T., & Son, cons. engrs., Testing Wks.
Nat. Telephone Co., Ltd., Commercial-st.
North, W., gears, &c., St. Mary's-rd., & Rodley-la.
Osborn, S., & Co., Ltd., Clyde Steel Wks.
Premier Engineering Co., elec. & mech. engrs., St. Mary's-rd.
Sainsbury, A. W., elec. engr., 89, Arundel-st.
Sampson, T. W., A.M.I.E.E., elec. engr., 18, Bute-st.
Saville, J. J., & Co., Ltd., stl. cstgs., Triumph Wks.
Shaw, H., & Son, magnet, 45/47, Monmouth-st.
Sheffield Nickel & Silver Plating Co., Globe Wks., Penistone-rd.
Sheffield Patent Office, Rectory-chbrs., 24, Norfolk-row.
Sheffield Wire Co., wire, Arundel-st.
Shipman, J., & Co., Attercliffe Stl. Wire Wks.
Skidmore, Wm., & Co., Ltd., elec. mach., 59, Cemetery-rd.
Spir, A., elec. sup. dlrs., 416, Ecclesall-rd.
Stone, A. F., & Son, mfg. elecns., 130, Hanover-st.
Stuart, K. R., mgr. Elecl. Co., Ltd., 17, York-st.
Tasker, Sons & Co., Ltd., elec. contrs., Angel-st.
Tasker's Engineering Co., Ltd., 59 & 61, Blonk-st.
Tempered Spring Co., Ltd.
Turton Bros. & Matthews, Ltd., tool steel mfrs.
University. *See* SCHOOLS, &c.
Vickers, T., C.E., cons. trm. engr., 10, Montgomery Mt., Nether Edge.
Vickers Sons & Maxim, Ltd., elec. mfrs., River Don Wks.
Wall, G. P., steel wire mfr., Magneto Wks.
Walsh, J., Ltd., install. contrs.
Ward, T. W., Ltd., metal & machy., Albion Wks.
Waterfall, H. & R., & Barber, engrs., Bailey-la.
Wholesale Traders' Assocn. for protec. & prom. of Hardware, Furn. & Metal Industries, Ltd., 3, East Parade.
Wild, A. M., tools, Castle-chbrs., 13, High-st.
Williamson, A. D., M.I.E.E., River Don Wks.
Wingfield, Rowbotham & Co., 1, Suffolk-rd.
Wood & Crawford, mech. & elec. engrs., Alma Wks.
Woodhouse & Rixson, Chantrey Stl. Wks., Attercliffe.
Wordsworth, G., & Sons, New Wire-ml., Thurgold.
Worrall, Hallam & Co., Needle Wks., Warren-st.
Yerbury, H. E., A.M.I.E.E., chf. elec. engr., Corp. Trwys.

Shepton Mallett.

Byrt, A., jun., elec. supplies, 47, High-st.

North Shields.

Haggie, R. Hood, & Son, Ltd., wire rope, 29, Clive-st.
Northern Elec. Eng. & Plat. Co., Ltd., Borough-rd.
Turnbull, C., boro' elec. engr., County Boro' of Tynemouth Corp. Elec. Wks.
Tynemouth Corp. Elec. Wks., Tanners Bank. Engr., C. Turnbull, A.M.I.E.E.

South Shields.

Cawthra, J. H., M.I.E.E., A.M.I.MECH.E., boro' elec. engr.
Corp. Elec. Wks. Engr., J. H. Cawthra, M.I.E.E., A.M.I.M.E.
Cubey, T. H., wiring contr., Queen-st.
Dagleas, J. T., elec. contr., Burrow-st.
Dagleas & Sons, wiring contrs., Fowler-st.
Henderson & Bonham, wiring contrs., Cuthbert-st.
Mica Lubricant Co., Albany-chbrs., 63, King-st.
Oates, T., wiring contr., Charlotte-ter.
Parmley Bros., wiring contrs., Keppel-st.
Revel, F., & Co., inst. contrs., King-st.
Surtees, E., wiring contrs., 64, King-st.
Wares, A. J., & Co., elec. engrs., King-st.

Shifnal.

Lilleshall Co., Ltd., mkrs. of cable iron, &c.

Shildon.

Heron, T., engr., North. Cos. Elecy. Sup. Co., Ltd.
Northern Cos. Elecy. Sup. Co., Ltd. Engr., T. Heron.

Shipley.

Cundall, R., & Sons, Ltd., oil & gas eng. mkrs.
Parkinson, J., & Son, engrs. & tool mkrs., Canal-rd.
Robson, J., gas eng. mkr., Ives-st.
Schofield, S. D., M.I.E.E., A.M.I.MECH.E., elec. engr., U.D.C. Elec. Wks.
Sowden, D., & Sons, mfrs. of boxes & feeder pillars.
U.D.C. Elec. Wks. Engr., S. D. Schofield, M.I.E.E., A.M.I.MECH.E.

Shrewsbury.

Altree Bros., ironmgrs. & elecns., Castle-st.
Corp. Elecy. Sup. Wks. C. M. Johnston, M.I.E.E., M.I.MECH.E., cons. engr., Coton House.
Dickins-Lewis, A., elec. engr.
Johnston, C. M., M.I.E.E., M.I.MECH.E., boro' elec. & cons. engr. & mgr., Corp. Elec. Wks.
Lea, F. J., cons. elec. engr., Silverdale, The Mount.
Lea, Son & Co., elec. engrs., Pengwerne Wks.
Midland Railway Carriage & Wagon Co., Ltd., Abbey Wks.
Morris & Co., elec. engr.
Smallwood, G. H., & Co., elec. engrs., 10, Milk-st.

Sidmouth.

Lake, A., elec. bell ftr., Old Fore-st.
Strudwick, C., elec. engr. & contr.

Sittingbourne.

Hooker, G., elecn., High-st.
Seager, L., elec. lt. contr., London-rd.

Sleaford.

Hooton, W. M., elec. ltg. contr., Southgate.
U.D.C. Elec. Wks. W. H. Wilson, engr.
Wilson, W. H., engr. & mgr., Elecy. Wks.

Slough.

Consolidated Eng. Co., clutch mfrs.
Farrow, A. E., A.M.I.E.E., engr., S. & Datchet Elec. Sup. Co., Ltd.
Hampshire, J. H., chf. asst. engr., S. & Datchet Elec. Sup. Co., Ltd.
S. & Datchet Elec. Sup. Co., Ltd. Engr., A. E. Farrow, A.M.I.E.E.

Southall.

Houlder, W., Son & Co., acid mfrs.

Southampton.

Ashstone & Shepstone, inst. contrs., 183 & 185, Above Bar.
Brierley, J., boro' analyst, Municipal Offices.
Collis & Co., engrs., West Quay Iron Wks.
Corp. Elec. Sup. & Trwys. H. F. Street, engr.
Davis, T., elec. engr., A.M.I.E.E., Oaklands, Hill-la.
Fay, J. G., & Co., Ld., elec. lt. eng., 89/90, High-st.
Hartley University College. *See* SCHOOLS, &c.
Howe, W., dis. mgr., Nat. Teleph. Co., Ltd., Telephone-bldgs.
Lankester & Son, Ltd., elec. lt. engrs., High-st.
Shalders & Davis, elec. engrs., 17, High-st.
Smethurst & Co., inst. contrs., 16, Bernard-st.
Stewart, R. W., D.SC., prin. Hartley Coll.
Street, H. F., boro' elec. engr. & trys. mgr.
Taplin, H. C., elec. lt. ftr., 105, Clifford-st.
Vivian, G., elec. engr., Oxford-st.
Wells, A. T., & Co., elec. engrs., 95, High-st.
Wheeler, H., Son & Coombs, Eastleigh Saw Ml.
Wishart, E., inst. contr., 29, South Front.

Southend-on-Sea.

Birkett, R., A.I.E.E., engr., Corp.
Chapple, T., elec. engr., St. Leonards-rd.
Croxson, E. G., elec. engr., Vulcan Wks.
Norton, C. R., engr., Pier Elec. Rly.
S. Elec. Eng. Co., Weston-rd.
S.-on-S. & Dis. Light Rlys. & Elec. Wks. Engr., R. Birkett, A.I.E.E.

Southport.

Ault, R. A., elec. engr., 73, Talbot-st.
Bastick, J., elec. & mech. engr., 40, Chestnut-st.

Southport—*continued.*

Corp. Elec. Supply & Trams. Engr., R. S. Downe.
Defiance Motor, Cycle & Elec. Co., 86, Bispham-rd.
Downe, R. S., M.I.E.E., boro' elec. engr.
Forbes, F. E., elec., mech. & motor car engr., 16, Chestnut-st.
Harford, G. J., elec. engr., 92, Liverpool-rd., Birkdale.
Lloyd, J., mgr. Southport Trwys. Co.
McLellan, John, A.M.I.E.E., 63, Forest-rd.
Maund, A., elec. lt. & pr. engr., 13, Corporation-st.
Parkes, R. J., medical elecn., 2, Church-st.
Robson, A. S., elec. lt. ftgs., 177, Lord-st.
S. Elec. Ltg. Co., elec. engrs. & contrs., 2, Bold-st.
S. Trwys. Co. Mgr., J. Lloyd.
Virginia Elec. Co., elec. engrs., 10A, Virginia-st.

Southsea.

Alford, E. J., elecn., 1, Mortlake-ter., Victoria-rd. North.
Bowerman Bros., elec. lt., 35, Osborne-rd.
Grossmith & Co., elec. engrs.
Hamilton, C. K., elec. engr., Trafford Villa, Wilberforce-rd.
Rastrick & Son, Ltd., elecns., King's-ter.
Southey, Ltd., elec. engrs., 43, King's-rd.
Yelf & Son, elecns., 64, King-st.

Southwold, Suffolk.

S. Elecy. Supply. F. R. Hunter, res. engr.

Sowerby Bridge.

Berry, F., & Sons, engrs'. tool mkrs.
Pollit & Wigzell, Ltd., mech. engrs.
Rushworth & Co., engrs'. tool mkrs.
Washington & Co., Ltd., elec. & mech. engrs.

Spennymoor.

Clark, R., & Co., engrs. & elecns., 22, Cheapside.
N. Cos. Elec. Sup. Co. Engr., C. W. Fairweather; res. engr., E. Manthorpe.

Spilsby.

Spence, J. K., mfg. elec. engr., High-st.

Stafford.

Corp. Elec. Wks. H. Pooley, A.M.I.C.E., engr.
Dorman, G. E., elec. engr., Foregate-st.
Hird, F., B.A., M.I.E.E., Brocton, nr.
Lea, Son & Co., elec. engrs., St. Mary's Walk.
Meade, R. E., elecn., Corp. E. L. Wks.
Pooley, H., engr. & mgr., Corp. Gas & Elec. Dept.
Rooper, W. O., & Co., stor. batt., Victoria Wks.

Staines.

Johnson & Sharp, elec. engrs., High-st.
Wood, H. M., elec. engr., High-st.

Stalybridge.

Blackmore, R., res. engr., S., Hyde, Mossley & D. Trm. & Elec. Brd., Town Hall.
Carter, J., & Sons, fuel economizers, Atlas Wks., Robinson-st.
Goodbrand & Co., fuel economisers, Clarence-st.
Illingworth, T. H. & W. R., dr. band mfrs., Ridge-hill-lane.
S., Hyde, Mossley & Dukinfield Tram. & Elec. Board. Res. engr., R. Blackmore.

Stamford.

Cutting Bros., Ltd., elec. engrs., Park Wks.
U. Elec. Sup. Co. Engr., J. E. Edmundson.

Stevenage.

Syrinx Gas Engine Co., Ltd.

Stirling.

Corp. Elec. Wks. Engr., A. C. Hanson.
Duff, H. J., wiring contr., Dumbarton-rd.
Graham & Morton, elec. lt. engrs. & contrs., King-st.
Hanson, A. C., engr., Corp. Elecy. Wks.
Lockhart & Macnab, elec. engrs., 34–38, Craigs.
Marshall, W. & T., wiring contrs., 16, Dumbarton-rd.
Scott, J., wiring contr., 128, Main-st.
Steel, J., wiring contr., 22, Murray-pl.

Stockport.

Bamford, G., elec. engr., 266, Wellington-rd., South.
Corp. Elec. Trams. Mgr., A. T. Eardley.
Fildes & Barlow, elec. engrs., Howard-st.
Fletcher, J. W., A.M.I.C.E., M.I.E.E., Homestead.
Furnival & Co., Ltd., gas eng., Reddish Iron Wks.
Gould, T., chem. mfr., Chestergate.
Lomax, R., elec. engr., Corp. Elec. Wks., Millgate.
Lund, Edward, elec. pumps, Harriett-st., New-bridge-la.
McCandlish, A., elec. engr., Bredbury, nr.
McClure & Whitfield, dyn. mfrs.
Richardson, C., A.M.I.E.E., Romily, nr.
Shaw, W. A., & Co., elec. lt., 10/16, Warren-st.
Taylor, E., elec. bell ftr., 68, Heaton-la.
Wilson, H., elec. engr., 1A, Heaton-la.

Stockton-on-Tees.

Baker Bros., wiring contrs., Yarm-la.
Corp. Elec. Wks. Engr., J. J. Smith.
Head, Wrightson & Co., Ltd., gen. engrs., &c.
Hind & Son, elec. lt. engrs.
Pickerings, Ltd., elec. lifts, &c.
Smith, J. J., boro' elec. engr.
Watson, T. B., & Sons, wir. contrs., Bishopton-la.

Stoke-on-Trent.

Corp. Elec. Wks. Engr., P. J. S. Tiddeman, M.I.E.E.
Cowlishaw, Walker & Co., Ltd., clutches, Etruria.
Coxon, J., elec. engr., High-st., Cheadle.
Kirkhams, battery jar mfr., London-rd.
Lewis, H. A., A.M.I.E.E., Elec. Dept., N. Staffs. Rly.
Potteries Elec. Trac. Co. Man., J. J. Walklate.
Rly. Teleg. Sup. & Engrs'. Conference.
Renshaw, W. R., & Co., Ltd., boilers.
Saxon Eng. Co., Ltd., engrs., Fenton.
Tiddeman, P. J. S., M.I.E.E., boro' elec. engr.
Williamson, J. H., refiner, Golden-hill, Fenton.

Stony Stratford.

Hayes, E., elec. lt. engr.

Stourbridge.

Haskew, F., cons. engr., High-st.

Stowmarket.

East Anglian Eng. Co., Ltd.
Gooding, H., & Son, electrical engineers.
Plummer, F. S., elec. l. & bell ftr., Ipswich-st.
Prentice, Napier, A.I.E.E., cons. engr.
Stannard & Co., elec. engrs.
Suffolk Elec. Sup. Co., Ltd. Engr., N. Prentice.
Webb & Son, lther. dr. bnd., Combs Tannery.

Stratford-on-Avon.

Spenser & Co., elec. engrs.
S.-on-Avon Elec. Co., Ltd. Engr., C. D. Falcke.

Stretford.

U.D.C. Elec. Wks. Engr., R. Rowland, A.M.I.E.E.

Stroud.

Avens, F., & Co., oil & gas eng., Trusty Engine Wks.
Bailey, S. G., & Co., Ltd., mang., Stafford Mills.
Dudbridge Iron Wks., Ltd., gas & oil eng.
Sampson & Co., Ltd., Patent Belt Wks.

Sunderland.

Allison, H., engr., Sheepfolds.
Armstrong, Addison & Co., creosoted poles.
Arnison, G. N., & Sons, wiring contrs., 42, Borough-rd.
Bainbridge, Geo., elec. work, Vine-pl.
Blackman, A., M.I.E.E., boro' elec. engr.
Brantingham Bros., elec. engrs., 3, Toward-rd.
Bright, R., jun., wiring contr., 5, Dinsdale-rd., Roker.
Corp. Elec. Dept. & Trams. A. Blackman, M.I.E.E., chief engr.; E. White, A.M.I.E.E., station supt. engr.; J. F. Moore, A.M.I.M.E., dist. engr.
Davie, H. A., Ltd., engrs., Holmside.
Doxford, C. H., elec. ltg. contr., High-st. West.
Electric & General Stores Co., 16, Bridge-st.

Sunderland—*continued.*

McGeoch, Wm., & Co., Ltd., elec. ftgs.
Moore, J. F., mains supt., Corp. Elec. Wks.
National Telephone Co., Arcade-chbrs.
Reed, C. H., & Co., forgings, Trimdon-st.
Reid, F., Ferens & Co., elec. engrs., 22, John-st.
Stoddart, J. G., wiring contr., Green-st.
Sunderland Forge & Engineering Co., Ltd.
Taylor, D., wiring contr., 4, Athenæum-st.
Tully, A., 48, North Bridge-st.
White, E., supt. engr., Dunning-st. E. L. Sta.
White Bros., elec. engrs., 12, Holmside, Borough-rd.
Wight, H. D., elec. engr., 1, Park-ter., Roker.
Wilkinson, J. B., wiring contr., Bedford-st.

Surbiton.

Gill, H. M., engr. & mgr., U.D.C. Elecy. Wks.
Guilford & Co., Ltd., elec. engrs. & elec. bell ftrs., 78 & 79, Victoria-rd.
U.D.C. Elecy. Wks. H. M. Gill, res. engr.

Sutton, Surrey.

Baker & Co., elec. engrs., Mulgrave-rd.
Newbald, E., & Co., elec. engrs., Court-rd., High-st.
Palmer, C., elec. engr., Cheam-rd.
S. Met. Elec. Trwys. & Ltg. Co., Ltd. Gen. mgr. G. Ratcliffe Hulme; engr., C. W. Durnford.
Webb, G. S., electric bell fitter, 148, High-st.

Sutton Coldfield.

Clive & Co., elec. engrs., Mill-st.
Corp. Elec. Wks. T. Duesbury, engr.
Duesbury, T., engr. & mgr., Corp. Elecy. Wks.

Swansea.

Blake, A. W., A.M.I.E.E., Mills, English & Co.
Brown, J. S., elec. engr., 21, 22 & 62, Oxford-st.
Corp. Elec. Supply. C. A. L. Prusmann, M.I.E.E., A.M.I.M.E.
Cryselco, Ltd., incand. lmp. mfrs., 63, Wind-st.
Evans, T. A., & Co., elec. engr., Heathfield-st.
Furneaux, A. L., elec. engr. & contr., 10, York-st.
Gauntlett, W. E., dis. mgr. Nat. Teleph. Co., Ltd.
Johnston, A., engr., S. Imp. & Trwys. Co.
Jones, S. M., elec. engr., 63, Wind-st.
Legg, J., & Sons, teleph. contrs., Nelson-st.
Matthews, R. B., WH.EX., A.M.I.C.E., con. elec. engr., 9, Cambrian-pl.
Mills, English & Co., Ltd., elec. engrs., Wind-st.
National Telephone Co., 66, Wind-st.
Nener, E., elec. engr., Dillwyn-st.
Prusmann, C. A. L., M.I.E.E., A.M.I.M.E., engr., Corp. Elec. Sup. Dept.
Rees & Co., elec. engrs. & contrs.
Sinclair, A., A.M.I.C.E., M.I.E.E., Hafod Wks.
Smart, C., A.M.I.E.E., elec. engr., 27, Mirador-cres.
Swansea Improvements & Trwys. Co. Engr., A. Johnston.
Swansea Safety Fuse Co., Ltd., Swansea.

Swansea—*continued.*

Symons, P., & Sons, elec. ltg. contrs., Oxford-st.
Vivian & Sons, Hafod Copper Wks.
Watkins, —, elec. engr., Portland-st.
Williams, Foster & Co., & Pascoe Grenfell & Sons, Ltd.
Williams & Michell, copper merchs., 7 & 8 Cross-st.

Swindon.

Corp. Elec. Wks. & Trams. Engr., R. W. Grubb, *pro tem.*
Ferris, S., inst. contr., 12, Wellington-st.
Howell, L., wiring contr., 10, Victoria-rd.
Rye & Co., wiring contrs., Faringdon-st.
Saunders, J. B., & Co., elec. engrs.
Swindon & N. Wilts Tech. School.

Swinton.

South Yorks. Glass Bottle Co., mfrs. batt. jars.

Tadcaster.

T. Elecy. Co.

Tarporley.

Cowap, G. F., elecn. & engr.

Taunton.

Allen, C., & Son, mech. engrs., Tone Eng. Wks.
Beach, James, & Sons, dyn. mkrs., St. James'-st.
Corp. Elec. Wks., St. James'-st. E. B. Thornhill, A.M.I.E.E., engr.
Easton & Bessemer, engrs., Whitehall Iron Wks.
Haynes, F. T. J., M.I.E.E.
Kelsey, W. R., cons. engr., Mun. Tech. Inst.
Newtons Ltd., mfg. elec. engrs.
Stansell & Son, elec. engrs., East-st. & Billett-st.
Thornhill, E. B., A.M.I.E.E., boro' elec. engr., St. James'-st.
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British Columbia Electric Railway Co., Ltd., Vancouver, B.C., Canada (Telegs.: "Lassant, Vancouver." Teleph. No. 290); & Victoria & New Westminster, B.C. Engineer, R. H. Sperling.
British Columbia Electrical Construction Co., electrical engineers, 433, Homer-st., Vancouver, B.C., Canada. (Teleph. No. B. 1131.)
British Columbia Power & Manufacturing Co., electric power contractors, Atlin, B.C., Canada.
British Columbia Telephone Co., Ltd., engineers & contractors; head office, Vancouver, B.C.; & Victoria Exchange, Victoria, B.C., Canada.
British Engineering Co. of Egypt, Ltd., mechanical & electrical engineers, rue de la Gare du Caire, Alexandria; & Cairo.
British General Electric Co., Ltd., cor. Loveday & Anderson-st. (P.O. Box 2406), Johannesburg. (Telegs.: "Current, Johannesburg." Teleph. No. 479.)
British General Electric Co., Ltd., cor. of Waterkant & Chiappini-sts., Cape Town. W. B. Phelp, manager.
British Insulated & Helsby Cables, Ltd., 493–495, Collins-st., Melbourne. (H. Clement Newton, A.M.I.E.E., engineer & manager for Australasia.) (Telegs.: "Insulator, Melbourne." Teleph. No. 2215.)
British Insulated & Helsby Cables, Ltd., Wm. Adams & Co., sole agent for Australia, 163, Clarence-st., Sydney.
British Westinghouse Electric & Manufacturing Co., Ltd., London. Agents: Noyes Bros., 109, Pitt-st., Sydney, N.S.W.
Brittain, Arthur, importer of electrical & general machinery, Auckland, N.Z. (Telegs.: "Briton, Auckland.")
Broadbent, A. D., A.M.I.E.E., chief assistant, Electricity Department, Perth Gas Co., Ltd., Perth, Western Australia.
Broadbent, Herbert, M.I.E.E., electrical engineer, Electricity Department, Perth Gas Co., Ltd., Perth, Western Australia.
Brochler, A., electrician, La Concession Française, Shanghai.
Brockville Corporation Electricity Works, Brockville, Ont., Canada. Engineer, J. W. Easton.
Broëns & Hoesli, electrical engineers, Chareh Dubray, 2, Tewfikich, Cairo.
Broken Hill Council Electric Light & Power Station, P.O. Box 58, Broken Hill, N.S.W. F. J. Mars, engineer in charge & manager. (Telephone No. 300.)
Brome Lake Electric Power Co., Waterloo, Que., Canada.
Brooks, H., electrical engineer, c/o Allen & Irving, Penang, Straits Settlements.
Brooks, T., elec. engineer, Electrical Engineer's Branch, Railway Dept., 51, Phillip-st., Sydney, N.S.W.
Brooksbank, Arthur, A.I.E.E., Aurora, Ont., Canada.
Broomhall, C., electrical engineer, Rotorua, N.Z.
Broomhead, J. W., electrical engineer, 53, Weston-rd., Balmain, N.S.W. (Teleph. No. 99.)
Brou, Nöel, Inspecteur Général des postes et télégraphes, Hanoi, Tong King.
Brousseaux & Freres, installation contractors, 318, St. Paul-st., Quebec, Canada.
Brown, A., engineer, Electricity Works, Wallaroo Mines, South Australia.
Brown, A. C., Amherstburgh Electric Light, Heat & Power Co., Amherstburgh, Ont., Canada.
Brown, A. E., A.I.E.E., Auckland Electric Tramways Power Department, Auckland, NZ.
Brown, D. W., electrician, Calgary Water Power Co., Calgary, Alberta, Canada.
Brown, Ernest, A.I.E.E., Engineering Laboratories, McGill University, Montreal.
Brown, H. A., electrician, St. John Railway Co., St. John, N.B., Canada.
Brown, J. E., electrical engineer, Consumers' Electric Co., Ottawa, Canada.
Brown, Jas., engineer, Corporation Electricity Works, Kenora, Ont., Canada.
Brown, James, representative & agent, 121, Bathurst-st., Sydney, N.S.W.
Brown, J. Fiddes, M.I.E.E., M.I.MECH.E., engineer, Buenos Ayres & Lacroze Tramways Co., Buenos Ayres; & 24, Morella-rd., Wandsworth Common, London, S.W.
Brown, Lester, electrician, The Kent Electric Co., Ltd., Richibucto, N.B., Canada.
Brown, Prof. F. D., M.A., B.SC., lecturer on electricity, Auckland University College, Auckland, N.Z.
Brown, S. W., A.AM.I.E.E., Vancouver Power Co., Lake Beautiful, Vancouver, B.C., Canada.
Brown, T., chief engineer, Sydney Ferries, Circular Quay, Sydney, N.S.W.
Brown, V. A., sub-manager, Buenos Aires Grand National Tramway Co.; La Capital Tramway Co.; & Metropolitan Tramway Co., Avenida de Mayo 761, Buenos Aires.

Brown, Walter C., A.M.I.E.E., New Primrose Gold Mining Co., Germiston, South Africa.
Brown, G. J., & Co., dealers in electrical supplies, 33-36, Eastern Market, Melbourne, Victoria.
Brown, McKenzie & Symes, machinery agents, P.O. Box 491, Johannesburg, Transvaal. (Telegrams: "Thrifty, Johannesburg.")
Brown, W. P., Ltd., dealers in electrical supplies, Loveday-st., Johannesburg.
Browne, R. J., M.I.E.E., electrician, c/o Grindlay & Co., Calcutta, India.
Browning, W. W., A.I.E.E., Eastern Extension Telegraph Co., Perth, Western Australia.
Bruce, W. Forbes, A.M.I.E.E., New Club, Johannesburg.
Bruel & McLellan, electrical engineers, Bree-st., Cape Town, South Africa.
Brühl, Paul, M.I.E.E., Engineering College, Sibpur, nr. Calcutta, India.
Brush Electrical Engineering Co., Ltd. (manager, O. Haes, M.I.E.E.), 56, Margaret-st., Wynyard-sq., Sydney, N.S.W. (Telegrams: "Duplex, Sydney." Telephone No. 507); 32, Market-st., Melbourne, Victoria; & Canada-bldg., Hornby-rd., Fort, Bombay.
Bryan, P., inspector of lines, Government Telegraph & Telephone Service, Launceston, Tasmania.
Bryan, Landon Co., mechanical electrical engineers & general contractors, Manila & Cebu, Philippine Islands. (Telegs.: "Ypil," Manila & Cebu. Western Union, A.B.C., 4th edition, A1, Lieber's & Steven's Engineering Codes.)
Buchanan, W. S., station manager, Central & South American Telegraph Co., Salinacruz, Oaxa, Mexico.
Buchanan, Forsyth & Co., dealers in electrical supplies, Johannesburg, Transvaal.
Buck, H. W., electrical engineer, Canadian Niagara Power Co., Niagara Falls, Ont., Canada.
Bucke, W. A., A.AM.I.E.E, agent, Canadian General Electric Co., 14, King-st. East, Toronto, Ontario, Canada.
Buckell, C. P., A.I.E.E., superintendent of Government telegraphs, & superintendent of the Telephone Exchange, Penang, Straits Settlements.
Buckingham, A. O., electrical engineer, Electric Lighting & Traction Co., of Australia, Green-st., Richmond, Melbourne.
Buckingham Electric Light Co., Buckingham, Quebec. (Telephone No. 11.) Electrician, J. McGarvey.
Buckley, Timothy, electrical engineer, Elizabeth-st., Wellington, N.Z.
Buckly, A., engineer, Electricity Works, Waterloo, Ont., Canada.
Buddo, Geo., & Co., installation contractors, Montreal, Que.
Buenaño, J. S., manager, Peruvian Telephone Co., Lima.
Buenos Ayres & Belgrano Electric Tramways Co., Ltd., 4178, Santa Fé, Buenos Ayres.
Buenos Ayres Electric Tramways Co., Ltd., Rivera 121, Buenos Ayres.
Buenos Ayres Grand National Tramways Co., Ltd., Avenida Mayo 761, Buenos Ayres. (Telegrams: "Roulage, Buenos Aires.")
Buenos Aires Southern Tramway Co., Buenos Aires.
Buhagiar, N., engineer & manager, Malta Railway, Malta.
Building, Engineering & Mining Journal (weekly), Sun-bldg., Queen-st., Melbourne, Victoria; Post Office-chambers, Pitt-st., Sydney; & Adelaide, Brisbane, & Hobart. (Ann. sub., 26s.)
Bulawayo Waterworks Co., Ltd., electric light supply, Bulawayo, Rhodesia. (Telegrams: "Electric, Bulawayo." Telephone Nos.: Works, 134; Office, 45. P.O. Box 220.) Engineer & manager, F. Liversedge Lister, A.M.I.C.E. & E.E.
Bulkley, J. Norman, M.I.E.E., chief engineer, United Engineering Co., Ltd., P.O. Box 1082, Johannesburg, Transvaal. (Telegs.: "Armature, Johannesburg.")
Bull, E. W., engineer, Corporation Electricity Works, Regina, Saskatchewan, Canada.
Bull, Leslie H., electrical engineer, Cobden, N.Z.
Bullivants Australian Co., Ltd., wire ropes, 331, Kent-st., Sydney, N.S.W. (Manager, H. E. Farmer.)
Bulloch Bros. & Co., Ltd., engineers & iron founders, Rangoon, Burma. (Telegrams: "Bulloch, Rangoon.")
Bullock, H. J., A.I.E.E., electrical engineer, St. Helens, Prospect, Adelaide, South Australia.
Bullock & Fulton, agents for Ganz & Co. of Buda-Pesth, Hindmarsh-sq., Adelaide, South Australia.
Bulmer, H. E. P., electrical contractor, 4230, St. Catherine-st., Montreal, Que., Canada. (Teleph. No. 487, Westmount.)
Bulter, C., engineer, Carman Electric Light & Power Co., Ltd., Carman, Man., Canada.
Bunbury Electric Light & Power Co., Bunbury, Western Australia. A. Williamson, electrical engineer.
Bundaberg Foundry Co., Ltd., Bundaberg, Queensland.
Burbank, Percy, electrical engineer, Peruvian Telephone Co., Lima, Peru. (Telegs.: "Burbank, Lima.")
Burgess, A. E. C., A.I.E.E., electric inspector, Fire Underwriters Association of N.S.W., Bridge-st., Sydney, N.S.W.
Burgess, C. S., patent attorney, National Mutual-bldgs., King William-st., Adelaide, South Australia. (Telegs.: "Attorney, Adelaide.")
Burgess, E. H., A.I.E.E., electrical engineer, Burgess Bros., Hobart, Tasmania.
Burks Falls Water, Light & Power Co., Burks Falls, Ont., Canada. Electrician, W. Knight.
Burlingham, G., assistant superintendent, 4th grade, Indian Telegraph Department, Rawulpindi, India.
Burma Electric Traction & Lighting Co., Ltd., Mandalay, Burma. Manager & engineer, R. L. Griffin.

Burman, E. S., consulting engineer, 59, William-st., Melbourne.

Burn & Co., Ltd., civil, mechanical & electrical engineers. Head office: 7, Hastings-st., Calcutta. Iron Works: Howrah. Home agents: John Spencer, 121, West George-st., Glasgow, & T. F. Craddock, 7, East India-ave., Leadenhall-st., London, E.C.

Burne, Oldbury, A.I.E.E., superintendent, 1st grade, Indian Telegraph Department, Calcutta.

Burnett, Henry D., superintendent Incandescent Lamp Works, Canadian General Electric Co., Peterborough, Ont., Canada.

Burnett, J. A., A.AM.I.E.E., electrical engineer, Montreal Light, Heat & Power Co., N.Y. Life Insurance-bldg., Montreal. (Telephone No. 4040, Main.)

Burns, John A., mechanical & electrical engineer, Munderloh & Co., Montreal.

Burns, J. W., engineer, Oshawa Railway Co., Oshawa, Ont., Canada.

Burns, P. H., superintendent of telegraphs, Nassau, Bahamas, West Indies.

Burns & Twigg, engineers & boiler makers, Rockhampton, Queensland.

Burran, Lewis, electrical engineer, Quebec Railway, Light & Power Co., Quebec.

Burridge & Cooper, manufacturers' agents, 152, Henry-ave., Winnipeg, Canada.

Burson, H. A., A.AM.I.E.E., electrical engineer, Canadian Bullock Electric Mfg. Co., Montreal, Canada.

Burt, A. & T., dredging, mining, electrical & general engineers, Stuart-st., Dunedin, N.Z. (Telegrams: "Burt"); & Auckland, Wellington, Christchurch & Invercargill, N.Z.

Buschmann & Cia., patent & trade mark registration agents, 16, rua General Camara, Rio de Janeiro, Brazil.

Butcher, F., electrician-in-charge, Municipal Electricity Works, Midland Junction, Western Australia.

Butt, T. P. E., M.I.E.E., M.I.MIN.E., Randfontein Estates, Ltd., Randfontein, Transvaal.

Buxton, Cassini & Co., electrical engineers & contractors, calle Cuyo 462, Buenos Ayres. (Telegrams: "Cassilite, Buenos Ayres.") Agents for W. T. Henley's Telegraph Works Co., Ltd.

Byers, F. W., engineer, Nanaimo Electric Light, Heat & Power Co., Nanaimo, B.C., Canada.

Byington & Co., electrical engineers, No. 4, rua do Commercio, S. Paulo, Brazil.

Bytton, A. S., engineer, Electricity Works, Iquitos, Peru.

Cable, Wm , & Co., marine engineers, &c., Waterloo-quay, Wellington, N.Z.

Cadman, Claude Greener, A.M.I.E.E., Railway Offices, Taiping, Perak, Straits Settlements.

Cadogan, A. L., engineer-in-chief, Hillgrove & Armidale Electricity Co., Ltd., Hillgrove, Australia.

Cahoon, D. G., assistant manager, Oriental Telephone & Electric Co., Ltd., Rangoon, Burma.

Cahoon, J., local manager Oriental Telephone & Electric Co., Ltd., Moulmein, Burma.

Cairncross & Zillen, dealers in electrical supplies, 155, Church-st., Pretoria, Transvaal.

Cairo Electric Light Station, Cairo, Egypt.

Cairo Electric Tramway Co., Cairo, Egypt.

Cairo Metropolitan Electric Railway & Heliopolis Oasis Co., Cairo, Egypt.

Calastremé, J. C., M.I.MECH.E., A.M.I.E.E., consulting engineer, 586, ave. de Mayo, Buenos Ayres.

Calcutta Electric Supply Corp., Ltd., Calcutta, India. (Telegrams: "Penelope, Calcutta.") Engineer, S. G. L. Eustace, A.M.I.E.E.

Calcutta Local Section of the Institution of Electrical Engineers. Chairman, The Very Rev. Father E. Lafont, S.J., C.I.E.; hon. secretary, M. G. Simpson, Electrician's Office, Government Telegraph Department, Alipore, Calcutta.

Calcutta Tramways Co., Ltd., Calcutta, India. Manager, M. Wells.

Calcutta University, Calcutta, India. *See* SCHOOLS.

Calderon & Sellick, electrical engineers & contractors, c/o Banco del Peru et Londres, Lima, Peru.

Calgary Corporation Electricity Works, Calgary, Alberta, Canada. Engr., J. F. McColl; elecn., E. L. White.

Calgary Municipal Electricity Works, Calgary, Alberta, Canada.

Calgary Water Power Co., Ltd., electric light contractors, Calgary, Alberta, N.W. Territory. Engineer, Th. Strome; electrician, D. W. Brown.

Callaghan, H. J., mechanical & electrical engineer in charge of power station, First Allahabad Division, P.W.D., 12, Albert-rd., Allahabad, India.

Callahan, B., engineer, Charlottetown Light & Power Co., Charlottetown, P.E.I, Canada.

Callender's Cable & Construction Co., Ltd. Agents: Messrs. Noyes Bros., 109, Pitt-st., Sydney, New South Wales.

Calvert, R. C. M., assistant chief electrical engineer to the Government of Mysore, Bangalore, India.

Camaguay Electric Co., Ltd., Halifax, N.S., Canada.

Camargo, J. A. de, resident engineer, Cia. Paulista de Electricidade, Franca, Brazil.

Cambie, H. J., C.E., special assistant engineer, C. P. R., 1030, Georgia-st., Vancouver, B.C.

Cambridge, F. A , city electrician, Winnipeg, Man., Canada.

Cameron, Allan, manager, Newcastle Electric Works, P.O. Box 91, Newcastle, Natal.

Cameron, P. H., & Co., electricians & engineers, 109, Pitt-st., Sydney, N.S.W. (Teleph. No. 3039.)

Cameron & Sutherland, machinery merchants, 20–26, Queen's Bridge-st., Melbourne (Telegs.: "Expansion, Melbourne." Teleph. No. 3438); & at Ballarat, Bendigo & Sydney.

Camp, W. J., electrical engineer, Canadian Pacific Railway Co.'s Telegraph, Montreal, Canada.

Campbell, F. A., M.C.E., director of Working Men's College, Latrobe-st., Melbourne, Victoria. (Telephone No. 828.)

Campbell, H. A., A.I.E.E., A.AM.I.E.E., electrician, West India Electric Co., Ltd., Kingston, Jamaica.

Campbell, J. R., electrician, Electrical Branch, G.P.O., Sydney, N.S.W.

Campbell, J. W., A.AM.I.E.E., electrical engineer, Canadian General Electric Co., Toronto, Ontario, Canada.

Campbell, R. C., engineer & electrician, Indo-European Telegraph Department, Persian Gulf.

Campbellford Municipal Plant, Campbellford, Ont., Canada. Engineer, J. H. Beatty; electrician, Jas. Carruthers.

Campbelton City Electric Light Plant, Campbelton, N.B., Canada. Engineer, H. G. V. Farrer.

Campbeltown Corporation Electricity Works, Campbeltown, N.Z. Engineer, R. Cruickshank.

Camp's Bay Electric Tramways Co., Ltd., Cape Town. General manager, J. Macdonald.

Canada Chemical Manufacturing Co., manufacturers of chemicals, London, Ontario, Canada.

Canada Cycle & Motor Co., Ltd., storage batteries, motors & electric vehicles, 710, Yonge-st., Toronto, Canada. (Telegrams: "Cyclemote, Toronto.")

Canada Electric Co., Ltd., electric light suppliers, Amherst, N.S., Canada. Engineer, C. L. Bent; electrician, Ira T. Davis.

Canada Foundry Co., Ltd., engineers, Toronto, Canada.

Canada Light & Equipment Co., Ltd., installation contractors, 45, Victoria-st., Toronto, Canada.

Canada Metal Co., wire & cable manufacturers, William-st., Toronto, Ont.

Canadian Association of Stationary Engineers, Toronto, Canada.

Canadian Central Electric Railway Co.

Canadian Contract Record (weekly), Confederation Life-buildings, Toronto, Ontario, Canada. (Annual sub., $2.)

Canadian Electric Light Co., Ltd., electric light & power contractors, Quebec & Levis, Canada. (Bell Telephone No. 120, Levis.) Chief engineer, D. S. Barton; resident engineer, A. F. T. Harrower.

Canadian Electric & Water Power Co., Ltd., Perth, Ont., Canada. Engineer, R. J. Smith.

Canadian Electrical Association, Confederation Life-bldg., Toronto, Ont. (Sec.-treasurer, C. H. Mortimer.)

Canadian Electrical News & Engineering Journal (monthly, ann. sub., $1), Confederation Life-building, Toronto, Canada. (Telephone No. 2362.)

Canadian Engineer (monthly, Canada, Great Britain & U.S., price $1 per ann.; single copies, 15 cents; Foreign, 7s.), 62, Church-st., Toronto, Canada. (Teleph. No.: 1392, Main, Toronto.)

Canadian General Electric Co., Ltd., manufacturers of & dealers in electrical machinery, supplies & apparatus, Toronto, Canada (Cablegrams: "Canedison, Toronto"); & Montreal, Halifax, Ottawa, Winnipeg, Vancouver, Bossland.

Canadian Hardware & Metal (weekly), 10, Front-st. E., Toronto & Montreal, Canada (Telegrams: "Adscript, Toronto"); & 88, Fleet-st., London, E.C.

Canadian Iron & Foundry Co., Ltd., St. Thomas, Ontario, Canada.

Canadian Klondike Mining Co., Dawson City, Klondike. P.O. Box 577. Engineer, J. M. Elmer.

Canadian Machinery & Manufacturing News (monthly), Toronto & Montreal, Canada (Telegs.: "Adscript, Toronto"); & 88, Fleet-st., London, E.C.

Canadian Manufacturer (semi-monthly, 1st & 3rd Friday of each month. P.U., price 10s. post paid), McKinnon-bldg., Toronto, Canada. (Telegrams: "Canaman, Toronto." Western Union Telegraph Code. Long Distance Telephone No. 1274, Main.) (J. J. Cassidey, editor; D. O. M. Kinnon, manager.)

Canadian Niagara Power Co., Niagara Falls, Ont., Canada. Elec. engr., H. W. Buck; engr., A. H. van Cleve.

Canadian Pacific Railway Company's Telegraph, Montreal, Canada. J. F. Richardson, superintendent.

Canadian Rubber Co., manufacturers of rubber goods, including electrical supplies, Montreal, Canada. (Telegs.: "Rubander, Montreal." A.B.C. Code, 4th ed., Lieber's.)

Canadian Society of Civil Engineers (secretary, C. H. McLeod), 413, Dorchester-st., West Montreal, Canada. (Bell Telephone No. 1232, Uptown.)

Canadian Westinghouse Co., Ltd., Hamilton, Ont., Canada. (Telegrams: "Canwest, Hamilton.")

Canadian White Co., electrical engineers, Sovereign Bank-bldg., Montreal, Canada.

Canales, Jose G., superintendent of the Central Station, Tangier, Morocco.

Cananea Electricity Works, Cananea, Lenova, Mexico. Consolidated Copper Co., props. Engineer, W. J. Ellicott.

Candida, A., & Conti, C., electrical engineers, rue Nebi Daniel, Alexandria, Egypt.

Canning, Randall Birch, A.M.I.E.E., Cape Government Railways, Cape Town.

Canning, W. E. (agent for W. Canning & Co., Birmingham, England), 233, Elizabeth-st., Melbourne. (Cablegrams: "Canning, Melbourne." Telephone No. 1836.)

Cannington Electricity Works, Cannington, Ont., Canada.

Canovas y Moglia, dealers in electric light fittings, 929–931, calle Cuyo, Buenos Ayres.
Cantwell & Co., consulting engineers & international patent agents, 14, Lindsay-st., Calcutta (Telegrams: "Cantwell, Calcutta.")
Capanema, Barão de, M.I.E.E., representative Cie. Francaise des Cables Télégraphiques, 3, rua Barão de Capanema, Rio de Janeiro.
Cape Breton Electric Co., Sydney, N.S., Canada.
Cape Electric Tramways, Ltd., Box 115, Cape Town. (Teleph. No. 155. Broomhall & A.B.C. Codes.) General manager & engineer, A. S. Giles.
Cape Explosives Works Power Station, Somerset West, Cape Colony. Proprietors, The Cape Explosives Works, Ltd. Engineer, R. S. Mansel, A.I.E.E.
Cape Government Railways, Cape Town, South Africa. Electrical engineer, J. Denham, M.I.E.E.
Cape Peninsula Lighting Co., Ltd., Claremont & Wynberg. Engineer, C. M. Read.
Cape Town Corporation Electricity Works, Dock-rd., Cape Town, South Africa. City electrical engineer, W. F. Long, A.M.I.E.E.
Cape Town Docks Electric Power Station (owned by Table Bay Harbour Board), Cape Town. (Telegrams: "Banham, Docks, Capetown." Telephone No. 1197.) Electrical engineer, C. Procter Banham, M.I.M.E., M.I.E.E.
Cape Town Local Section of the Institution of Electrical Engineers, A. S. Giles, M.I.E.E., chairman; W. J. Horne, A.M.I.E.E., hon. secretary, South African College, Cape Town.
Carabella, G., & Co., electrical engineers & contractors, 6, Via Rossetto, Alexandria; & Tewfikieh, Cairo, Egypt.
Caracas Gas & Electric Light Co., Caracas, Venezuela. N. A. Valerino, manager.
Carbide of Calcium Co., Reconquista 424, Buenos Ayres.
Cardinal Electric Light Co., Ltd., Cardinal, Ont., Canada.
Cardona, J. B., officer in charge, Eastern Telegraph Co., Branch Office, Malta.
Carey, M., superintendent engineer, Auckland Electric Tramway Co., Ltd. Engineer's office; Custom-st., Auckland, N.Z.
Cargill, H., & Sons, proprietors, Electricity Works, Cargill, Ont., Canada. Electrician, F. L. Martin.
Carleton Place Electric Light Co., Carleton-pl., Ont., Canada. Engineer, J. Bennet.
Carlin, W. H., electrical engineer, Crown Reef Gold Mining Co., Johannesburg, South Africa.
Carlsen, G., acting controller, Great Northern Telegraph Co., Tientsin, China.
Carlton Electric Light & Power Co., St. John, N.B., Canada. Electrician, C. R. Clark.
Carman Electric Light & Power Co., Ltd., Carman, nr. Winnipeg, Man., Canada. Engineer, C. Bulter; electrician, M. J. Melville.
Carmichael, J. W., consulting electrical engineer, 40, Bell Tele.-bldg., Montreal, Que., Canada.
Carnaghan, E. D., chief engineer, Cia. Durangueña de Luz Electrica, Durango, Mexico.
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Carpenter, Harry, electrical engineer, &c., Whiteman-st., South Melbourne, Victoria.
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Carrillo, James F., electric light & power contractor, Caracas, Venezuela.
Carruthers, H. R., engineer, Alvinston Power Co., Ltd., Alvinston, Ont., Canada.
Carruthers, J., electrician, Municipal Electricity Works, Campbellford, Ont., Canada.
Carson, H. R., A.I.E.E., c/o Siemens Bros., Ltd., Sydney, N.S.W.
Carter, R. F., Electric Co., installation contractors, Niagara Falls, Ont., Canada.
Carter, Wm. L., A.M.I.E.E., China & Japan Telephone Co., Hong Kong.
Carve, Don Carlos A., assistant director-general of State Telegraphs, Monte Video, Uruguay.
Carver, William M., A.M.I.E.E., electrical engineer, c/o Hubert Davies & Spain, P.O. Box 1386, Johannesburg, Transvaal.
Casa Vannet, Moreno Borlido & Co., electro-medical instruments, R. do Ouvidor 114, Rio.
Cascade Water, Power & Light Co., Cascade, B.C., Canada. Electrical engineer, Wm. Anderson.
Caspersonn, C. H., telegraph superintendent, Government Railways, Brisbane.
Cassels, F., Empresa Luz Electrica, Avellaneda, Argentina.
Cassels, F. K., M.I.E.E., 60, Pavon-Avellaneda, Buenos Ayres.
Cassels, Walter R., A.I.E.E., 42, Florida, Buenos Aires.
Cassidy, Jno., A.AM.I.E.E., Kalia-ave., Honolulu, Hawaiian Islands.
Castle, J., & Sons, makers of electric light fittings, 32, King-st., North Newtown, Sydney, N.S.W.
Cataract Electric Co., Cataract, Ont., Canada.
Cathcart Proprietary Gold Mining Co., Ararat, Victoria. Engineer, J. Hamilton.
Cauvery Falls Elec. Power Works, Cauvery Falls, Madras Presidency, India. Chief engineer, H. P. Gibbs.
Cavailler, Louis, telegraph engineer & manager, Cie. française des Cables télégraphiques, Maracaibo, Venezuela.
Cave, E. L., resident engineer, Kolar Gold Field Electricity Department, & Kolar Mines Power Station, Ltd., Oorgaum, Mysore State, South India.

Cave, Hy., & Co., agents for electrical apparatus makers, 351–353, Flinders-lane, Melbourne.
Cave, H. W., & Co., importers of electrical apparatus, Colombo, Ceylon.
Cawley, M. J., assistant manager, Government Telegraphs, Melbourne, Victoria.
Cayonette, L., engineer, St. George's Electric Co., St. George's East, Beaune, Que., Canada.
Ceccacci, P., engineer, Soc. Anon. des Tramways, Cairo.
Cederholm & Tolley, electrical engineers, 5A, Manners-st., Wellington, N.Z.
Celaya Electricity Works, Celaya, Mexico.
Central Electric Co., electric light & power contractors, Portage La Prairie, Manitoba, Canada.
Central Electric & School Supply Co., Ltd., dealers in electrical supplies, 36, Adelaide-st. W., Toronto Canada.
Central Electrica Rio Claro, Rio Claro, Estado de Sao Paulo, Brazil.
Central Mining & Tramway Appliances Prop., Ltd., electrical plants, electric tramways, steam engines, &c., 506, Little Collins-st., Melbourne; Sydney; Brisbane; & Cairns. (Telegrams: "Portable, Melbourne.")
Central & South American Telegraph Co., Guayaquil, Ecuador. Geo. Ashton, station manager.
Central Telephone Co., Ltd., Bridgewater, N.S., Canada.
Centro Nacional de Ingenieros (Miguel Tedin, president), Florida 230, Buenos Ayres.
Centro Teleponico da Bahia, rua do Arcebispo 1, Bahia, Brazil.
Cesar de Campos Dr. Caetano, director-general of Brazilian telegraphs, Rio de Janeiro, Brazil.
Ceulen, J. H., & Co., electric light contractors, Soerabia, Java.
Chadwick Bros., manufacturers & dealers in electrical supplies, 193, King-st. East, Hamilton, Ont., Canada.
Chamberlain, F. H., chief electrical engineer, Tramway Board, Christchurch, N.Z.
Chambers, C., superintendent, Eastern & South African Telegraph Co., Mozambique.
Chambers Electric Light & Power Co., Truro, N.S., Canada.
Chambers, John, & Son, Ltd., importers & agents for electrical and mechanical engineering requisites, Fort-st., Auckland, N.Z.
Chambly Electric Co., electrical engineers & contractors, 55, St. Antoine-st., Montreal, Que., Canada. (Telegs.: "Chambylectric, Montreal." Bell Teleph. Main No. 2966.)
Chambly Manufacturing Co., Richelieu Village, Que., Canada.
Champion, Fred., electrician, Macquarie-st., Hobart, Tasmania.
Channell, H. E., manager Stanstead Electric Light Co., Stanstead, Que., Canada.
Chaplin, Godfrey R., A.M.I.E.E., Jupiter Gold Mining Co., Germiston, South Africa.
Chaplin, W. B., clerk in charge, Western Telegraph Co., Desterro, Santa Catharina, Brazil. (Telegrams: "Chaplin, Desterro, Brazil.")
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Chatham Gas Co., Ltd., Chatham, Ont., Canada. Engineer, E. Grandbois; electrician, F. Hayes.
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Chilian Electric Tramway & Light Co., Ltd., P.O. Box 1557, Santiago, Chili. (Telegs.: "Viajar, Santiago.") Engineer, E. W. Martin; general manager, S. Ossa.
China & Japan Telephone & Electric Co., Ltd. (W. L. Carter, A.M.I.E.E.), Hong Kong, China. (Telegrams: "Oakenpin, Hong Kong.")
China Light & Power, Canton, China. (Telegs.: "Keechong, Canton." Teleph. No. 212.) Resident engineer, S. F. Ricketts; Kowloon, resident engineer, G. H. Hales.
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Colombo Commercial Co., Ltd., engineers, &c. (J. G. Wardrop, manager), Slave Island, Colombo, Ceylon. (Telegrams: "Cossack, Colombo.")
Colombo Electric Tramways & Lighting Co., Ltd., Colombo, Ceylon. Engineer, L. H. Combe. Managing agents in Ceylon: Boustead Bros., Colombo.
Colombo Gas & Water Co., Ltd., electrical engineers & contractors, Colombo & Kandy. (Telegrams: "Fageorum, Colombo.") (S. N. Wellington, A.M.I.E.E., F.C.S., engineer & manager. Kandy branch: R. W. Baird, resident electrical engineer.)
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Compagnie Centrale du Gaz, Port Said, Egypt. Engineer, L. David.
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Compagnie des Eaux et d'Electricité de Chicoutimi, Chicoutimi, Que., Canada. Engineer, L. A. Cusgrein; electrician, L. Ouillet.
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Compagnie Electrique de la Baie de St. Paul, St. Paul's Bay, Que., Canada. Electrician, O. Boivin.
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Companhia Mineira de Electricidade, contractors of the electric light of Juiz de Fóra, Minas Geraes, Brazil.
Companhia Telephonica do Para Belem, Para, Brazil.
Companhia Urbana, electric light contractors, Pará, Brazil.
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Compañia de Coches Electricos, 195, San Martin, Buenos Aires.
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Compañia de Fabricantes Extrangeros, Lda. Soc. Anon., merchants, electrical engineers & contractors, 302, Balcarce, Buenos Ayres.
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Compañia de la Luz Electrica de Las Palmas (director, Eusebio Navarro Diaz), Las Palmas, Gran-Canaria, Canary Isles.
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Compañia de Luz Electrica, Esperanza, Province of Santa Fé, Argentina.
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Compañia del Gas y de Luz Electrica (manager, N. A. Valerino), Caracas, Venezuela. (A.B.C. Code, 4th edition.)
Cia. Duranguena de Luz Electrica, Durango, Mexico. Chief engineer, E. D. Carnaghan.
Compañia Electrica de Orotava (director, Nicolas Ascanio), Villa Orotava, Teneriffe, Canary Isles.
Compañia Electrica de Regla y Guanabacoa, Regla & Guanabacoa, Cuba.
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Cia. Obras Publicas del Rio de la Plata, Chascomus; & Concepcion del Uruguay, Argentine Republic. Resident engineer at Concepcion, Geo. Handley.
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Dresden Corporation Electricity Works, Dresden, Ont., Canada. Engineer, Chas. Eberlee.

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Drewett, Geo. Herbert Sands, A.M.I.E.E., c/o Bangkok Dock Co., Ltd., Bangkok, Siam.

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Dundee Electricity Power Station, Dundee, Natal. Engineer, C. A. Hopton, A.I.E.E. (Telegs.: "Lightning, Dundee." Teleph. No. 72.)

Dunedin City Corporation Tramways, Dunedin, N.Z. Engineer, W. G. T. Goodman.

Dunedin Engineering & Steel Co., Ltd., engineers, boiler makers, metal founders, &c., Dunedin, N.Z. (Telegs.: "Hydraulic, Dunedin.")

Dunedin & Suburban Gas Co., Ltd., electric light engineers & contractors, Dunedin, N.Z.

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Dunnville Electric Light Co., Ltd., Dunnville, Ont., Canada. Electrician, C. Bonham.

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East London Harbour Board Electricity Works, East London, Cape Colony.
East London Municipal Electric Works, East London, South Africa. (Engineer, J. Mordy Lambe.)
East Rand Proprietary Mines, Ltd., Electricity Works, East Rand, Transvaal. (Box 88, East Rand.) Engineer, L. Wilms.
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Eastern Produce & Estate Co., Ltd., electric light contractors' agents, Colombo, Ceylon.
Eastern Township Electric Co., North Hatley, Ont., Canada.
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Edison Electric Light & Power Co. of Springhill, Ltd., Spring Hill, N.S., Canada. Engineer, A. A. Fraser; electrician, W. J. Pippy.
Edison & Swan United Electric Light Co., Ltd., manufacturers of incandescent electric lamps & electric light fittings, 58, Clarence-st., Sydney (Telegs.: "Ediswan, Sydney." Teleph. No. 1879); Commonwealth-bldgs., Adelaide-st., Brisbane, Queensland (Teleph. No. 749); & Australian-bldgs., Elizabeth-st., Melbourne, Victoria. (Teleph. No. 2815.)
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ELECTRIC ENGINEERING, IMPORT & EXPORT CO., corner rue de France & rue du Baron Gros, Tientsin, North China. E. Sperling, manager. (Telegs.: "Atlanta, Tientsin." Teleph. No. 546. A.B.C. Code, 5th edit.) *See advt. facing Title Page.*

Electric Light & Traction Co. of Australia, Ltd., 31, Queen-st., Melbourne, Victoria. (F. W. Clements, engineer & manager.)

Electric Reduction Co., manufacturers of chemicals, &c., Buckingham, Que., Canada.

Electric Repair & Contract Co., 619, Loganchetiere-st., Montreal, Que., Canada.

Electric Repair & Supply Co., installation contractors, Sherbrooke, Que., Canada.

Electric Supply Co. of Victoria, Ltd., Wendouree Parade, Ballarat, Victoria (Benjamin Deakin, engineer & man.); Ballarat (assist. engr. & man., E. J. Cochrane); & Bendigo (res. engr., A. E. Ford).

Electric Supply Co. of West Australia, Ltd., Coolgardie, W. Australia. M. L. Reid, engr. & mangr.

Electric Traction Co. of Hong Kong, Ltd., Hong Kong. Engineer & manager, J. G. Scott, M.I.E.E.

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Electrical Association of Victoria. Henry Noyes, president; Melbourne, hon. sec., W. Sykes.

Electrical Construction Co., of London, installation contractors, London, Canada.

Electrical Construction & Maintenance Co., repairs, light & power apparatus, 96, King-st., Winnipeg, Can.

Electrical Contractors' Association of Province of Quebec, Montreal.

Electrical Development Co. of Ontario, Ltd., Niagara Falls Park, Niagara, Ont.

Electrical Supply Co., dealers in electrical supplies, 67, James-st., Hamilton, Canada.

Electricidad de Caracas, Electricity Supply Works for Power Transmission, Caracas, Venezuela.

Electro-Dynamic Co., 210–212, Russell-st., Melbourne. (Teleph. No. 2767.) Manager, Geo. McFarlane; consulting electrician, A. U. Alcock, M.I.E.E.

Electron Sociedad Anonima, Santa Cruz de la Palma, Canary Isles. (Telegrams: "Electron, Santacruz-palma, Canaries.")

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Ellson, L. H. S., M.I.E.E., 345, St. George's-ter., Perth, Western Australia.

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Elmer, J. N., engineer, Canadian Klondike Mining Co., Dawson City, Klondike.

Elmvale Electricity Works, Elmvale, Ont., Canada. G. Copeland & Sons, proprietors.

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Elrington, R., superintendent, 1st grade, Indian Telegraph Department, Ajmer, India.

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Embro Electricity Works, Embro, Ont., Canada. Jas. Munro, proprietor.

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Empire Electric Light Co., Ltd., Margaret-lane, Sydney, N.S.W. (Telephone No. 944.) J. R. Woodruffe Gardam, M.I.E.E., manager Central Electric Supply Station.

Empresa de Fuerza Electrica "Santa Rosa," electrical engineers & contractors, calle Espaderos, Lima, Peru. Engineer, Alfred Lewis Kenyon.

Empresa de Luz Electrica, Quilmes, Province de Buenos Ayres, Argentine Republic.

Empresa de Luz Electrica, San Juan, Argentine Republic.

Empresa de Luz y Fuerza Electrica, Guayaquil, Ecuador. Manager, J. G. Sanchez.

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Empresa de Tranvia Electrica Lima y Callao, Lima, Peru.

Empresa de Tranvia Electrica Lima y Chorrillos, Lima, Peru.

Empresa Electrica de Guatemala, Guatemala. Chief engineer, Max Obst.

Empresa Electrica de Sta. Rosa, Lima, Peru. Engineer, A. L. Kenyon.

Empresa Elec. Stelling & Cia., Valencia, Venezuela. (Telegs.: "Stelling, Valencia.") Engineer, C. Stelling.

Empresa Força e Luz Electrica, Limeira, São Paulo, Brazil.

Empresa Luz Electrica, Concordia, Entre Rios, Argentina.

Empresa Luz Electrica, San Antonio de Areco, Argentina.

Empresa Luz Electrica, Zarate, Prov. Buenos Ayres, Argentina.

Empresa Luz Electrica, electrical contractors (F. K. Cassels & Co.), Barracas al Sud, Argentina.
Empresa Luz Electrica de Chivilcoy, Chivilcoy, Province of Buenos Ayres.
Empresa Luz Electrica de Mercedes, Mercedes, Province of Buenos Ayres, Arg. Rep.
Empresa Luz Electrica, electrical contractors (Beausire & Co.), Quilmes, Buenos Ayres.
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Empreza Telefonica de Michoacan, Morelia, Mexico. Manager, E. Gonzalez.
Empreza Telephonica, Maceio, Brazil. Luiz Machado, director.
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Fairfield Iron Works (C. W. H. Duckworth, proprietor), general merchants & engineers, Slave Island, Colombo, Ceylon. (Telegs.: "Pumping, Colombo.")

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Indian Electrical, Mechanical & Textile News, 16, Parsee Bazaar-st., Fort, Bombay. (Ann. sub., 9 Rs.)
Indian Engineering (price 31 rs. per ann.), 6, Mission-row, Calcutta.
Indian Government Telegraph Department. Director-General, S. H. C. Hutchinson, M.I.C.E., M.I.E.E.; deputy director-general, A. R. Larkins.
Indian Textile Journal (monthly; ann. sub., Rs. 9), 27, Medows-st., Bombay; & London.
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London Electric Co., Ltd., electric light, power & traction company, London, Ont., Canada. (Telephone Nos.: Head Office, 958, Richmond; & 961, Power House.) Engineers, R. A. Lyons, F. McConnell & Wm. Baker; electrician, A. O. Hunt.
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United River Plate Telephone Co., Ltd., 1193, calle Rivadavia, Buenos Ayres.
University of Adelaide, Adelaide, South Australia. For Professors, *see* CLASSIFIED SECTION.
University of Melbourne, Melbourne, Victoria. *See* SCHOOLS.
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Valleyfield Electric Co., Ltd., Valleyfield, Que., Canada.
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Vancouver Engineering Works, Ltd., marine, hydraulic, electrical & general engineers, Vancouver, B.C., Canada.
Vancouver Power Co., Ltd., electric power contractors, Vancouver, B.C., Canada. Superintendent, J. Milne; general manager, R. H. Sperling; electrician, W. T. Woodroofe.
Van de Putte & Co., dealers in electrical machinery, Guatemala City, Guatemala.
Vandam, A., & Co., electrical supplies, Hoskens-bldgs. (P.O. Box 4941), Government-sq., Johannesburg, Transvaal. (Telegs.: "Ampere, Johannesburg.")
Vanderkelen, F., & Co., electrical wire manufacturers, Melbourne.
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Vankleek Hill Electric Co., Ltd., Vankleek Hill, Ont., Canada. Electrician, J. A. Robertson.
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Victoria Foundry Co., makers of water wheels especially adapted to automatically regulated electric power plants, Ottawa, Canada.
Victoria Jubilee Technical Institute, Byculla, Bombay.
Victorian Electric Light, Heat & Power Distributing Corporation, Broken Hill-chbrs., Melbourne, Australia.
Victorian Electrical & Telegraphic Journal, G.P.O., Melbourne, Victoria.
Victorian Institute of Engineers, 176, Collins-st., Melbourne, Victoria. G. A. Turner, president; A. E. Winwood, secretary.
Victoriaville Central Electric Light & Power Station, Victoriaville, Que., Canada. A. Gagnon & Co., proprietors.
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Waterous Engine Works Co., manufacturers of steam engines & boilers, Brantford, Canada. (Telegrams: "Waterous, Brantford.")
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West India Electric Co., Kingston, Jamaica. L. Foster Davis, general manager; H. Duperdouzel & H. A. Campbell, electricians. (Telegs.: "Wieco, Kingston.")
West India Electric Co., Montreal, Canada.
West Kootenay Power & Light Co., Ltd., Rossland, B.C., Canada. Electrician, J. D. McDonald.
West Lorne Electric Light Co., Ltd., West Lorne, Ont., Canada. Engineer, J. Logan.
Western Electric Manufacturing Co., Ltd., electric meter makers, Berlin, Ont., Canada.
Western Telegraph Co., 146, Cerrito, Montevideo.
Westinghouse Elec. & Manufacturing Co. of U.S.A. Agents: Noyes Bros., 109, Pitt-st., Sydney, N.S.W.
Westinghouse Electric & Manufacturing Co., 124, Defensa, Buenos Ayres.
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Williams, Francis Powell, A.M.I.E.E., c/o Marshall, Sons & Co., Ltd., 8, Hummum-st., Bombay.
Williams, G. A., A.M.I.E.E., Electric Light Works, Cape Government Railway, Cape Town.
Williams, Jas. Edward, A.M.I.E.E., Natal Government Telegraphs, Pietermaritzburg.
Williams, John E., A.I.E.E., electrical engineer, Public Works Department, Khartoum.
Williams, J. H. W., superintendent, Central Telegraph Office, Cape Town, South Africa.
Williams, Wm., manager, Sarnia Gas & Electric Light Co.; & engineer, Sarnia Street Railway Co., Sarnia, Ont., Canada.
Williams, W. C., dealer in electrical supplies, 3 & 5, Victoria-ave., S. Melbourne, Australia.
Williams, A. R., Machinery Co., manufacturers of & dealers in machinery, Soho Machine Works, Toronto, Ont.; & Winnipeg.
Williams, Hunt & Co., electrical engineers, 9, Morris-bldgs., Johannesburg, Transvaal.
Williams, S., & Co., engineers & makers of windmills for electric lighting, pumping, &c., Rockhampton, Queensland.
Williamson, A., electrical engineer, Bunbury Electric Light & Power Co., Bunbury, Western Australia.
Williamson, John, M.I.E.E., chief engineer, City of Santos Improvements Co., Ltd., Santos, Brazil.
Williamson, Balfour & Co., machinery agents, Valparaiso; & Santiago, Chili.
Willis, Captain R. F., R.M.L.I., A.I.E.E., St. Anne's Fort, Barbadoes.
Willis, F. W., chief engineer, Cauvery Power Scheme, Kolar Gold Fields, South India.
Willis, Sindall & Co., Ltd., exporters of electrical machinery, Auckland, N.Z.
Willmot, H., electrician, Mina Rosa-st., Enfield, Sydney, N.S.W.
Willot, J., inspector-general of Posts & Telegraphs & chief of the Telephone Service, Alger, Algeria.
Wills & Co., Ltd., general & shipping agents, Eastern Exchange, Port Said, Egypt.
Wilmot, L. B., A.I.E.E., electrical engineer, Witwatersrand Deep, Ltd., Box 5, Knights, Transvaal.
Wilms, L., M.I.E.E., M.I.C.E., chief elec. engr., East Rand Proprietary Mines, Box 88, East Rand, Transvaal.
Wilson, Arthur Marius, M.D., A.I.E.E., Railway Surgery, Cape Town. (Teleph. No. 215.)
Wilson, C. E., A.M.I.E.E., c/o Telegraph Manufacturing Co. (Colonial), Ltd., Johannesburg, South Africa.
Wilson, Chas., A.I.E.E., 140, Reconquista, Buenos Aires.
Wilson, F., assistant manager of the Electric Light Department, Oriental Telephone & Electric Co., Ltd., 7, Pollock-st., Calcutta. (Telegrams: "Oriental, Calcutta." Telephone No. 439.)
Wilson, J., engineer, Electricity Works, Fergus, Ont., Canada.
Wilson, R. M., A.AM.I.E.E., supt., Montreal L. H. & P. Co., Richelieu Village, Montreal, Que., Canada.
Wilson, S. Newcome, A.M.I.E.E., Indo-European Government Telegraphs, Persian Gulf Section.
Wilson, Thomas, A.M.I.E.E., Electricity Works, Hong Kong.
Wilson, W. H., A.I.E.E., assistant electrical engineer, East Indian Railway, Jamalpur, Bengal.

Wilson, W. R., M.I.E.E., electrical engineer, P. W. Dept. Electricity Works, Punjab, Lahore.
Wilson, Corben & Co., manufacturers of electric light fittings, Kavanagh-st., South Melbourne, Victoria.
Wilson, J. C., & Co., makers of the "Little Giant" turbine, &c., Glenora, Ontario, Canada. (Telegrams: "Wilson, Glenora." Local Telephone No. 96.)
Wilton, R. J., engineer in charge, Nonapukur Power Station, 183–184. Lower Circular-rd., Calcutta.
Windridge, J. B., chief wiring inspector, Corporation, Durban, Natal.
Windsor Electric Light & Power Co., electric light & power contractors, Windsor, N.S., Canada.
Windsor & Tecumseh Electric Railway Co., Walkerville, Ont., Canada.
Winfield, J. H., A.AM.I.E.E., general manager, Nova Scotia Telephone, Ltd., Box 343, Halifax, N.S., Can.
Wingham Corporation Electricity Works, Wingham, Ont., Canada. Engineer, H. H. Green; electrician, J. E. Bradun.
Winkfield, B. Geo., A.M.I.E.E., electrician, H.M.C.S. *Iris*, Pacific Cable Board, Suva, Fiji Islands.
Winnall & Sutcliffe, electricians, 88, President-st., Johannesburg, Transvaal.
Winnipeg Electric Street Railway Co., Winnipeg, Man., Canada. Engineer, D. Phillips.
Winnipeg Rubber Co., Ltd., 41, Princess-st., P.O. Box 1251, Winnipeg, Man.
Winnipeg, Selkirk & Lake Winnipeg Railway, Winnipeg, Man., Canada.
Winter, C. J., acting commercial agent, H.B.M.'s Legation, Guatemala.
Wire & Cable Co., Montreal, Canada. E. F. Sise, manager.
Wischer, W. H., electrical agent, Degraves-st., Melbourne, Victoria.
Witting, Eborall & Co., Ltd. (Wm. Hosken & Co., agents), Box 667, Johannesburg, Transvaal.
Wolder, J., superintendent, Imperial Chinese Telegraphs, Tientsin.
Wolf, Lee H., A.AM.I.E.E., electrician, Honolulu Rapid Transit & Land Co., Honolulu, Hawaiian Islands.
Wolfe, Augustus, electrician & postmaster, Post & Telegraph Office, Bairnsdale, Victoria.
Wolfe, J. R., postmaster & telegraph superintendent, Brakpan, Transvaal.
Wolff, F. M., electrical engineer & contractor, Pretoria, Transvaal. (P.O. Box 331. Telephone No. 206.)
Woller, Alec, engineer-in-chief, Alexandria-Ramleh Railway Co., Ltd., Alexandria, Egypt.
Wolley-Dod, T. C., A.M.I.E.E., engineer, Corporation Electricity Works, Pretoria, Transvaal.
Wonfor, Jas. W., A.I.E.E., P.O. Box 185, Kimberley, South Africa.
Wong Kien Fan, chief director of Imperial Chinese Telegraphs, Canton, China.
Wong, K. L., controller Imperial Chinese Telegraphs, Chefoo, China.
Wong Tsze-Fong, controller Imperial Chinese Telegraphs, Hankow, China.
Woo Chen-foo, manager Imperial Chinese Telegraphs, Ningpo, China.
Wood, A. H., electrical engineer, Queen's-walk, Melbourne, Australia.
Wood, E. Clarence, B.SC., B.ENG., M.A., Electrical Engineering Laboratory, Technical College, Broken Hill, N.S.W.
Wood, S. M., superintendent Europe & Azores Telegraph Co., Horta, Fayal, Azores.
Wood, S. R. A., assistant superintendent, 3rd grade, Indian Telegraph Department, Pakokku.
Wood, John, & Sons, Ltd., engineers & agents, 13, Norwich Union-bldgs., Fox-st., Johannesburg.
Wood, W., & Co., scientific instrument makers, 240, Little Collins-st. East, Melbourne, Victoria.
Woodcock, F., station manager, Mexican Telegraph Co., Apartado 385, Mexico City.
Woodley, Clifford Geo., A.I.E.E., c/o L. Serocold Skeels, P.O. Box 946, Johannesburg.
Woodman Bros., electrical contractors, 193, King-st. East, Hamilton, Ont., Canada.
Woodroofe, J. W. T., A.I.E.E., 1423, Georgia-st., Vancouver, B.C.
Woodroofe, W. T., electrician, Vancouver Power Co., Ltd., Vancouver, B.C., Canada.
Woods, J. H. A., A.M.I.E.E., mains engineer, Corporation Electricity Works, Durban, Natal.
Woodsell, E., superintendent, Indo-European Telegraph Department, Persian Gulf.
Woodstock City Electricity Works, Woodstock, Ont., Canada. Engineer, J. G. Archibald.
Woodstock, Thames Valley & Ingersoll Electric Railway Co., Woodstock, Ont., Canada.
Woodworth, L. B., A.M.I.E.E., A.M.AM.I.E.E., electrical engineer, New Heriot Gold Mine Co., Johannesburg, South Africa.
Woolliscroft, John H., A.M.I.E.E., c/o J. Miller, Minas de Sao Bento, Santa Barbara de Matto Dentro, Pelo Correio de Ouro Preto, Minas Geraes, Brazil.
Woolward, R. S., superintendent, West African Telegraph Co., Ltd., Sao Thomé, West Africa.
Working Men's College, Latrobe-st., Melbourne, Victoria. (Telephone No. 828.) *See* SCHOOLS.
Wormald Bros. & Wears, agents for Mather & Platt, Ltd., 413, Collins-st., Melbourne, Australia.
Worswick, A. E., A.M.AM.I.E.E., Department of Electrical Construction, S. Pearson & Son, Puebla, Mexico.
Worthington Pump Co., Ltd., agents, Messrs. Simpson Bros., 32 & 34, Clarence-st., Sydney.
Wragg, Harold, A.I.E.E., resident electrical engineer, Rezende Gold Mining Co., Ltd., Umtali, Rhodesia.
Wray, C. C. R., A.I.E.E., c/o Dick, Kerr & Co., 3, Itchome, Uchisaiwaicho, Kojimachi-ku, Tokyo, Japan.
Wray, L., I.S.O., M.I.E.E., director of Museums, F.M.S., Perak, Straits Settlements.
Wray, L. R., superintendent African Direct Telegraph Co., Accra, West Coast of Africa.
Wren, George G., superintendent & representative in Netherlands India, Eastern Extension Telegraph Co., Batavia, Java.
Wright, G. A., dealer in electrical supplies, Henry-st., Fremantle, Western Australia. (Telephone Nos. 385 & 319.)

Wright, Geo. E., A.M.I.E.E., North Western Railway, Lahore, India.
Wright, G. W., engineer, Mount Lyell Mining & Railway Co., Ltd., Queenstown, Tasmania.
Wright, H. H., electrician, Renfrew Electric Co., Ltd., Renfrew, Ont., Canada.
Wright, J. J., general manager, Toronto Electric Light Co., Toronto, Canada.
Wright, R. J. L., acting superintendent Eastern Extension Telegraph Co., Iloilo, Philippine Islands.
Wroxeter Electricity Works, Wroxeter, Ont., Canada. Proprietor, C. Reis.
Wyatt, G. H., A.M.I.E.E., Excelsior-bldgs., cor. Jeppe & Von Brandis-sts., Johannesburg.
Wynne, H. J., A.M.I.C.E., signal & electrical engineer, New Zealand Railway, Wellington, N.Z.

Xavier, Dr. Edmundo, electrotherapy, 4, rua Dr. Falcão, S. Paulo, Brazil.

Yacoubian, A. & N., electrical engineers, Chareh el Bawaki, Cairo.
Yagi, S., superintendent of Telegraph Department, Imperial Post Office, Kobe, Japan.
Yale, John, engineer, Corporation Electricity Works, Guelph, Ont., Canada.
Yamada, M., M.E., electrician, Branch Purchasing Office of Communication Department, Osaka, Japan.
Yamada, Y., electrical engineer, Post Office, Takamatsu, Japan.
Yamakawa, Gitaro, M.E., DR.E., professor of electrical engineering, Imperial University, Tokyo, Japan.
Yamaki, Y., M.E., electrical engineer, Tokyo Electric Tramway Co., Shiba, Tokyo, Japan.
Yamamoto, H., chief of telegraph construction, Post Office, Tainan, Formosa.
Yanagita, K., engineer, Toyama Electric Light Co., Toyama, Japan.
Yarker Electricity Works, Yarker, Ont., Canada. Proprietors, Benjamin Manufacturing Co., Ltd. Engineer, G. Joyner; electrician, B. Gilbert.
Yarmouth Street Railway Co., Ltd., electric tramway, Yarmouth, Nova Scotia.
Yarmouth Town Electricity Works, Yarmouth, N.S., Canada. Engineer, John Ross.
Yeates, H., optical & mathematical instrument maker, 64, Macquarie-st., Hobart, Tasmania.
Yenya, Teijiro, electrical engineer-in-charge of the Telegraph & Telephone Works & chief electrical engineer of the Electrical Engineering Department, Post Office, Nagasaki, Japan.
Yokohama Electric Tramway Co., Yokohama, Japan. Engineer, S. Baba.
Yokohama Electric Wire Co., Ltd., 19, Takashimacho, Ku-chome, Yokohama, Japan.
Yokohama Union Electric Light Co., Yokohama, Japan. Engineer, J. Kobori.
Yokosuka Electric Light Co., Yokosuka, Japan. Engineer, Y. Furukana.
Yonezawa Suiyoku Denki Kaisha, Electric Light & Power Station, Yonezawa, Yamagataken, Japan. Engineer, T. Okudaira.
Yoshida, J., engineer, Korizama Silk Spinning Co., Ltd., Korizama, Fakushimaken, Japan.
Yoshida, M., M.I.E.E., 3, Hayabusacho Kojimachi-ku, Tokyo, Japan.
Yoshihiko, Takata, E.E., Post Office, Osaka, Japan.
Yoshino, D., M.E., electrical engineer, Bōsō Railway Co., Chibamachi, Chibaken, Japan.
Young, E. J., manager, Telegraph Branch, G.P.O., Sydney, N.S.W.
Young, Robert, consulting engineer, Western-rd., Penang, Straits Settlements. (Telegrams: "Loco, Penang." Telephone No. 4.)
Young, R. St. Chad, A.I.E.E., Collie Proprietary Coalfields, Collie, West Australia.
Young, W. H., engineer, Sturgeon Falls Electric Light & Power Co., Ltd., Sturgeon Falls, Ont., Canada.
Young, W. J., electrician in charge of mains, City Electric Supply Co., Ltd., Brisbane, Queensland.
Young, W. R., electrician, Eastern Extension Telegraph Co., Hong Kong.
Young Municipal Electric Light Station, Young, N.S.W. Engineer, E. M. Grant, M.I.E.E.
Yuan Kung Pao, Viceroy of Chihli, director-general of Chinese Imperial Telegraphs, Tientsin, China.
Yukawa, K., director-general of Imperial Government Posts & Telegraphs, Tokyo, Japan.

Zammit, N., & Sons, engineers, Grand Harbour, Malta.
Zarrabeitia, J. M., importer of electrical supplies, 11, Mercaderes-st., Havana, Cuba.
Zeehan Town Board Electricity Works, Zeehan, Tasmania.
Zegers, Luis L., professor of general physics & electricity, The University, Santiago, Chili.
Zinder, Alfredo, engineer, Telegraph Service, Buenos Ayres.
Zoeller, C., & Co., importers of electro-medical & doctors' surgical instruments, &c., 296 & 298, Queen-st., Brisbane, Queensland.
Zomba Electricity Works, Zomba, British Central Africa. Engineer, T. J. Binnie.
Zuefle, C., engineer, Electricity Works, Harriston, Ont., Canada.
Zwicker, Todd & Co., telegraph apparatus makers, Melbourne, Victoria.

COLONIAL & GENERAL CLASSIFIED SECTION.

Accumulators—Makers of.

F.—Accumulateurs d'Électricité—Fab. d'.
G.—Accumulatoren—Elektr.—Fabr. von.

Accumulatoren Fab. A. G., Buenos Ayres, Argentine Republic.
Fabrica de Acumuladores S. A., calle de Ortega 28, Mexico City.

Agents—Electrical.

F.—Agents d'Électricité.
G.—Agenten—Elektr.

Australian General Electric Co., Equitable-bldg., Melbourne; & Equitable-bldg., Sydney, N.S.W.
Bagge, F. J., 121, San Martin, Buenos Ayres, Argentina.
Balmer, Lawrie & Co., Calcutta.
Belden, H. A., Manila, Philippine Islands.
Bennett, P. M., & Co., San Juan de Letran 5, 1/2, Mexico, D.F.
Besley, Hutchinson & Co., Vickery's-chbrs., Sydney, N.S.W.
Black, J. G., Somerset-pl., Cromwell-bldgs., & Bourke-st., Melbourne, Victoria.
Bombay Electric Co., The, 9, Medows-st., Bombay.
Bretschneider & Co., Cairo, Egypt.
Briggs, H., Permanent-bldgs. (P.O. Box 1976), Johannesburg.
Brown, James, 121, Bathurst-st., Sydney, N.S.W.
Buck, W. A., A.AM.I.E.E., Canadian General Electric Co., 14, King-st. East, Toronto, Canada.
Bullock & Fulton, Hindmarsh-sq., Adelaide, South Australia.
Canning, W. E., 233, Elizabeth-st., Melbourne, Victoria.
Cave, H., & Co., 351–353, Flinders-lane, Melbourne.
Cipriani, W., & Co., 121, calle San Martin, Buenos Ayres.
Conrad, Son, & Co., Georgetown, British Guiana.
Dalgety & Co., Ltd., Sydney, N.S.W.
De Bary, A., & Co., Reconquista 146, Buenos Ayres.
Delaporte, Pablo, Apartado 647, Havana, Cuba.
Ferrier & Dickinson, Mutual Life of New York-bldg., Martin-pl., Sydney, N.S.W.

Agents—Electrical—*continued.*

Fleming, John, & Co., Indiarubber & G. P. & Tel. Works Co., Elphinstone-circle, Bombay, India.
Fuhrken & Bechtel, 747, Calle Alsina, Buenos Ayres.
Fysh, H. K., & Co., Collins-st., Hobart, Tasmania.
General Supplies Co., 82, Pitt-st., Sydney, N.S.W.
Gibb, Livingstone & Co., Hong-Kong Electric Co., Ltd., Hong-Kong.
Guinle & Co., rua Ouvidor 64B, Rio de Janeiro, Brazil.
Hartogh, H. A., Singapore, Straits Settlements.
Hervey, R. A., 71, Clarence-st., Sydney, N.S.W.
Hosking, Corlett & Co., P.O. Box 2555A, Johannesburg, Transvaal.
Hotz, Robt., A.M.I.E.E., "Dalziel," Simla, India.
Hungerford, R. B., 163, Pitt-st., Sydney, N.S.W.
Huttenbach Bros. & Co., Beach-st., Penang, Straits Settlements.
Jack, J. W., Bank-chbrs., 29, Lambton Quay, Wellington, N.Z.
Jenkins & Co., Smith-st. & Milne-st., Durban, Natal; & Johannesburg.
Kilburn & Co., 4, Fairlie-pl., Calcutta, India.
Kirby, Edgar, & Co., Alexandria & Cairo, Egypt.
Koenig & Co., Koenig's-bldgs., Durban, Natal.
Kuster, R., & Cie., Boulac, Cairo, Egypt.
Laidlaw & Gray, Rathray-st., Dunedin, N.Z.
Lemgerke, A. von, rua Hospicio 116, Rio de Janeiro, Brazil.
Lidgerwood Manufacturing Co., Ltd., rua do Commercio 14, São Paulo, Brazil.
Lumley, Frank, F.R.G.S., M.I.E.E., Casilla 18D, Santiago, Chili.
McCormick, K. C., & Co., Palace-chbrs., Maritana-st., Kalgoorlie, West Australia.
McEwen, W. R., Mercantile-chbrs., St. George's-st., Cape Town, South Africa.
Maintz & Co., Sourabaya, Java.
Meyer, E., & Co., Chemulpo, Korea.
Middows Bros., 73, Clarence-st., Sydney, N.S.W.
Nierop, Ed. L. van, & Co., 1, Minami nabechō echome, Kyobashiku, Tokyo; Yokohama; & Kobe, Japan.
Octavius Steel Co., Calcutta.
Oki & Co., 19, Shinsakana-cho, Kyobashi, Tokyo, & Osaka, Japan.

Agents—Electrical—*continued.*

Parcus, A., calle Moreno 477, Buenos Ayres.
Perrot, F. R., cor. William-st. & St. George's-ter., Perth.
Pyke, James W. (Siemens Bros. & Co.), 232, St. James-st., Montreal.
Quiñones, R. L., 28, 2nd-ave., Cardenas, Cuba.
Rabone, Feez, & Co., 257A, George-st., Sydney, N.S.W.
Rewald, M., 129, Commissioner-st., Johannesburg, Transvaal.
Rich & Co., O'Connell-st., Sydney, N.S.W.
Robinson, J. K. (Westinghouse Electric Co.), Iquique, Chile.
Saavedra, Benard & Ca., Casilla 948, Valparaiso, Chili.
Schiller & Co., 36, Szechuen-rd., Shanghai, China.
Schlieper & Co., Remscheid, Batavia & Soerabaia, Java.
Schröder, C. M., & Co., Calle Melchormals, Lima, Peru.
Schulthess, Ch., & Co., Charch Boulac 8, Cairo, Egypt.
Shallis, F. W., 9, Marine-st., Bombay, India.
Sibbons, J., Singapore.
Siemens-Schuckert Werke, G. m. b. H., 48, Tsukiji, Tokyo, Japan.
Simms, W. H., & Sons, Christchurch, New Zealand.
South African General Electric Co., 144–149, Exploration-bldgs. (P.O. Box 1905), Johannesburg.
SPLATT, WALL & CO., Perth, West Australia, electrical engineers, importers, dealers in all kinds of machinery & electrical goods.
Staerker & Fischer, 40–42, Clarence-st., Sydney, N.S.W.
Steanes, T. K., 39, Pitt-st., Sydney, N.S.W.
Takata & Co., 1, Yurakucho Kojimachi-ku, Tokyo; also at Osaka & Yokohama, Japan.
Tanaka, H. S., & Co., Minami Kinrokucho, Shimbashi, Tokyo.
Todd & Samuel, 65 & 69, Brookman's-bldg., Adelaide.
Topping, Seavill & McLaren, Rosario, Argentina.
Tsingtauer Industrie u Handels Ges., Kiauchau, China.
Valobra, C., 1368, calle Bolivar N., Buenos Ayres.
Watchorn & Oliver, 7, Elizabeth-st., Hobart, Tasmania.
White, Robinson & Co., Octagon, Dunedin, New Zealand.
Wischer, W. H., Degraves-st., Melbourne, Victoria.
Wood, John, & Sons, Ltd., 13, Norwich Union-bldgs., Fox-st., Johannesburg.
Wormald Bros. & Wears (Mather & Platt, Ltd.), 413, Collins-st., Melbourne.
Worthington Pump Engine Co., Ltd., 32 & 34, Clarence-st., Sydney, N.S.W.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.

F.—Avertisseurs élec. pour incendie, contre les voleurs, pour navires et trains, &c.
G.—Elektrische Alarm-Apparate—Diebstahl, Feuer, Schiff, Eisenbahn.

Anderson, A., 91, Bay-st., Toronto, Canada.
Holmes Electric Protection Co. of Toronto, Ltd., 5, Jordan-st., Toronto.

American Machinery Agents.

F.—Machines Américains—Agents de.
G.—Amerikanische Maschinen—Agenten.

Turri, G. G., & Co., 364–366, Collins-st., Melbourne. (Telegs : "Inventions, Melbourne." Teleph. No. 2158.)

Annunciators (Electric)—Makers of.

F.—Tables indicateurs—elec.—Fab. de.
G.—Anzeiger (Elektr.)—Fab. von.

Apparatus Makers—Electrical.

F.—Appareils électr.—Fab. d'.
G.—Elektr. Apparate—Fab. von.

Armbrust, R., Campinas, Brazil.
Briscoe, Drysdale & Co., 56, York-st., Sydney, N.S.W.
Consolidated Electric Co., Toronto, Canada.
Davies, Shephard & Co., Clarke-st., South Melbourne, Victoria.
Fontan, Pablo, Cuyo 864, Buenos Ayres.
Ford Bros., Church-st., Pietermaritzburg, South Africa.
Henwood, P., Son, Soutter & Co., Pietermaritzburg & Durban, Natal.
Joyner, Chas., & Co., Ltd., 71, Clarence-st., Sydney, N.S.W.
Katogi & Co., 6, Minami Kinrokucho, Kyobashiku, Tokyo.
Krüger, H., & Co., 729, Florida, Buenos Ayres.
Miyoshi & Co., Shinborigashi, Shiba, Tokyo, Japan.
Pringle, R. E. T., Co., Ltd., cor. Albert & Delisle-sts., Montreal, Canada.
Shibahara, K., Moto Kagomachi, Nagasaki, Japan.

Asbestos Manufacturers & Merchants.

F.—Asbest—Fabr. & March d'.
G.—Amiante—Fabr. und Händler.

Asbestos & Asbestic Co., Ltd., Danville, Quebec, Canada; & 81, Fenchurch-st., London, E.C.
Bell's Asbestos W.A. Agency, Ltd., 39, Phillimore-st., Fremantle, W. Australia.

Batteries—Dry, Galvanic, Primary & Storage.

F.—Piles—Sèches, Galvaniques, Primaires et Accumulateurs.

G.—Batterien—Trockene, Galvanische, Primäre & Accumulatoren.

Berlin Electrical Mfg. Co., Berlin, Ontario, Canada.
Crofton Storage Battery Co., 423-425, West Queen-st., Toronto, Ontario.
Galvanic Battery Works, 145, Wellington-st. West, Toronto, Canada.
Knight, J., & Co. (galvanic), 7, Butcher-lane, Little Collins-st., Melbourne, Victoria.
Portable Electric Light Co., 470, George-st., Sydney, N.S.W.
Sage, A. J., & Co., Melbourne, Victoria.

Bell Fitters & Contractors—Electric.

F.—Sonneries electriques—Poseurs et Entrepreneurs de.

G.—Elektrische Glocken—Einrichter und Unternehmen.

Hillier & Clarke, Burk's Falls, Ont., Canada.

Bell Manufacturers—Electric.

F.—Sonneries électriques—Fab. de.

G.—Glocken-Fabrikanten—Elektrische.

Braga, F. F., 46, rua Gonçalves Dias, Rio Janeiro, Brazil.

Blasting Apparatus Makers—Electric.

F.—Appareils pour l'etirage à la poudre—électriques.

G.—Sprengapparate Elektr.—Fabr.

Hamilton Powder Co., 103, St. Francois Xavier-st., Montreal.
Rand Drill & Rackarock Co., 171, Clarence-st., Sydney, N.S.W.

Boiler Makers.

F.—Chaudières—Fabr. de.

G.—Dampfkessel—Fabr. von.

Albion Iron Works Co., Ltd., 6, Chatham-st., & 71, Store-st., Victoria; & Vancouver, B.C., Canada.
Babcock & Wilcox, Ltd., 83, Pitt-st., Sydney.
Burns & Twigg, Rockhampton, Queensland.
Clyde Engineering Co., Ltd., Clyde Works, Granville, N.S.W.
Davey, Paxman & Co., Ltd., 14, Steytler's-bldgs., Loveday-st., Johannesburg.
Montpellier, A., 1031, Calle Cuyo, Buenos Ayres, Argentina.
Morison, R. J., & Bearby, Carrington, Newcastle, N.S.W.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Boulons, ecrous, vis—Fab. de.

G.—Bolzen, Schrauben, Muttern—Fab. von.

Rezzonico, Ottonello & Co., Cangallo 368, Buenos Ayres.

Brackets & Pendants.

See ELECTROLIERS.

Brass Founders, Finishers & Manufacturers to the Electrical Trades.

F.—Fondeurs et manufacturers de laiton pour les commerçants en electricité.

G.—Messing—Giesser & fabr.

Bash, A., & Co., Alvear 1660, Buenos Ayres, Argentine Republic.
Lee, Walton & Scott, 458, Bourke-st., & 175, Queen-st., Melbourne.
Mitchell, R., & Co., Ltd., Montreal, Canada.
Morrison, James, Brass Manufacturing Co., Ltd., Toronto, Canada.

Cable Manufacturers.

F.—Cables électr.—Fabr. de.

G.—Kabel Fabr.

Callender's Cable & Construction Co., 109, Pitt-st., Sydney.
Canada Metal Co., William-st., Toronto.
Phillips, Eugene F., Electrical Works, Ltd., Montreal, Canada.

Carbide of Calcium.

F.—Carbure de Calcium.

G.—Carbid.

Acetylene Gas Co., Ltd., 48 & 50, Elizabeth-st., Brisbane, Queensland.
Carbide of Calcium Co., Reconquista 424, Buenos Ayres.

Carbon Makers & Suppliers.

F.—Charbons—Fab. et Marchands de.

G.—Kohlen—Fabr. u. Händler.

La Teutonia, Cangallo 845, Buenos Ayres.

Castings for Dynamos.

F.—Fonte pour Dynamos.

G.—Giessereien für Dynamos.

Central Stations—Contractors for the Construction & Maintenance of.

F.—Stations centrales—Entrepreneurs de construction & d'éntretien.

G.—Unternehmer zur Errichtung & Aufrechterhaltung von.

SPLATT, WALL & CO., Perth, West Australia electrical engineers, importers, dealers in all kinds of machinery & electrical goods.

Central Stations—Electric Lighting, Power & Traction.

See ELECTRICITY WORKS.

Chemical Manufacturers, Merchants & Agents.

F.—Produits chimiques—March. et Agents de.
G.—Chemikalien—Fabr. und Händler.

Bowen, W., & Co., 358, Collins-st. West, Melbourne, Victoria.
Canada Chemical Manufacturing Co., London, Ontario, Canada.
Dawbarn, E. A., & Co., Pitt-st., Sydney, N.S.W.
Felton, Grimwade & Co., 342, 344, 346, Little Flinders-st., Melbourne, Victoria.

Clocks & Synchronization—Electric.

F.—Horloges électriques et synchronisation.
G.—Elektrische Uhren und Zeitmesser.

Conduits & Culverts.

F.—Conduites (souterraines) de drainage et poterie pour cables elec.—Fab. de.
G.—Leitungen (unterердische) & Abzug Röhren—Fabr. von.

Conduits Co., Ltd., Toronto, Canada.
Crown Steel Conduit Co., 499, Bourke-st., Melbourne, Victoria.

Contractors—Electric Light & Power.

F.—Éclairage électrique—Entrepreneurs d'.
G.—Unternehmer—Elektr. Licht.

Abamevali, C., Merida, Venezuela.
Adams, G. A., Adamsville, Que., Canada.
Adda, D., & Sons, Alexandria, Egypt.
Aparicio Hijos e Hijos, Quezaltenango, Guatemala.
Arens, F., Rio Claro, Peru.
Arnhold, Karberg & Co., Shanghai, China.
Becker & Co., Soerabaya, Java.
BRUSH ELECTRICAL ENGINEERING CO., LTD., 56, Margaret-st., Wynyard-sq., Sydney, N.S.W.; 32, Market-st., Melbourne; & Canada-bldg., Hornby-rd., Fort, Bombay.
Bulmer, H. E. P., 4230, St. Catherine-st., Montreal, Que., Canada.
Carrillo, J. F., Caracas, Venezuela.
Ceulen, J. H., & Co., Soerabaya, Java.
Compagnie Centrale d'Eclairage par le Gaz, Sharia, Kamel, Ezbekieh, Cairo.
Compagnie d'Aqueduc La Providence de St. Hyacinthe, St. Hyacinthe, Quebec, Canada.
Companhia Mineira de Electricidade, Juiz de Ford, Minas Geraes, Brazil.
Companhia Urbana, Para, Brazil.
Compañia de Electricidad de la Provincia de Buenos Aires, Adrogue, Province of Buenos Ayres.

Contractors—Electric Light & Power—*continued.*

Compañia de Luz y Fuerzo Motriz de Cordoba, Avenida de Mayo 761, Buenos Ayres.
Compañia de Transmision Electricia de Potencia, Apartado 95, Pachuca, Mexico.
Compañia Luz Electrica de la Serena, Serena, Chili.
Crawford & McIntyre, Durham, Ontario, Canada.
Crompton & Co., Ltd., 19, York-st., Sydney, N.S.W.
Daley, John, Digby, N.S., Canada.
D'Anna, V., & Tonelli, A., Chareh, Nubar Pacha, Cairo, Egypt.
De Witt Electric Co., Truro, N.S., Canada.
Dunedin & Suburban Gas Co., Ltd., Dunedin, N.Z.
Empresa Nacional "Luz Electrica," Dayman 105, Montevideo.
Fiat Lux Co., Porto Alegre, Rio Grande do Sul, Brazil.
Gamboa, N. de, y Ca., Cienfuegos, Cuba.
Gellender, E. H., & Co., Boksburg & Germiston, Transvaal.
Gibson, Battle & Co., 7, Bent-st., Sydney.
Guinle & Cia., Bahia, Brazil.
Harrison, W. C., Norwood, Ontario, Canada.
Hekking & Co., Soerabaya, Java.
Hutton Electric Light Co., Brampton, Ont., Canada.
Keith & Fitzsimmons Co., Ltd., 111, King-st. W., Toronto, Canada.
Leamington Light & Heat Co., Ltd., Leamington, Ontario.
London Electric Co., Ltd., London, Ont., Canada.
McGuire, W. J., & Co., 86, King-st., Toronto, Canada.
Mackay Bros., Renfrew, Ont., Canada.
Maio, A. O., & Co., Alagoas, Brazil.
Manila Electric Railroad & Light Co., Manila, P.I.
Mendez, L. M., San Cristobal, Venezuela.
Mills, E., & Co., Knowlton, Quebec, Canada.
Nesbit, G. K., Cowansville, Quebec.
Pearson, E. W., 413, Collins-st., Melbourne, Victoria.
Phillip, John, Grand Valley, Ontario.
Ponce Railway & Light Co., Ponce, Puerto Rico.
Reefton Electric Co., Reefton, New Zealand.
Saboia, Paulo, 65, rua General Camara, Rio Janeiro, Brazil.
Sayer Electric Co., 12 & 14, Beaver Hall Hill, Montreal, Que., Canada.
Schlosser, Carlos, & Co., 64, rua Alfandega, Rio Janeiro, Brazil.
Shanghai Electric & Asbestos Co., Ltd., 4, Pekin-rd., Shanghai, China.
Stacey, O. F., & Co., Bathurst, New Brunswick.
Toronto & Hamilton Electric Co., 99–103, McNab, Hamilton, Ont., Canada.
Trajano Medeiros & Co., 65, rua General Camara, Rio Janeiro, Brazil.
Vancouver Power Co., Ltd., Vancouver, B.C., Canada.

Contractors—Electric Light & Power— *continued.*

Velasco, F., Arequipa, Peru.
Victorian Electric Light, Heat & Power Distributing Corporation, Broken Hill-chbrs., Melbourne.
Walker & Meimarachi, Ltd., Careh el Bawaki, Cairo, Egypt.

Contractors—Installation.

F.—Installation—Entrepreneurs d'.

G.—Unternehmer—Einsetzung.

Ackroyd, P., 184, Bank-st., Ottawa, Ont., Canada.
Armstrong, F., Queen-st. W., Toronto, Ont., Can.
B. C. Electrical Construction Co., 3, Arcade-bldg., Vancouver, B.C., Canada.
Baldwin, E., Coaticook, Que., Canada.
Barber, A. F., Electric Co., Vancouver, B.C., Canada.
Bennett, J., Temple-bldg., Montreal.
Bouclé, Ed., Santa Cruz 45, Cienfuegos, Cuba.
Buddo, G., & Co., Montreal, Que.
Canada Light & Equipment Co., Ltd., 45, Victoria-st., Toronto, Canada.
Carter, R. F., Electric Co., Niagara Falls, Ont., Canada.
Chambly Electric Co., 55, St. Antione-st., Montreal.
Chatham Electric Co., Chatham, Ont., Canada.
Continental Engineering & Construction Co., Montreal, Canada.
Cope & Frey, 338, Hastings, W., Vancouver, B.C., Canada.
Cossey, R. H., Berlin, Ont., Canada.
Cotteu, F. W., 352, St. James-st., Montreal, Canada.
Crawford & Lappin, St. Catharine's, Ont., Can.
Cruise, J., 9, George-st., Toronto, Ont., Canada.
Cumming, W., & Co., 60A, Elizabeth-st., Melbourne, Victoria.
Cunningham Electric Co., Edmonton, Alberta, Canada.
Dier, F. F., & Co., Bank-st., Ottawa, Canada.
Downham & Hastings, 48, Beaver Hall Hill, Montreal.
Duncan Electric Co., 86, Grey Nun-st., Montreal, Canada.
ELECTRIC ENGINEERING IMPORT & EXPORT CO., cor. rue de France & rue du Baron Gros, Tientsin, North China. *See advt. facing title-page.*
Electric Repair & Supply Co., Sherbrooke, Que., Canada.
Electrical Construction Co. of London, Canada.
Ellacott, J. A., & Co., Ottawa, Ont., Canada.
Euston, E., & Co., 554, William-ave., Winnipeg, Man.
Fearon, Daniel, & Co., Shanghai, China.
Geer, J. H., Peterboro, Ont., Canada.

Contractors—Installation— *continued.*

Giguere, L. C., 316, St. Joseph-st., Quebec.
Godin, 203, Rue Notre Dame, Three Rivers, Quebec.
Goodyear, C., 206, Edmonton-st., Winnipeg, Man., Canada.
Granby Electrical Works, Granby, Que., Canada.
Gray, R. A. L., & Co., 85, York-st., Toronto, Canada.
Green, W. H., Wingham, Ont., Canada.
Green & Trevett, 15, Castle-st., Cape Town.
Gruneberg, A., Market-st., King Williams Town, Cape Colony.
Halliday Electric Co., Kingston, Ont., Canada.
Heat, Light & Supplies Co., Ltd., 108, Lambton Quay, Wellington, N.Z.
Hempel, C., 74, Lamparilla, Havana, Cuba.
Hinners & Fiedler, Fort William, Ont., Canada.
Hunter, A., St. John, N.B., Canada.
Jennings, S. W., 805, Craig-st., Montreal, Canada.
Johnson, J. H., Queen-st. E., Sault Ste. Marie, Ont., Canada.
Johnson, A. H., & Co., 83, Burg-st., P.O. Box 894, Cape Town, S. Africa.
Johnson, T. P., & Co., 61, Druitt-st., Sydney, N.S.W.
Kent Electric Co., 165, Queen-st. W., Toronto.
Ketcheson, C. W., 426, Manwing-ave., Toronto.
Klopfer & Lutz, Greymouth, N.Z.
Leveille, F. X., 47, Baude-st., Quebec.
Linney, J. A., Van Aardt's-bldgs., Grey-st., Aliwal North, South Africa.
Lionais, R., 1160, St. Lawrence, Montreal.
Lyons Electric Co., Brantford, Ont., Canada.
McDonald, P. W., Strathcona, Alberta, Canada.
MacGregor & Reid, Peterborough, Ont., Canada.
Mackay, W. A., & Co., Sydney, N.S., Canada.
McLean, Wm., & Co., 115-117, Elizabeth-st., Melbourne, Victoria.
McPherson, F. R. J., Peterborough, Ont., Canada.
Maple Leaf Automobile & Electric Manufacturing Co., London, Ont., Canada.
Marshall, D. W., Sarnia, Ontario, Canada.
Martel, J. V., Assomption, Quebec, Canada.
Moncel, R., 140, St. Peter-st., Montreal, Canada.
Moscrop Bros., Revelstoke, B.C., Canada.
Mount Bros., 4278, St. Catherine-st., Montreal, Canada.
O'Leary, W. J., & Co., 36-40, Recollet-st., Montreal.
Parks, H. B., 308, Dalhousie-st., Ottawa, Ont., Canada.
Picard, O., & Fils, 119, St. John-st., Que., Canada.
Plante, O., & Cie., 259, St. John-st., Quebec, Canada.
Purvis Bros., Sudbury, Ont., Canada.
Quebec Electric Co., 111, St. John-st., Quebec, Canada.
Read & Kilner, Hamilton, Ont., Canada.
Roy, A., Hull, Que., Canada.
Rufino, A. de Almeida & Cia., Ribeirão Preto, Estado de S. Paulo, Brazil.
Scott, Henderson & Co., 6, Loftus-st., Sydney, N.S.W.

Contractors—Installation—*continued.*

Shipman Electrical Supply Co., 403, Portage-ave., Winnipeg, Man., Canada.
Simoneau, N., 2151, Notre Dame-st., Montreal, Canada.
Smith & Smith, 215, Tuam-st., Christchurch, New Zealand.
Soo Electric Co., Sault Ste. Marie, Ont., Canada.
Star Electric Co., Winnipeg, Man., Canada.
Stuart, Jas., Electric Co., 88, Princess-st., Winnipeg, Man., Canada.
Sumner Co., Moncton, N.B., Canada.
Telfer, Telfer & Co., 714, Craig-st., Montreal, Canada.
Thomas, Geo. P., Windsor, Ont., Canada.
Thompson, C. E., Danville, Que., Canada.
Thrall, Chas., & Co., Apartado 734, Nephund, cor. of Monserrate, Havana, Cuba.
Tippet, F. H., & Co., O'Regan-bldg., Mill-st., St. John, N.B., Canada.
Tomlinson, G. R., Kingston, Ont., Canada.
Torrey, J. H., 247, Portage-ave., Winnipeg, Man., Canada.
United Electric Co., 351, McDermot-ave., Winnipeg, Man.
Uslaender, Victor, & Co., R. General Camara 33, Rio.
Van Billiard, A., 78, St. George's-st., Cape Town, South Africa.
Van Voorhis Bros., Monterey, Mexico.
Vendry & Matte, St. Jean-st., Quebec, Canada.
Vezina, C., 117, Du Pont-st., Quebec, Canada.
Vickerson Electric Co., 14, Cote-st., Montreal, Canada.
Volta Electric Repair Works, 86, Adelaide-st. W., Toronto, Ont.
Walsh & Co., 562, Craig-st., Montreal, Canada.
Waterston, W., Grand Forks, B.C., Canada.
Webb, H., St. John, N.B., Canada.
Whatnough, F. C., Stratford, Ont.
White, A. E., Club-chbrs., Kalgoorlie, West Australia.
Wilhelmy, C., Peterboro, Ont.
Woodman Bros., 193, King-st. East, Hamilton, Ont., Canada.

Contractors—Telegraph.

F.—Télégraphes—Entrepreneurs de.
G.—Telegraphenbau—Unternehmer.

Contractors—Telephone.

F.—Téléphones—Entrepr. de.
G.—Telephon—Unternehmer.

Empreza Telephonica do Pernambuco, Pernambuco, Brazil.
Government Telephone Exchange, Wills-st., West Melbourne, Victoria, Australia.

Cranes (Electric)—Makers of.

F.—Grues Electriques—Fab. de.
G.—Krahnen—Elektrische.

Johns & Waygood, Ltd., Sturt-st., S. Melbourne, Victoria.
Malloch, W., & Co., 84, Fullarton-st., London, Ont., Canada.
Miller Bros. & Toms, 110-122, King-st., Montreal, Canada.
Smart-Turner Machine Co., Ltd., Hamilton, Ont., Canada.

Cut-Outs—Makers of.

F.—Coupe-Circuits fusibles—Fab.
G.—Strom-Unterbrecher—Fabr. von.

Driving Band Makers—Cotton.

F.—Courroies—Coton—Fab. de.
G.—Treibriemen Fab.—Baumwolle.

Sadler & Haworth, Montreal & Toronto, Ontario, Canada.

Driving Band Makers—Indiarubber & Gutta-Percha.

F.—Courroies—Caoutchouc—Fab. de.
G.—Treibriemen Fab.—Gummi.

Canadian Rubber Co. of Montreal, Ltd., Montreal, Canada.
Gutta-Percha & Rubber Manufacturing Co. of Toronto, Ltd., 47, Yonge-st., Toronto, Ont., Canada.

Driving Band Makers—Leather.

F.—Courroies—Cuir—Fab. de.
G.—Treibriemen Fab.—Leder.

Beardmore Belting Co., 39, Front-st. East, Toronto, Canada.
Goodhue, J. L., & Co., Danville, Quebec, Canada.

Dynamo & Electric Machine Manufacturers.

F.—Dynamos—Fab. de.
G.—Dynamos—Fab. von.

Allis-Chalmers-Bullock, Ltd., Montreal.
Kay Electric Dynamo & Motor Co., Toronto, Canada.
Sleeper & Akhurst, Coaticook, Quebec, Canada.
Vancouver Electrical Works, Vancouver, B.C., Canada.

Electricians.

F.—Electriciens.

G.—Elektriker.

Ahearn, J. J., Ottawa Electric Rly. Co., Ottawa, Canada.
Ahrbecker, H. V., Morts' Dock & Engineering Co., Cameron-st., Balmain, Sydney, N.S.W.
Alexander, John, 7, Madeline-st., Carlton, Victoria.
Alexander, J., & Co., Mercer-st., Wellington, New Zealand.
Alexander & Miller, Peterborough, Ont., Canada.
Antony, Jules, 17, rue Henri Martin, Alger.
Armstrong, A., 140, Rigrie-st., Geelong, Victoria.
Avery, G.W., Box 3472, Johannesburg, Transvaal.
Ayres, W. J., P.O. Box 92, Pernambuco, Brazil.
Bagnall & Hilles, 42, Yokohama, Japan.
Baker, T., Hargreaves-st., Bendigo, Victoria.
Barker, H., Electricity Works, Lachute, Que., Canada.
Barnes, T., Toronto Suburban Street Railway Co., Toronto Junction, Ont., Canada.
Barrachi, P., Observatory, Melbourne.
Barrett, C., 114, George-st., W. Sydney, N.S.W.
Bassett, Thos., Corporation Electricity Works, Collingwood, Ont., Canada.
Baylis, Jas. A., Bell Telephone Co., Montreal, Canada.
Beattie, W., 171, Liverpool-rd., Ashfield, N.S.W.
Beckwith, J. W., Bridgetown Electric Light, Heat & Power Co., Bridgetown, N.S., Canada.
Bernhard, K., Peking Electric Co., Ltd., Peking.
Bertrand, J., & Cie., ave. de Carthage, Tunis.
Black, James Gow, M.A., D.SC., Otago University, Dunedin, New Zealand.
Blackadder, J., 72, Westbourne-st., Petersham, N.S.W.
Blacklock, G. H., 56, Margaret-st., Sydney.
Blatchford, E. F., A.I.E.E., Wallaroo & Moonta Mining & Smelting Co., Ltd., Wallaroo Mines, S. Australia.
Boivin, O., Cie. Electrique de la Baie St. Paul, Baie St. Paul, Que., Canada.
Bonham, C., Dunnville Electric Light Co., Ltd., Dunnville, Ont., Canada.
Bowler, P., New Westminster, British Columbia.
Boyle, Chas., 439, Little Collins-st., Melbourne, Victoria.
Bradum, J. E., Corporation Electricity Works, Wingham, Ont., Canada.
Braniff, G. O., & Co., 19, Cadena, Mexico.
Brochier, A., La Concession Française, Shanghai, China.
Brown, A. C., Amherstburgh Electric Light, Heat & Power Co., Amherstburgh, Ont., Canada.
Brown, D. W., Calgary Water Power Co., Calgary, Alberta, Canada.
Brown, H. A., St. John Railway Co., St. John, N.B., Canada.
Brown, Lester, The Kent Electric Co., Ltd., Richibucto, N.B., Canada.
Browne, R. Jamieson, M.I.E.E., Grindlay & Co., Calcutta.

Electricians—*continued.*

Burns, F. R., Macleod Electric Light & Power Co., Macleod, Alberta, N.W.T., Canada.
Butcher, F., Municipal Electricity Works, Midland Junction, W. Australia.
Callaghan, H. J., Power Station, 12, Albert-rd., Allahabad, India.
Cambridge, F. A., Winnipeg, Man., Canada.
Cameron, P. H., & Co., 114A, Pitt-st., Sydney N.S.W.
Campbell, H. A., A.I.E.E., West India Electric Co., Ltd., & Jamaica Light & Power Co., Ltd., Kingston, Jamaica.
Campbell, J. R., Electrical Branch G.P.O., Sydney, N.S.W.
Carreras, J., Suipacha 708, Buenos Aires.
Carruthers, J., Municipality, Campbellford, Ont., Canada.
Champion, F., Macquarie-st., Hobart, Tasmania.
Chevance, G., French Municipality, Shanghai, China.
Chick, B., 94, Wellington-st., Collingwood, Victoria.
Christiany, B. M., B. Mitre 1286, Buenos Aires.
Clark, C. R., Carlton Electric Light & Power Co., St. John, N.B., Canada.
Clark, D., School of Mines, Bairnsdale, Victoria.
Clark, Geo. H., 56, Smith-st., Balmain, Sydney.
Clark, R. C. G., A.I.E.E., P.O. Box 3494, Johannesburg.
Clarke, E. S., Ryrie-st., Geelong, Victoria.
Cockroft, E. E., Canadian Smelting Works, Trail, B.C., Canada.
Collins, T., Mount Forest Electric Light Co., Mount Forest, Ont., Canada.
Collonges, J., Esmeralda 354, Buenos Ayres.
Connelly, J. P., Punjab Government Electricity Works, Lahore, India.
Converse, V. G., Ontario Power Co., Niagara Falls, Ont., Canada.
Copeland, R. H., New Modderfontein Gold Mining Co., Ltd., Johannesburg.
Cordesius, M., Sourabaya, Java.
Couillard & Leppaille, Belgrano 462–70, Buenos Ayres.
Cowles, G. A., Electrical Engineer's Dept., Government Railways, Sydney, N.S.W.
Crandall, T. O., Corporation Electricity Works, Picton, Ont., Canada.
Cregen, J. H., Demerara Electric Co., Georgetown, British Guiana.
Cross, W. G. H., Central & South American Telegraph Co., San Juan del Sur, Nicaragua.
Cruickshank, C. B., M.A., A.G.T.C., S.S. *Henry Holmes*, West India & Panama Telegraph Co., West Indies.
Cuff, R. S., United River Plate Telephone Co., Ltd., Rivadavia 1193, Buenos Ayres.
Danks, A. T., 391, Bourke-st. West, Melbourne.
Davids, W. de F. B., City of Santos Improvements Co., Santos, Brazil.
Davidson, Alexander, Anglo-American Telegraph Co.'s cable ship *Minia*, Halifax, N.S.

Electricians—*continued.*

Davis, Ira T., Canada Electric Co., Ltd., Amherst, N.S., Canada.
Del Campo, F., Alsina 971, Buenos Aires.
Delfos Bros., Pretoria, S. Africa.
Delisle, E., Cie. d'Electricité de Roberval, Roberval, Que., Canada.
Dell, J. J., Charles-st., Launceston, Tasmania.
De Pool, J. R., Maracaibo, Venezuela.
Dewhirst, T. Y., Railways Dept., Adelaide, South Australia.
Diemer Hansen, L., Siam Electricity Co., Ltd., Bangkok, Siam.
Dixon, J., Maple Leaf Rubber Co., Ltd., Electricity Works, Port Dalhousie, Ont., Canada.
Dodd, Maynard, A.I.E.E., Commercial Pacific Cable Co., Honolulu, H.I.
Dornbusch, E. G., c/o Gibson, Battle & Co., 85, Pitt-st., Sydney, N.S.W.
Dougall, Wm., 21, Park-st. W., S. Melbourne.
Duran, Lieut., Argentine Navy, Buenos Ayres.
Edmiston, H., Municipal Tramways & Electric Lighting Board, Fremantle, West Australia.
Edwards, H., Bullendale, N.Z.
Edwards, J. E., & Co., 152, Little-Collins-st., Melbourne, Victoria.
English, H. G., American-Korean Electric Railway, Seoul, Korea.
English, Wm., 6, Wilmot-st., Sydney, N.S.W.
Enna, A. A. A., Great Northern Telegraph Co., Ltd., Gutzlaff.
Ermoli, B., 1337, calle Paraguay, Buenos Ayres.
Everall, W. M., Hong Kong Electric Co., Hong Kong.
Fahy, John T., A.M.I.E.E., New Zealand Railway, Wellington, N.Z.
Farnsworth, F. B., Corporation, Granby, Que., Canada.
Fisher, H. C. K., A.I.E.E., East. Ext. Aus. & China Tel. Co., Ltd., Victoria-sq., Adelaide, S. Australia.
Fiske, W. H., Toronto Railway Co., Toronto, Ont., Canada.
Fleet, W. D., Huronian Power Co., Copper Cliff, Ont., Canada.
Fleming, J., 170, Dhurrumtollah-st., Calcutta.
Fletcher, W. J., Alliston Electric Light Co., Alliston, Ont., Canada.
Foster, G. E., Municipality, Niagara Falls, Ont., Canada.
Foster, W. A., c/o Bagnall & Hilles, 96, Robinson-rd., Singapore.
Fowler, T. W., M.I.E.E., The University, & 410, Collins-st., Melbourne.
Frost & Shiphan, 411, Hay-st., Perth, Western Australia.
Fry, J., Chesley Electric Light Co., Chesley, Ont., Canada.
Fujita, P., Kyushu Railway & Electric Department, Kyushu, Japan.
Fyfe, J. J., A.M.I.E.E., The Burma Ruby Mines, Ltd., Mogok, Upper Burma.
Garcia, D., Rivadavia 1620, Buenos Aires.
Garrido & Castro, Mejico 1736, Buenos Aires.

Electricians—*continued.*

Gaskell, F., 60, Highbury-grove, Prahran, Victoria.
Gelling, L. C., Town Council, Bridgewater, Lunenburg Co., N.S., Canada.
Gerrard, F. B., c/o Commercial Cable Co., Hazelhill, Nova Scotia, Canada.
Gilbert, B., Benjamin Mfg. Co., Ltd., Yarker, Ont., Canada.
Gill, H. J., R.I. Marine Dockyard, Bombay.
Godwin, S. J., Bengal Telephone Co., Calcutta.
Grady, T. B., Summerside Electric Co., Summerside, P.E.I., Canada.
Gray, D., 60, Morris-st., Williamstown, Victoria.
Greene, H. G., Brome Lake Electric Power Co., Waterloo, Que., Canada.
Greengrass, Francis W., Greymouth, N.Z.
Griswald, F. L., M.A., S.C.E., La Rioja, Argentina.
Guldenzoph, C., Minas, Uruguay.
Gumersindo, Villegas, Teneriffe, Canary Isles.
Hahn, A., & Sons, Callao 248-252, Buenos Ayres.
Hake, C. N., F.C.S., Melbourne Club, Melbourne.
Hallett, W., North Bay Light, Heat & Power Co., North Bay, Ont., Canada.
Hamada, H., Mitsu Bishi Dockyard & Engine Works, Nagasaki, Japan.
Hamilton, F. T., P.O. Box 5522, Johannesburg.
Hammerton, C. W., Wemmer Gold Mining Co., P.O. Box 188, Johannesburg, Transvaal.
Harper, C. H., Oriental Telephone & Electric Co., Ltd., 37, Errahbauloo, Chetty-st., Madras, India.
Harris, F. C., Sackville Elec. Light & Telephone Co., Sackville, N.B., Canada.
Harriss, Chas., Car Sheds, Ponsonby, Auckland, N.Z.
Harvey, G. A., Niagara Falls Park & River Railway Co., Niagara Falls, Ont., Canada.
Hassler, Carlos, Belgrano 525, Buenos Ayres, Argentine Republic.
Haterston, Wm., City Council, Grand Forks, B.C., Canada.
Hayes, F., Chatham Gas Co., Ltd., Chatham, Ont., Canada.
Henry, C., 127, Princes-st., Dunedin South, N.Z.
Herrera, L., Electric Light Station, Caracas, Venezuela.
Hill, Geo. H., Hill Electric Switch Co., Ltd., 426, St. Paul-st., Montreal, Canada.
Hillgartner, S., Electricity Works, Hanover, Ont., Canada.
Hirose, T., 19, Kuramaye, Asakusa-Ku, Tokyo, Japan.
Hodgson, S., Corporation, Pietermaritzburg.
Hogg, Jno. W., Corporation Electricity Works, Fraserville, Que., Canada.
Holding, E., 184, Darling-st., Balmain, Sydney, N.S.W.
Holmhansen, J., Paraguay 1049, Buenos Aires.
Honjio, S., Toyama Electric Light Co., Toyama, Japan.
Hood & Pirie, 94, Burwood-rd., Hawthorn, Victoria.

Electricians—*continued.*

Hordern, Anthony, & Sons, Sydney, N.S.W.
Horton, A., Ashcroft Water, Electric & Improvement Co., Ashcroft, B.C., Canada.
Hulbert, S. A., Antigonish Electric Co., Antigonish, N.S., Canada.
Hunt, A. O., London Electric Co., London, Ont., Canada.
Hutton, W., Maple Leaf Rubber Co., Ltd., Electricity Works, Port Dalhousie, Ont., Canada.
Jackson, A. J., 355, George-st., Brisbane, Queensland.
Jacobsen, W. F., Siam Electricity Co., Bangkok, Siam.
Jarvis, W. C., Nanaimo Electric Light, Power & Heating Co., Ltd., Nanaimo, B.C., Canada.
Jensen, O., Postal Telegraphs, Accra, Gold Coast, West Coast Africa.
Job, S., Corporation Electricity Works, Pietermaritzburg, Natal.
Johnston, J. J., Parliament-bldgs., Ottawa, Can.
Jones, J. C. D., Eastern Extension Telegraph Co., Ltd., Sydney, N.S.W.
Jost, C., & Co., Sirdar's Palace, Apollo-st., Bombay.
Kalbus, R., Rivadavia 1319–21, Buenos Aires.
Kamiya S., Tsushiu Kyoku, Tokyo, Japan.
Kawasaki, R., M.E., Nippon Electric Co., Ltd., 2, Mita, Shikokumachi, Shibaku, Tokyo, Japan.
Kerhly, C., Cuyo 1396, Buenos Aires.
Kessler, V., Y.M.C.A.-bldg., Longmarket-st., Pietermaritzburg, Natal.
Knight, Tracey, Victoria Battery, Waikino, N.Z.
La Rosa, F., Arequipa, Peru.
Larroy, P., Moreno 945, Buenos Aires.
Lauchlan, G., A.M.I.E.E., City of Wellington Electric Light Co., Ltd., Wellington, N.Z.
Lentati, G., c/o G. L. Pezzi, Chareh Abdine 18, Cairo, Egypt.
Leopold, E. W., Deakin-st., St. Kilda, Victoria.
Lewis, G. H. A., Corporation Electricity Works, King William's Town, Cape Colony.
Lowe, Geo., Cobourg Water & Electric Co., Cobourg, Ont., Canada.
MacAlister, F. W., Electrical Engineers' Branch, Rly. Dept., 51, Phillip-st., Sydney, N.S.W.
McCrossan, J. A., Vancouver, B.C.
McCulloch Bros., Euron, Victoria.
McCurdy, A., Hutt Upper, N.Z.
McDonald, J. D., West Kootenay Power & Light Co., Ltd., Rossland, B.C., Canada.
Macfarlane, Frank, A.I.E.E., Mount Morgan Gold Mining Co., Rockhampton, Queensland.
McGarvey, J., Buckingham Electric Light Co., Buckingham, Que., Canada.
McGregor, J., Hillgrove, N.S.W.
MacIsaac, A W., Electricity Works, Sydney, N.S., Canada.
McKavannagh, T., Anglo-American Telegraph Co.'s cable ship *Minia*, Halifax, N.S.
Mackenzie, H., Electrical Engineers' Branch, Rly. Dept., 51, Phillip-st., Sydney, N.S.W.
McLeod, G., Sandwich, Windsor & Amherstburg Railway, Windsor, Ont.

Electricians—*continued.*

McLinden, Jos., Corporation Electricity Works, Owen Sound, Ont., Canada.
McNeil, J. A, Electricity Works, Paisley, Ont., Canada.
McPhee, Jas., Corporation Electricity Works, Nelson, B.C., Canada.
Madden, R. H., St. Jerome Power & Electric Light Co., Ltd., St. Jerome, Que., Canada.
Marsden, A., Braamfontein Estate Co., Johannesburg, Transvaal.
Martin, F. L., Electricity Works, Cargill, Ont., Canada.
Marx, F., Eastern Telegraph Co., Suez.
Masters, A. H., 66, Cameron-st., Launceston, Tasmania.
Mawson, S. H., Electrical Engineers' Branch, Rly. Dept., 51, Phillip-st., Sydney, N.S.W.
May, A. L., Tweed Electric Light & Power Co., Tweed, Ont., Canada.
Melville, M. J., Carman Electric Light & Power Co., Ltd., Carman, Man., Canada.
Mercer, W., 435, Brunswick-st., Fitzroy, Victoria.
Migliavacca, A., Rod. Peña 268, Buenos Aires.
Miller, R., Electricity Works, Wiarton, Ont., Canada.
Miller & Annear, 126, Toorak-rd. East, S. Yarra.
Miranda, L., Victoria 314, Buenos Aires.
Mogridge & Paterson, 28, Brook-st., South Melbourne, Victoria.
Molina, F., La Vela, Venezuela.
Monsbourgh, Alex. E., 25, Dawson-st., Ballarat, Victoria.
Monties, Raoul, Cie. du Gaz, Cairo, Egypt.
Moore, H. J., Electricity Works, Meaford, Ont., Canada.
Morgan, Percy, 19, Hathem-st., Leonhurst, N.S.W.
Morley, J., Electricity Works, New Hamburg, Ont., Canada.
Morris, J. W., Reid Newfoundland Co., St. John's, Newfoundland.
Murray, J. H., Tanjing Pagar Dock Co., Singapore.
Murray, James, & W. H. Weir, 12, Government-pl., Calcutta, India.
Myers, G. H., 301, Albert-st. W., Brunswick, Victoria.
Nahman, R., Chareh Boulac, Cairo.
Nakano, H., M.E., M.I.E.E., Imperial University, Tokyo, Japan.
Nishikawa, K., E.E., Sumitomo Besshi Copper Mine, Japan.
Noakes, L., Camp's Bay Electric Tramways Co., Ltd., Cape Town.
Noakes, W. M., Clyde Engineering Co., Granville & Sydney, N.S.W.
Nunns, A. J. D., P.O. Box 115, Roodepoort, Transvaal.
O'Connor, L., Corporation, Thorold, Ont., Canada.
Oddie, James, J.P., F.R.G.S., Ballarat, Victoria.
Osborn & Jerdan, 438, George-st., Sydney.
Ostrander, G., Brampton Electric Co., Brampton, Ont., Canada.

Electricians—*continued.*

Otto, Carl M., 256, Elizabeth-st., Melbourne, Victoria.
Ouillet, L., Cie. des Eaux et de l'Electricité de Chicoutimi, Chicoutimi, Que., Canada.
Page, J. W., Burke-rd., Hawthorn, Victoria.
Pagh, E. K., Great Northern Telegraph Co., Ltd., Chefoo, China.
Pask, T. P., A.M.I.E.E., Natal Government Railways, Durban, Natal.
Pearce, E. A., Corp., Fenelon Falls, Ont., Canada.
Pedersen, W. I., Great Northern Telegraph Co., Wladiwostock, Siberia.
Pepper, A. E., Roslyn, Concord, Sydney, N.S.W.
Perochena, M., Chabuco 459, Buenos Aires.
Petit, C., 250, calle Suipacha, Buenos Ayres.
Philip, E. J., Electricity Works, Berlin, Ont., Canada.
Phillips, A. E., Box 396, G.P.O., Melbourne, Vic.
Phillips, G. H., A.M.I.E.E., Selangor, F.M.S.
Piper, C., Corporation, Kincardine, Ont., Canada.
Pippy, W. J., Edison Electric Light & Power Co., Spring Hill, N.S., Canada.
Pohl, J., Victoria Deep Leads Gold Mining Co., Baringhup, Victoria.
Pominville, G., Cie. de Gaz, Electricité et Pouvoir, St. Hyacinthe, Que., Canada.
Ponsot, W., Village Deep Gold Mines, Ltd., Johannesburg, Transvaal.
Porter, Cecil, C.S.A.R., Pretoria, Transvaal.
Potterton, W., c/o Hubert Davies & Spain, Box 1386, Johannesburg, Transvaal.
Powell, Fredk. H., General Electric Power Co., Ltd., P.O. Box 217, Germiston, Transvaal.
Pratt, R. J., M.AM.I.E.E., Honolulu Iron Works Co., Honolulu, Hawaii.
Priestley, R. A. W., Borough Council Electricity Works, Patea, N.Z.
Prout, Jas., Forest Electric Light Co., Forest, Ont., Canada.
Pugni, C., Lavalle 1171, Buenos Aires.
Purdy, J. G., Bear River & Digby Light, Heat & Power Co., Bear River, N.S., Canada.
Rankin, A. C., Town Electricity Works, Gravenhurst, Ont., Canada.
Read, R. F., c/o Messrs. Turner, Hoare & Co., 8, Elphinstone Circle, Bombay.
Rebuffo, F. A., Cerrito 338, Buenos Aires.
Reiber, Wm., Waterloo, Ont., Canada.
Reichel, L. T., Public Works, Wellington, N.Z.
Ritchie, F. J., Electricity Works, Markdale, Ont., Canada.
Ritchie & Jackman, 181, Murray-st., Perth, West Australia.
Robertson, J., Hull Electric Co., Aylmer, Que., Canada.
Robertson, J. A., Vankleek Hill Electric Co., Vankleek Hill, Ont., Canada.
Robillard, N., North River Power Co., Montreal, Canada.
Robinson, A., Corporation, Kenora, Ont., Canada.
Rohde, J. L., Great Northern Telegraph Co., Ltd., Amoy, China.
Rolfe, J., 63, Darlington-rd., Sydney, N.S.W.

Electricians—*continued.*

Rose, S. A. M., 633, Church-st., Richmond, Melbourne, Victoria.
Roux, F., Electricity Works, Ste. Thérèse de Blainville, Que., Canada.
Saccaggio, P. C., Estacion Talleres, F.C. Sud, Buenos Ayres.
Sanderson, A. H., Sandon Water & Light Co., Sandon, B.C., Canada.
Sandwith, H., Grand National Hotel, Johannesburg.
Sather, S. P., Geldenhuis Deep Electricity Works, Geldenhuis Deep, South Africa.
Saxby, R. M., Electricity Works, Whitby, Ont., Canada.
Schmidlin, F., Elizabeth-st., Sydney, N.S.W.
Schwartz, F. J. F., Bell Teleph. Co., Montreal.
Scott, D. Bryce, Intercolonial Railway, Moncton, New Brunswick, Canada.
Shenstone, F. B., Electrical Engineers' Branch, Railway Dept., 51, Phillip-st., Sydney, N.S.W.
Shepley, Arthur, Port Pirie, S. Australia.
Shimada, Asataro, Hakata Electric Light Co., Fukuoka, Japan.
Shirai, S., Kyoto Electric Light Co., Kyoto, Japan.
Simmons, H., Municipality, Kingston, Ont., Canada.
Simmons, W. C., Corporation Electricity Works, Bracebridge, Ont., Canada.
Sims, C. W., 44, The Avenue, Windsor, Victoria.
Smith, C. E., Rosario Electric Co., Casilla Correo 137, Rosario, Argentina.
Snider, W., Leamington Light & Heat Co., Ltd., Leamington, Ont., Canada.
Soni, F. A., Telégrafos Federales, Mexico.
Souza, Dr. E., Light & Power Co., Caixa 162, São Paulo, Brazil.
Sovereign, J. C., Simcoe Gas & Water Co., Simcoe, Ont., Canada.
Spain, H. G. G., Postal Telegraphs, Brit. Guiana.
Sterr, B. von der, Electriciteit Maatschappij Medan, Medan Deli, Sumatra.
Stewart, J. H., Tay-st., Invercargill, N.Z.
Stewart, Wm., Tauranga, Bay of Plenty, N.Z.
Stiff, F. B., P.O. Box 2538, Johannesburg.
Stirling, D., 27, Victoria-chbrs., Sydney, N.S.W.
Summerveldt, W. S., Electricity Works, Sutton, Ont., Canada.
Sweeting, J. Brock, Central & South American Telegraph Co., Villa Maria, Cordoba, Argentine Republic.
Tarder, T., Puerto Cabello, Venezuela.
Tatham, Geo., 50, Clarence-st., Sydney, N.S.W.
Taylor, T., Sherbrooke Power, Light & Heat Co., Sherbrooke, Que., Canada.
Teckre, J., Corporation Electricity Works, Strathroy, Ont., Canada.
Thaeter, H., Norwich-chbrs., 56, Hunter-st., Sydney, N.S.W.
Thompson, W., Maritzburg-st., Jeppes, Johannesburg, Transvaal.
Thomsen, A., Siam Electricity Co., Bangkok, Siam.

Electricians—*continued.*

Towell, Wm., Brisbane-st., Ipswich, Queensland.
Trépied, Charles, Bouzarea, Algeria.
Turnbull, A. P., N.S.W. Government Railways, Sydney, N.S.W.
Turnidge, Fred, Harden, N.S.W.
Turville, Dixon & Kemp, 138, Queen-st., Melbourne, Vic.
Ugueto, José E., Telephone Co., Curaçao, Dutch West Indies.
Unbehaun, C. A., M.I.E.E., G.P.O., Adelaide, S. Australia.
Vachan, A. A., St. Francis Hydraulic Co., Thetford Mines, Que., Canada.
Wadden, C. E., New Glasgow Electric Co., Ltd., New Glasgow, N.S., Canada.
Wadman, F., Cape Town, South Africa.
Walkom, A. J., Electricians' Branch, G.P.O., Sydney, N.S.W.
Walsh, R. E., Ormstown, Ont., Canada.
Ward, W., Hong Kong & Whampoa Dock Co., Queen's-bldgs., New Praya, Hong Kong.
Warfield, A., Brantford Street Railway Co., Brantford, Ont., Canada.
Waterbury, N., Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Canada.
Watson, C. W., Electricity Works, Orangeville, Ont., Canada.
Watts, F., 244, Pitt-st., Sydney, N.S.W.
White, E. Lionel, Corporation Electricity Works, Calgary, Alberta, Canada.
White, W., Gold Coast Government Railway, Sekondi, West Africa.
Wickens, A. M., Ontario Parliament-bldg., Toronto, Ontario.
Wickham, C. H., Government Tramways, 51, Phillip-st., Sydney, N.S.W.
Wickins, H. R., A.I.E.E., c/o Brisk & Co., President-st., Johannesburg.
Wightwick, H. G., A.M.I.E.E., Singapore Electric Tramways, Ltd., Singapore, Straits Settlements.
Wilkinson, W., City Council, Christchurch, N.Z.
Williams, W., Sarnia Gas & Electric Light Co., Sarnia, Ont., Canada.
Willmot, H., Mina Rosa-st., Enfield, Sydney.
Winkfield, B. Geo., H.M.C.S. *Iris*, Pacific Cable Board, Suva, Fiji Islands.
Winnall & Sutcliffe, 88, President-st., Johannesburg, Transvaal.
Wolfe, Augustus, Post & Telegraph Office, Bairnsdale, Victoria.
Woodroofe, W. T., Vancouver Power Co., Ltd., Vancouver, B.C., Canada.
Wright, H. H., Renfrew Electric Co., Ltd., Renfrew, Ont., Canada.
Young, W. J., City Electric Supply Co., Ltd., Brisbane, Queensland.
Young, W. R., Eastern Extension Telegraph Co., Hong Kong.

Electricians—Consulting.

F.—Électriciens—Consultants.
G.—Elektriker—Beratende.

Craven, M. P. S., 116, Prince-st., Montreal, Canada.
Schockel, H., Tribunal Mixte, Cairo, Egypt.
Swinnerton, J., Electrical Supply Co., 517, George-st., Sydney, N.S.W.
Toltz, Max, Canadian Pacific Railway Co., Montreal.
Vogle, Chas. H., Carleton-chbrs., Ottawa, Canada.
Wentz Engineering Co., 509, Manning-chbrs., Toronto, Ont., Canada.

Electricians—Experts.

F.—Électriciens—Experts.
G.—Elektriker Fachkundige.

Darookhanawalla, A. B., A.I.E.E., Ormiston-rd., Apoll Pier, Bombay.
Shaw, William B., Montreal Electric Co., 354, St. James-st., Montreal, Canada.

Electricians—Manufacturing.

F.—Électriciens—Fab.
F.—Elektriker—Fab.

Cortlandt Electrical Manufacturing Co., Ltd., 106, Lombard-st., Toronto, Ontario.
Dorman & Smith, Ordsal Electrical Works, Salford, England. Selling agent for Australia, Oswald Haes, 56, Margaret-st., Sydney, N.S.W.
Eastman Machine Co., 128, Bay-st., Toronto, Ont., Canada.
Empire Electric & Manufacturing Co. of Ottawa, Ltd., Rideau-st., Ottawa, Ont., Canada.
Hoffmeister, R., 1107, Howe-st., Vancouver, B.C., Canada.
Hyde, T. C., & Co., 386, Flinders-st., Richmond, Victoria.
Kopsch, C. F. G., 8, Bridge-st., Sydney, N.S.W.
Mayne, Blackadder & Co., 100, Westbourne-st., Petersham, N.S.W.
Moody, F. H., 85, Spring-st., Melbourne, Victoria.
Northern Electric & Manufacturing Co., Ltd., cor. Notre Dame & Guy-st., Montreal.
Schilder, C., 1019, Lavalle, Buenos Ayres.
Scott, E. W., 332, Pitt-st., Sydney, N.S.W.
Smith, A., & Co., 190, High-st., Christchurch, N.Z.
Thomson, Fred., & Co., 326, 328 & 330, Craig-st., Montreal, Canada.
Westinghouse Electric & Manufacturing Co., 124, Defensa, Buenos Ayres.

Electricians—Medical.

F.—Électriciens—de Médecin.
G.—Elektrotherapie.

Bethel, G. H., 38, Flinders-st., Sydney, N.S.W.
Crump, W. E., 44, Castlereagh-st., Sydney, N.S.W.
Guimarães, Dr. Modesto, General Camara 82, Rio de Janeiro.

Electricians—Medical—*continued.*

Hess, O., & Cia., Florida 667, Buenos Ayres.
King, A., 287, William-st., Melbourne, Victoria.
Kyte, W. H., 31, Spring-st., Melbourne, Victoria.
Lutz y Schulz, Florida 171, Buenos Ayres.
Machado, Dr. A. V. W., R. Primeiro de Marco 8, Rio.
Russell, W. H., 366A, Bourke-st., Melbourne, Victoria.

Electricity Meters—Makers of.

F.—Compteurs d'électricité.
G.—Elektricitäts Messer—Fab. von.

Prepayment Electric Meter Co., Ltd., Peterborough, Ont., Canada.

Electricity Works.

F.—Usines électriques.
G.—Elektricitäts Centrale.

ABBREVIATIONS.

L. Light.	*inc.* incandescent.
P. Power.	*K.W.* kilowatts.
T. Traction.	*ph.* phase.
a. alternating.	*py.* periodicity.
c. continuous.	res. resident.
engr. engineer.	*v.* volts.

Acadia Edison Electric Light Co. *See* Wolfville.
Acton, Corporation of, Acton, Ont., Canada. L. *a.*, 1-*ph.*, 66 *py.*, 1150–115 *v.*
Adamanda Gold Mine, Barberton, Transvaal. P. *plant under consideration.*
Adelaide Electric Supply Co., Ltd., Port Adelaide, S. Australia. *c.* L., 200 *v.*, 3-wire; P., 200 & 400 *v.*, 120 *K.W.* Chief engr., F. W. Clements, M.I.E.E.; res. engr., F. W. Wheadon, A.M.I.E.E.
Adelaide Electric Supply Co., Ltd., Adelaide, S. Australia. L. P. *a.*, 1-*ph.*, 50 *py.*, 2000–200 *v.*; *c.*, 3-wire, 200 & 400 *v.*, 1510 *K.W.* F. W. Clements, M.I.E.E., chf. engr.; F. W. Wheadon, A.M.I.E.E., res.
Aidzu Denryoku Kabushiki Kwaisha, Wakamatsu Fukushimaken, Japan. Niwayama Co., props. L. P. *a.*, 3-*ph.*, primary 2000 *v.*, secondary 110 & 220 *v.*, 70 *K.W.* Engr., I. Ogura.
Alexandersfontein Tramways, South Africa. De Beers Con. Mines, Ltd., props. *c.*, 550 *v.* Engr., R. W. Smith.
Alexandria, Egypt. No particulars.
Alexandria Corp., Alexandria, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2200–110 *v.*, 120 *K.W.*
Alexandria Electric Tramways Co., Alexandria, Egypt. 500 *v.*, 1100 *K.W.* Gen. man., J. des Combes; engr.-in-chf., A. Woller.
Alexandria-Ramleh Electric Railway, Alexandria, Egypt. *a.*, 3-*ph.*, 25 *py.*, 6500 *v.*, transformed to *c.*, 550 *v.*, 1500 *K.W.* Gen. man., J. Des Combes; engr.-in-chf., A. Woller.
Algoma Power Co., Berlin, Ont., Canada.

Electricity Works—*continued.*

Aliwal North Municipality, Aliwal North, Cape Colony. L. P. *c.*, 3-wire, 230 & 460 *v.*, 90 *K.W.* Consulting engrs., Burstall & Monkhouse; res. engr., A. H. Pashby.
Allahabad, India. Public Works Dept., props. L. P. *c.*, 220 *v.*, 20 *K.W.* Engr., H. J. Callaghan.
Alliston Electric Light Co., Alliston, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 110 *v.*, 60 *K.W.* Engr., J. Trueman; elecn., W. J. Fletcher.
Almonte Corp., Almonte, Ont., Canada. L. *c.*, 3-wire, 110 & 125 *v.*, 200 *K.W.* Engr., W. P. Kyle.
Alvinston Power Co., Ltd., Alvinston, Ont., Canada. L. *c.*, arc 72 *v.*, inc. 106–110 *v.*, 24 *K.W.* Engr., H. R. Carruthers.
Amherst, Nova Scotia. Canada Electric Co., Ltd., proprietors. L. *c.*, 120 *v.*, 200 *K.W.* Engr., C. L. Bent; elecn., Ira T. Davis.
Amherstburgh Electric Light, Heat & Power Co., Ltd., Amherstburgh, Ont., Canada. L. *c.*, 104 *v.*, 75 *K.W.* Elecn., A. C. Brown.
Anglo-Argentine Electricity Co., 454 Cuyo, Buenos Aires.
Annapolis Royal Municipal Electric Light Plant, Annapolis Royal, N.S., Canada. L. *a.*, 3-wire, 2-*ph.*, 60 *py.*, 104 *v.*, 200 *K.W.* Engr., S. Rippay.
Antananarivo, Madagascar. *E. L. concession has been granted to La Soc. Civile d'Études de Concessions et Travaux, Paris.*
Antigonish Elec. Co., Antigonish, N.S., Canada. L. *c.*, Edison 3-wire, 110 *v.*, 50 *K.W.* Engr., D. G. Whidden; elecn., S. A. Hulbert.
Ararat, Victoria. Cathcart Gold Mining Co., proprietors. *a.* L, 1-*ph.*, 50 *py.*, 550–100 *v.*; P., 3-*ph.*, 50 *py.*, 550 *v.*, 121 *K.W.* Engr., J. Hamilton.
Arcadia, Natal. *Works to be erected shortly.*
Arnprior Electric Light & Power Co., Arnprior, Ontario. L. P. *a.*, 1-*ph.*, 125 *py.*, primary 1000 *v.*, secondary 52 & 110 *v.* Elec. engr., R. G. Moles.
Ashcroft, B.C. Ashcroft Water, Electric & Improvement Co., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080–104 *v.* C. R. Patterson, manager; elecn., A. Horton.
Asuncion, Paraguay. *The Govt. are about to call for tenders for* E. L. & T.
Atami Dento Kabushiki Kaisha, Atami Machi Idzu, Japan. L. *a.*, 1-*ph.*, 80 *py.*, 1010 *v.* T. Yamagata, engr.
Atlin, B.C. British Columbia Power & Manufacturing Co., Ltd., proprietors. L. *c.*, 110 *v.*, 50 *K.W.* A. H. Hartshorn, manager.
Auckland Electric Tram Co., Auckland, N.Z. T. *c.*, 550 *v.*, 900 *K.W.* Engr., M. Carey; elecn., W. Wilson. *An offer to supply energy in bulk for* L. *is under consideration by the City Council.*
Aurora, Ont., Canada. Schomburg & Aurora Railway Co., proprietors. *c.*, 500 *v.*

Electricity Works—*continued.*

Aurora Electric Light Plant, Aurora, Ont., Canada. W. H. Birchard, proprietor & electrician. L. *a.*, 2 *ph.*, 125 *py.*, primary 1000 *v.*, secondary 100 *v.*, 60 *K.W.* Engr., W. McLeod.

Aylmer Municipal Plant, Aylmer, Ont. L. *a.*, 1-*ph.*, 60 *py.*, 1040–104 *v.*, 120 *K.W.* Engr., J. L. Millard.

Aylmer, Que., Canada. Hull Electric Co., proprietors. L. *a.*, 1-*ph.*; P. *c.*, 600 *v.*; T. Elecn., J. Robertson.

Bahia Blanca, Argentine Republic. *Bought by B.B. North-Western Railway Co.*

Bahia, Brazil. *A large hydro-electric installation in connection with the Yaragnaso Waterfalls is now being started.*

Baie St. Paul, Que., Canada. Cie. Electrique de la Baie St. Paul, props. L. *a.*, 2-*ph*, 2000–104 *v.*, 250 *K.W.* Elecn., O. Boivin.

Bakan Electric Light Co., Ltd., Shimonosaki, Japan. L. P. *a.*, 1-*ph.*, 80 & 60 *py.*, primary 2000 *v.*, secondary 100 *v.*

Ballarat, Victoria. Electric Supply Co. of Vic., Ltd., props. L. P. *c.*, 3-wire, 220 & 440 *v.*; T., 500–550 *v.*, 900 *K.W.* Engr. & man., Benj. Deakin, M.I.E.E., M.I.M.E.

Balmain, N.S.W. *Electric lighting scheme has fallen through.*

Bangalore, India. Mysore Govt., props. 3-*ph.*, generation at 2200 *v.*, step-up to 35,000 transformed to 2300 *v.*; L., 60 *py.*, 220 *v.*; P., 25 *py.*, 2300 & 220 *v.*, 7000 *K.W.* Chief elec. engr., H. P. Gibbs; supt. engr., Capt. W. S. Traill, R.E.

Bangkok, Siam. Siam Electricity Co., Ltd., props. L. P. *a.*, 2-wire, 1-*ph.*, 100 *py.*, 2000–100 *v.*; P. T. *c.*, 550 *v.*, 2300 *K.W.* Chief engr., W. F. Jacobsen; elecn., L. Diemer-Hansen.

Barbadoes, West Indies. *There are no electricity works at present, but orders are being applied for.*

Barberton, Transvaal. Moodie's Gold M. & E. Co., Ltd., proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, generated at 220 *v.*, transformed up to 11,000 *v.* on line, & transformed down to 200 *v.* for L. & P., 320 *K.W.* Engr., J. G. B. Sutherland.

Barrackpore, Calcutta, India. L., 3-wire. *See* Calcutta Electric Supply Corp.

Barrie Corp., Barrie, Ont., Canada. L. *c.* arc, *a.*, 2-*ph.*, 66 *py.*, primary 2000 *v.*, secondary 100 *v.*, 450 *K.W.* Engr., J. A. Hare; elecn., F. T. Kelly.

Barron Falls, nr. Cairns, Queensland. *Scheme for utilizing these falls is under consideration.*

Batavia, Java. Nederlandsch-Indische Elec. Maatschappij, props. *a.*, 2-wire, 50 *py.*, 110 *v.*, 556 *K.W.* Chief engr., J. Verdam.

Bathurst, N.B., Canada. J. L. Leger, proprietor & engr. L. *a.*, 1-*ph.*, 133 *py.*, 2300–110 *v.*, 60 *K.W.*

Beaconsfield, Tasmania. Tasmania Gold Mining & Quartz Crushing Co., proprietors. L. P. T. *a.*, 1-*ph.*, 90 *py.*, primary 2000 *v.*, secondary 110 *v.*; P. T. *c.*, 300 *v.*, 100 *K.W.* Engr., J. Ingram.

Electricity Works—*continued.*

Beaconsfield, nr. Kimberley, South Africa. *The Town Council is considering an offer from De Beers Co. for electric lighting the town.*

Bear River & Digby Light, Heat & Power Co., Bear River, N.S. L. *a.*, 1-*ph.*, 1154–104 *v.* Elecn., J. G. Purdy.

Beauharnois Electric Light Co., Beauharnois, P.Q., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 1120–112 *v.*, 50 *K.W.*

Bedford, Cape Colony. *E. L. under consideration by Municipality.*

Bedford, P.Q., Canada. Cosey & Campbell, props.

Belize, British Honduras. *The District Board have entered into a contract with Mr. J. Lewis for* L. *Works not commenced.*

Belleville. *See* Trenton.

Belleville Gas Co., Belleville, Ont., Canada. L.

Benares, India. E. L. & T. *order applied for by Crompton & Co.*

Bendigo, Victoria. Electric Supply Co. of Victoria, Ltd., proprietors. L. P. *c.*, 3-wire, 220 & 440 *v.*; T., 550 *v.*, 900 *K.W.* B. Deakin, engr. & man.; res. engr., — Ford.

Bengal-Nagpur Railway Co., Loco & Carriage Workshops, Khargpur, India. L. P. *c.*, 2-wire, 220 & 440 *v.*; & *a.* P., 3-*ph.*, 18 *py.*, 2300–140 *v.*, 700 *K.W.* Chief engr., E. Stanley Franklin, M.I E.E., M.I.MECH.E.

Berlin, Ont., Canada. Light Commissioners, props. L. P. *c.*, 250 & 500 *v.*; *a.*, 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.* L. & T., 220 *v.* P., 600 *K.W.* Engr., E. Fruse; elecn., E. J. Philip.

Berlin & Waterloo Street Railway Co., Berlin, Ont., Canada. *c.*, 500 *v.*, 160 *K.W.*

Bethlehem, Orange River Colony. Harris, Lee & Co., Ltd., props. *c.* L., 250 *v.*, 33 *K.W.* Engr., A. B. Dick.

Bikanir, India. L., 3-*ph.* *Scheme under consideration.*

Blenheim Corp., Blenheim, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 2200–110 *v.*, 75 *K.W.* Engr., C. E. Wharram.

Bloemfontein Corporation. L. P. *a.*, 3-*ph.*, 50 *py.*, 2000–110 & 200 *v.*, 500 *K.W.* H. F. Peet, engr.

Bluff, N.Z. L.

Blyth Electric Light Plant Co., Blyth, Ont., Canada. L. *a.*, 125 *py.*, 1040–110 *v.*

Boksburg, Transvaal, S. Africa. L. *c.*, 3-wire, 250 *v.*, 800 *K.W.* Engr., E. H. Gellender.

Bombay Electric Supply & Tramways Co., Ltd., Bombay, India. L. *a.*, 3-*ph.*, 50 *py.*, 5500 *v.*, transformed to *c.*, 3-wire, 460 & 230 *v.*, 3800 *K.W.* Engr., A. T. Cooper.

Bothwell Corporation, Bothwell, Ont., Canada. L. *c.*, 110 *v.*, 40 *K.W.* Engr., E. Gilbert.

Boulder Municipality, Boulder, West Australia. L. *c.*, 3-wire, 220 *v.*, 320 *K.W.* Engr. & manager, H. G. Alder.

Bowmanville Electric Light Co., Ltd., Bowmanville, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 1200 *v.*, secondary 104 *v.*; P., 250 & 500 *v.*, 90 *K.W.* Engr., F. Luxton.

Electricity Works—*continued.*

Bracebridge Corp., Bracebridge, Ontario. L. P. *a.*, 2-*ph.*, 60 *py.*, 2080–104–500 *v.*, 550 *K.W.* Engr., Wm. C. Simmons.

Bragança, Brazil. Cia. Paulista de Electricidade, props. *a.*, 50 *py.*, 200 *v.* Chief engr., Dr. D. A. Matheus.

Brakpan, S. Africa. Rand Central Electric Works, props. *a.*, 3-*ph.*, 50 *py.*, 12,000 *v.*, 3300 *K.W.* Engr., H. Spengel. *Plant to be extended.*

Brampton Electric Co., Brampton, Ont., Canada. J. McMurchy, proprietor. L. *a.*, 1-*ph.*, 60 & 125 *py.*, primary 2200 *v.*, secondary 110 *v.*, 200 *K.W.* Engr., Bert Ostrander; elecn., G. Ostrander.

Brandon Electric Light Co., Ltd., Brandon, Man., Canada. L. *c.*, 110 *v.*; L. & P. *a.*, 3-*ph.*, 60 *py.*, primary 1040 *v.*, secondary 110 *v.*, 880 *K.W.*; P. *c.*, 220 *v.* Engr., J. Mooring.

Brantford Electric & Operating Co., Ltd., Brantford, Ont., Canada. L. *a.*, 2-*ph.*, 133 *p.y.* primary 2200 *v.*, secondary 104 *v.*; P., 550 *v.*, 600 *K.W.* Superintendent, L. W. Pratt.

Brantford, Ont., Canada. Grand Valley Railway Co., proprietors. *c.*, 500 *v.* Engr., J. Simpson. *Under construction.*

Brantford Street Railway Co., Brantford, Ont., Canada. T. *c.*, 500 *v.*, 200 *K.W.* Engr., J. Steeves; elecn., A. Warfield.

Bridgetown Electric Light, Heat & Power Co., Bridgetown, N.S., Canada. L. *c.*, 110 *v.*, 30 *K.W.* Engr., H. P. Goldsmith; elecn, J. W. Beckwith.

Bridgewater Town Council, Bridgewater, Lunenburg Co., N.S., Canada. L. *a.*, 2-*ph.*, 20 *py.*, 110 *v.*, 100 *K.W.* Elecn., L. C. Gelling.

Bright, Victoria. *Current for* L. *will probably be generated at the mines of Messrs. Hunter, Buckley & Hunter.*

Brighton. J. H. Davidson, prop. & engr., Brighton, Ont. L. *a.*, 2-*ph.*, 133 *py.*, primary 2080 *v.*, secondary 104 *v.*, 60 *K.W.*

Bright's Light & Power Co., Ltd., 785, Victoria, Buenos Ayres.

Brisbane, Queensland, City Electric Light Co., Ltd., proprietors. L. *c.*, 3-wire, arc 110 *v.*, inc. & P., 220 *v.*, 775 *K.W.* Engr., A. Ward; elecn., W. J. Young. Units generated, 990,000.

Brisbane Tramways Co., Ltd., Brisbane, Queensland. T., 550 *v.* Engr., J. S. Badger.

British Columbia Electric Railway Co., Ltd., Vancouver, B.C. Branch: Victoria, New Westminster. *See* Vancouver & Victoria.

Brockville Corp., Brockville, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 2300 *v.*, secondary 104 *v.*, 350 *K.W.* Engr., J. W. Easton.

Broken Hill Council, Broken Hill, N.S.W. L. small P. *a.*, 1-*ph.*, primary 1100 *v.*, secondary 110 *v.*, 120 *py.*; P., 110 or 220 *v.*, 225 *K.W.* Engr., F. J. Mars.

Brome Lake Electric Power Co. *See* Waterloo, Foster & Knowlton.

Brunswick, Victoria. *Negotiations proceeding for erection of works.*

Electricity Works—*continued.*

Buckingham Elec. Light Co., Buckingham, Que. A. Maclaren, proprietor. L. series arc & *a.*, 2-*ph.*, 60 *py.*, primary 2300 *v.*, secondary 110 *v.*, 300 *K.W.* Elecn., J. McGarvey.

Buenos Ayres, Argentina. Cia. Alemaña Transatlantica, props. *c.*, 3-wire, 110 & 220 *v.*, 2500 *K.W.* Consulting engr., A. H. Preece; chief engr., E. W. Dean.

Buenos Ayres, Argentina. La Capital Traction & Electric Co., props. 550 *v.*, 1450 *K.W.* Chief engr., J. T. Cornish; T. man., H. C. Bacquet.

Buenos Ayres. *The Adrogue E. L. Co. has sold its rights to the Cia. de Electricidad de la Prov. de B.A.*

Buenos Ayres Electric Tramways Co., Buenos Ayres. *Current at* 550 *v. supplied by Cia. Alemaña Transatlantica de Electricidad.* Res. engr., W. N. Brand; T. man., V. A. Brown.

Bulawayo, Rhodesia. Bulawayo Waterworks Co., Ltd., proprietors. L. *a.*, 1-*ph.*, 125 *py.*, primary 2080 *v.*, secondary 104 *v.*, 380 *K.W.* Engr., F. Liversedge Lister, A.M.I.C.E., A.M.I.E.E.

Bunbury Electric Light & Power Co., Bunbury, West Australia. L. *c.*, 3-wire, 220 *v.*, 60 *K.W.* Engr., A. Williamson.

Burks Falls Water, Light & Power Co., Burks Falls, Ont., Canada. L. *a.* inc., 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.*; P. *c.*, 500 *v.*, 112 *K.W.* Elecn., W. Knight.

Burma Electric Tramways & Lighting Co., Ltd. *See* Mandalay.

Cairo, Egypt. Sté. Ane. des Tramways du Caire, proprietors. T. *c.*, 500–550 *v.*, 1175 *K.W.*

Calcutta Electric Supply Corporation, Ltd., Calcutta. L. P. *c.*, 3-wire, 450–225 *v.*, inc. 225 *v.*, 3739 *K.W.* Engr., S. G. L. Eustace, A.M.I.E.E.

Calcutta Tramways Co., Ltd., Calcutta, India. *a.*, 3-*ph.*, 25 *py.*, 6600 *v.*, transformed to *c.*, 500 *v.*, 2650 *K.W.* Tramway manager, M. Wells.

Caledon, Cape Colony. E. L. *under consideration by Council.*

Calgary Corp., Calgary, Alberta, Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–220 & 104 *v.*, 520 *K.W.* Engr., J. F. McColl; elecn., E. L. White.

Calgary Water Power Co., Ltd., Calgary, Alberta, N.W.T. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–100 *v.* L., 220 *v.* P., 885 *K.W.* Engr., Th. Strome; elecn., D. W. Brown.

Cambridge, N.Z. *E. L. under consideration by the Council.*

Campbellford Municipality, Campbellford, Ont. L. *a.*, 1-*ph.*, 60 *py.*, primary 3450 *v.*, secondary 230 *v.* & *c.* 115 *v.*, 120 *K.W.* Engr., J. H. Beatty; elecn., J. Carruthers.

Campbellton City Electric Light Plant, Campbellton, N.B., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 2000 *v.*, secondary 110 *v.*, 160 *K.W.* Engr., H. G. V. Farrer.

Campbeltown Corporation, Campbeltown, N.Z. L. *c.*, 3-wire, 220 *v.*, 36 *K.W.* Engr., R. Cruickshank.

Electricity Works—*continued.*

Canada Electric Co., Ltd. *See* Amherst.

Canadian Electric Light Co., Ltd. *See* Levis.

Canadian Electric & Water Power Co., Ltd. *See* Perth.

Canadian Klondike Mining Co. *See* Dawson City.

Canadian Niagara Power Co., Niagara Falls, Ont., Canada. L. P. T. *a.*, 3-*ph.*, 25 *py.*, primary 11,000 *v.*, secondary 57,000 *v.*, 75,000 *K.W.* Elec. engr., H. W. Buck; engr., A. H. Van Cleve.

Cananea, Senova, Mexico. Consolidated Copper Co., props. *a.*, 3-*ph.*, 60 *py.*, 2300–220 *v.* L., 440 *v.* P.; & *c.* L. P. T., 250 *v.*, 1437 *K.W.* Engr., W. J. Ellicott.

Cannington, Ont., Canada. A. Dobson & Co., props. *a.* L., 2-*ph.*, 130 *py.*, 1100–104 *v.*; P. *c.*, 500 *v.*, 150 *K.W.* Engr., A. Dobson.

Canton, China. China Light & Power Co., props. L. P. *a.*, 1-*ph.*, 120 *py.*, 2000–100 *v.*, 900 *K.W.* Chief engr., S. F. Ricketts.

Cape Breton Electric Co., Ltd. *See* Sydney, N.S.

Cape Electric Tramways, Ltd., The, Cape Town. T. *c.*, 500 *v.*, 1650 *K.W.* Engr., A. S. Giles.

Cape Explosives Works Power Station, Somerset West, Cape Colony. The Cape Explosives Works, Ltd., props. L. P. *a.*, 3-*ph.*, 50 *py.*, 440–220 & 110 *v.*, 1000 *K.W.* Engr., R. S. Mansel, A.I.E.E.

Cape Peninsular Lighting Co., Ltd. *See* Claremont; Rondebosch; & Wynberg.

Cape Town. Camp's Bay Electric Tramways Co., Ltd., props. T. *c.*, 550 *v.*, 800 *K.W.* Engr., A. S. Giles; elecn., L. Noakes.

Cape Town, South Africa. Cape Government Railways, proprietors. L. series arc, *c.*, 550 *v.*, inc. 110 *v.*, & *a.*, 1-*ph.*, 100 *py.*, primary 2200 *v.*, secondary 100 *v.*; P. *a.*, 1-*ph.*, 100 *py.*, primary 2100 *v.*, secondary 110 *v.*, 400 *K.W.* Engr., J. Denham.

Cape Town Corp., Dock-rd., Cape Town. L. *c.*, 3-wire, arc 220 & 440 *v.*, inc. 220 *v.*; P., 440 *v.*, 2050 *K.W.* Engr., W. F. Long, A.M.I.E.E.

Cape Town. Table Bay Harbour Board, props. L. arc, P. *c.*, 550 *v.*, & *a.*, 1-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 1610 *K.W.* Elec. engr., C. Procter Banham, M.I.M.E., M.I.E.E.

Caracas Gas & Elec. Light Co., Caracas, Venezuela.

Caracas Tramways, Caracas, Venezuela. *Current to be supplied by Native Electric Power Co.*

Cardinal Electric Light Co., Ltd., Cardinal, Ont., Canada.

Cargill, Ont., Canada. H. Cargill & Sons, props. L. P. T. *c.*, 3-wire. Elecn., F. L. Martin.

Carleton Place Electric Light Co., Carleton Place, Ont. L. *c.* arc, *a.* inc., 1-*ph.*, 125 *py.*, primary 1100 *v.*, secondary 110 *v.*, 60 *K.W.* Engr., J. Bennett.

Carlton Electric Light & Power Co., Carlton, St. John, N.B., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 2000–100 *v.*, 200 *K.W.* Elecn., C. R. Clark. *Purchased by Mr. John Russell.*

Electricity Works—*continued.*

Carman Electric Light & Power Co., Ltd., Carman, nr. Winnipeg, Man., Canada. L. P. *c.*, 220 *v.*, 100 *K.W.* Engr., C. Bulter; elecn., M. J. Melville.

Cascade Water, Power & Light Co., Cascade, B.C., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2000 *v.* (trans. 20,000 *v.*), 2250 *K.W.* Elec. engr., Wm. Anderson.

Cataract Electric Co., Cataract, Ont., Canada. L. P. *a.*, 1- & 3-*ph.*, 60 *py.*, 6600 & 2200–110 & 220 *v.* L., & 400 *v.* P.

Cathcart, Cape Colony. *Concession lapsed. A scheme again under consideration.*

Cauvery Falls, Mysore, India. Government, proprietors. P. *a.*, 3-*ph.*, 2200 *v.*, 25 *py.*, 4320 *K.W.* Engr.-in-chief, H. P. Gibbs; res. engr., Axel Ekstrom.

Cawnpore, India. Indian Electric Supply & Traction Co., Ltd., props. L. P. *c.*, 3-wire, 225 & 450 *v.*; T., 500 *v.*, 855 *K.W.* Supervising engrs., Kilburn & Co., Calcutta; works supervising engr., J. J. Atkinson.

Celaya, Mexico. *c.*, 2-wire, 220 *v.*, 80 *K.W.* Consulting engrs., Siemens & Halske.

Central Electric Co. *See* Portage-la-Prairie, Man.

Central Electrica, Rio Claro, São Paulo.

Chacabuco, Chili. L. *The Municipality have received a proposal for the construction of an electric tramway.*

Chambers Electric Light & Power Co. *See* Truro, N.S.

Chambly Mfg. Co., Richelieu Village, Que., Can. P. *a.*

Charlotte Plains, Victoria. Deep Leads Electric Transmission Co., proprietors. P. for mining purposes only; *a.*, 3-*ph.*, 60 *py.*, primary 6600 *v.*, secondary 440 & 200 *v.*, 1200 *K.W.* Engr., H. A. Thomas.

Charlottetown Light & Power Co., Charlottetown, P.E.I., Canada. L. P. *a.*, 1-*ph.*, 133 *py.*, primary 1100 *v.*, secondary 104 *v.*, 500 *K.W.* Engr., B. Callahan.

Charters Towers Electric Supply Co., Charters Towers, Queensland. L. *a.*, 1-*ph.*, 83 *py.*, 2000–100 & 200 *v.*, 230 *K.W.* F. W. Warden, engr.

Chascomus, Argentine Republic. Cia. Obras Publicas del Rio de la Plata, props. L.

Chatham Gas Co., Ltd., Chatham, Ontario, Canada. L. T. *a.*, 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 225 *K.W.* Engr., E. Grandbois; elecn., F. Hayes.

Chatham Town Council, Chatham, N.B., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1100–110 *v.*

Chemulpo, Corea. 200 *K.W.*

Chesley Electric Light Co., Chesley, Ont., Canada. L. *a.*, 2000–104 *v.*; *c.*, 500 *v.*, 125 *K.W.* Elecn., J. Fry.

Chicoutimi, Que., Canada. Compagnie des Eaux et de l'Electricité de Chicoutimi, props. L. P. *a.*, 2-*ph.*, 133 *py.*, primary 2400 *v.*, secondary 104 & 110 *v.*; P. *c.*, 500 *v.*, 350 *K.W.* Engr., L. A. Cusgrein; elecn., L. Ouillet.

Electricity Works—*continued.*

Chilian Electric Tramway & Light Co., Ltd., P.O. Box 1557, Santiago, Chili.

China Light & Power Co., Ltd., Canton, China. Engr., S. F. Ricketts.

Chivilcoy, Buenos Aires. Trant & Soldani, props. L. *c.*, 220 *v.*, 150 *K.W.* Engr., E. Moreno.

Christchurch City Council, Gloucester-st., Christchurch, N.Z. L. P. *c.*, 2-wire, 220 *v.*, 450 *K.W.* Elecn., W. Wilkinson.

Christchurch Tramway Board, Christchurch, N.Z. *c.*, 600 *v.*, 1000 *K.W.* Engr.-in-chief, F. H. Chamberlain.

Citizens' Electric Co., Ltd. *See* Smith's Falls.

Citizens' Light & Power Co., Ltd., Lachine Rapids Co. & Hydraulic & Land Co., Montreal, Que. L. P. series arc & *a.*, 3-*ph.*, 500 *v.*

City Electric Light Co. *See* Brisbane.

Claremont, Cape Colony. Cape Peninsula Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 220 & 440 *v.*, 455 *K.W.*; *a.*, 3-*ph.*, 60 *py.*, 3300 *v.* for transm. to Wynberg sub-sta., one 250 *K.W. c.* & 150 *K.W. motor converter being added.* Engr., C. M. Read.

Claremont Municipality, Claremont, West Australia. L. *c.*, 3-wire, 230 & 460 *v.*, 110 *K.W.* Engr., F. Wilkinson, A.M.I.E.E.

Clinton Electric Light Co., Clinton, Ont. L. P. *a.*, 1-*ph.*, 133 *py.*, primary 1100 *v.*, secondary 106 *v.*, 212 *v.* for motors, 120 *K.W.* Engr., W. J. Stevenson.

Coaticook Municipality, Coaticook, Que., Canada. L. *c.* arc, *a.*, 1-*ph.*, 125 *py.*, 1000–104 *v.*; P. *c.*, 500 *v.*

Cobourg Water & Electric Co., Ltd., Cobourg, Ont. L. *a.*, 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 240 *K.W.* Engr., I. Crozier; elecn., G. Lowe.

Collingwood City, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1080 *v.*, secondary 104 *v.*, 180 *K.W.* Engr., J. Rose; elecn., T. Bassett.

Colombo, Ceylon. Colombo Electric Tramways & Lighting Co., Ltd., proprietors. L. *a.*, 1-*ph.*, 60 *py.*, 2000–100 *v.*; *c.*, 220 & 440 *v.*; P., 440 & 500 *v.*; T., 550 *v.*, 1200 *K.W.* Engr., L. H. Combe.

Colombo Gas & Water Co. *See* Kandy.

Compagnie de Lumière Electrique. *See* Montreal.

Companhia Forca e Luz Porto-Alegreuse, Porto Alegre, Brazil.

Companhia Luz Electrica, São Carlos do Pinhal, Estado de São Paulo, Brazil.

Companhia Luz Electrica, Amparo, São Paulo.

Companhia Luz Electrica, Iacarehy, São Paulo.

Companhia Luz Elec. Piracicaba, São Paulo, Brazil.

Compañia Allemana Transatlantica de Electricidad, Florida 735, Buenos Ayres.

Compañia Anonima, "La Electricidad de Caracas," Caracas, Venezuela.

Compañia de Gas y Electricidad de la Havana. *See* Havana.

Electricity Works—*continued.*

Compañia de la Luz Electrica de Las Palmas, Las Palmas, Gran Canaria, Canary Isles.

Compañia de Luz Electrica, Esperanza, Prov. of Sante Fé, Argentina.

Compañia de Luz Electrica, Sante Fé, Argentina.

Compañia de Luz Electrica, Sta. Cruz de la Palma, Canary Islands.

Compañia de Luz Electrica de Parana, Parana, Argentina.

Compañia de Luz Electrica, Pergamino, Prov. de Buenos Ayres.

Compañia de Luz Electrica, Valencia, Venezuela.

Compañia del Gas y de Luz Electrica, Caracas, Venezuela.

Concepcion del Uruguay, Argentina. Cia. de Obras Publicas del Rio de la Plata, props. *c.*, 3-wire, 220 & 440 *v.*, 120 *K.W.* Consulting engrs., Lander & Calastreme; res. engr., Geo. Handley.

Consumers' Electric Co., Ottawa, Canada. *Undertaking to be acquired by the Municipality.*

Coolgardie, W. Australia. Electric Supply Co. of Western Australia, Ltd., proprietors. L. P. *c.*, 2-wire, 220 *v.*, 220 *K.W.* M. L. Reid, res. engr.

Cordoba Electric Light & Power Co., Cordoba Argentina. *a.*, 3-*ph.*, 60 *py.*, generated at 700 *v.*, stepped up to 10,000 *v.*, & reduced to 2080 for sub-stations. 4-wire, 220 & 115 *v.*, 2280 *K.W.* Consulting engr., J. T. Cornish; chief engr., A. d'Abbadie.

Cordoba Light & Power Co., Reconquista 20, Buenos Ayres.

Cordova, Mexico. *Bocro Hnos. & Lanfranchi have obtained a contract for E. L.*

Cornwall, Ont., Canada. Stormont Electric Light & Power Co., props. L. *a.*, 1-*ph.*, 133 & 60 *py.*, primary 1100–104 *v.*; P., 3-*ph.*, 60 *py.*, 1100–550 *v.*; T. *c.*, 550 *v.*, 120 *K.W.* Wm. Hodge, manager.

Cornwall Elec. Railway Co., Cornwall, Ont., Can. (Sun Life Assurance Co. of Montreal, bondholders.) T. *c.*, 550 *v.*, 220 *K.W.* Wm. Hodge, engr. & manager.

Costa Rica Electric Light & Traction Co., Ltd. San José; & Cartago, Costa Rica.

Cottesloe, West Australia. Splatt, Wall & Co., proprietors. L. P. *c.*, 3-wire, 220 *v.*, 100 *K.W.* Engr., J. H. James; elecn., L. J. B. Wall, M.I.E.E., M.AM.I.E.E.

Cowansville, Que., Canada. N. Buzzell, proprietor. L. *c.*, 110 *v.*

Cradock, Cape Colony. *Electric lighting under consideration.*

Cranbrook Electric Light Co., Ltd., Cranbrook, B.C., Canada.

Crow's Nest Pass Electric Light & Power Co., Ltd. *See* Fernie.

Cumberland Electric Co., Ltd., Cumberland, B.C., Canada. L. *a.*, 1-*ph.*, 130 *py.*, 2200–110 *v.*, 120 *K.W.*

Electricity Works—*continued.*

Curepipe, Mauritius. Mauritius General Electric Supply Co., props. *a.*, 3-*ph.*, 50 *py.*, 230 *v.*, 200 *K.W.* Chief engr., J. E. Tarley.

Dacca, Bengal, India. The Dacca Electric Light Trustees, proprietors. L. P. *c.*, 3-wire, 450–225 *v.*, 250 *K.W.* Chief engr., I. Scott Mackenzie, B.E., A.M.I.E.E.; second engr., D. H. Kerr.

Damascus, Asia Minor. Société Impériale Ottomane des Tramways d'Eclairage et de Force Electrique de Damas, props. *T. under construction.*

Danville, P.Q., Canada. Thos. Crockett, prop.

Darjeeling Municipality, India. L. *a.*, 1-*ph.*, 83 *py.*, primary 2300 *v.*, secondary 220 *v.*, P. various, 360 *K.W.* Engr., G. P. Robertson.

Dartmouth Gas, Electric Light & Power Co., Dartmouth, N.S., Canada. L. P. *a.*, 1-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 220 *v.* P., & *c.* 110 *v.* inc. L., 180 *K.W.*

Dawson City Electric Light & Power Co., Ltd., Dawson, N.W.T., Canada. J. A. Williams, proprietor. L. P. *a.*, primary 2300 *v.*, secondary 110 *v.*, 3-*ph.*, 60 *py.*, 250 *K.W.* Transmission line, 12,000 *v.* Engr., A. Lefiell.

Dawson City, Klondike. Canadian Klondike Mining Co., proprietors. P. *a.*, 3-*ph.*, 60 *py.*, 2300–6600–440 *v.*, 400 *K.W.* Engr., J. M. Elmer.

Dayton, Ont., Canada. Adams Bros., props.

De Beers Co. *See* Kimberley & Somerset West.

Deep Leads Electric Transmission Co. *See* Charlotte Plains.

Delagoa Bay Development Corp., Ltd. *See* Lourenço Marques.

Delhi, India. *Proposed scheme:* L., 3-wire, *c.*, T. 500 *v.* Resident engr., J. G. Griffin.

Demerara Electric Co., Ltd. *See* Georgetown.

Descalvaldo, Brazil. Cia. Paulista de Electricidade, props. *a.*, 3-*ph.*, 50 *py.*, 4000–50 *v.* Chief engr., J. Ferranini.

Devonport, Tasmania. Town Board, props. L. P. *c.*, 3-wire, 220 & 440 *v.*, 96 *K.W.* Engr., G. H. Lofts.

Digby Electric Co., Digby, N.S., Canada. L. *a.*, 2000–104 *v.*, 65 *K.W.* Engr., A. D. Daley.

D'Israeli, Que., Canada. St. Francis Hydraulic Co., proprietors. L. P. T. *a.*, 3-*ph.*, 66 *py.*, 2000–110 *v.* L., 550 *v.* P. T., 1000 *K.W.* Engr., A. G. Sangster.

Dixville, P.Q., Canada. Parker & Howe, props.

Drayton, Ont., Canada. Adams Bros., proprietors. L. *a.*, 2-*ph.*, 80 *py.*, primary 1040 *v.*, secondary 104 *v.*, 30 *K.W.*

Dresden Corporation, Dresden, Ont., Canada. L. *a.*, 1-*ph.*, 100 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., Chas. Eberlee.

Drummondville Town Council, Drummondville, Drummond Co., P.Q., Canada. *Tenders invited.*

Dundalk Town Council, Dundalk, Ont., Canada. L. *a.*, 2-*ph.*, 2400–104 *v.*, 30 *K.W.*

Dundee, Natal. L. inc. P. *c.*, 200 *v.*, 65 *K.W.* Engr., C. A. Hopton, A.I.E.E.

Electricity Works—*continued.*

Dunedin City Corporation, Dunedin, N.Z. L. P. T. *a.*, 3-*ph.*, 50 *py.*; L., 230 *v.*; P., 3300–400 *v.*; T., 35,000 *v.*; *c.*, 550 *v.*, 2600 *K.W.* Engr., W. G. T. Goodman. *Permanent works not yet erected.*

Dunnville Electric Light Co., Ltd., Dunnville, Ont., Canada. L. *c.* arc, *a.* inc., 3-*ph.*, 120 *py.*, primary 1040 *v.*, secondary 104 *v.*, 75 *K.W.* Elecn., C. Bonham.

Durango, Mexico. Cia. Durangueña de Luz Electrica, props. L. *a.*, 60 & 125 *py.*, 1150–104 *v.*, & *c.*, 2-wire, 400 *K.W.* Consulting engr., J. Guerrero; chief engr., E. D. Carnaghan.

Durban (Natal) Municipality. L. (arc) P. & T. *c.*, 550 *v.*; & *a.*, 1-*ph.*, 62 *py.*, primary 2500 *v.*, secondary 100 & 200 *v.*, 3150 *K.W.* Engr., J. Roberts, A.I.E.E.

Durban, Natal. Natal Govt. Rlys., props. L. arc & inc. P. *c.*, 210 *v.*, *a.* 3-*ph.*, 50 *py.*, primary 2100 *v.*, secondary 115 *v.*, 750 *K.W.* Engr., F. W. Mills, A.M.I.E.E.

Durham, Ont., Canada. Crawford & McIntyre, proprietors.

Dutton Electric Light Co., Ltd., Dutton, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1100 *v.*, secondary 110 *v.* Engr., Alex. Law.

East London Harbour Board, East London, Cape Colony. L. P. *c.*, 500 *v.*, 220 *v.* inc. L., 450 *K.W.*

East London Municipality, Cape Colony. L. *c.* arc & P., 500 *v.*; inc., 110 *v.*; P. T., 500–550 *v.*; L. & P. *a.*, 1-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 110 & 220 *v.*, 1350 *K.W.* Engr., J. Mordy Lambe.

East Rand Proprietary Mines, Ltd., East Rand, Transvaal. L. *a.*, 3-*ph.*, 25 *py.*, 2000–220–240 *v.*; *c.*, 220 *v.*, 4000 *K.W.*; P., 3-*ph.*, 25 *py.*, 3000–200 *v.*, 3000 *K.W.* Also 3-*ph.*, 50 *py.*, 2000–500 & 200 *v.*, 500 *K.W.*; *c.*, 220 *v.*, 500 *K.W.* Engr., L. Wilms.

East Toronto, Ont., Canada. *Supply in bulk from Toronto Electric Light Co.* Consulting engr., John Galt.

Echuca, Australia. *The Council are considering a scheme.*

Edison Electric Light & Power Co. *See* Spring Hill.

Edmonton, Town of, Edmonton, N.W.T. L. P. T. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 220 *v.*, 675 *K.W.* P. McLaughlin, engr.

Eganville, Ont., Canada. Star Electric Co., proprietors.

Electric Lighting & Traction Co. of Australia, Ltd. *See* Geelong; & Melbourne.

Electric Supply Co. of Victoria, Ltd. *See* Ballarat; & Bendigo.

Electric Supply Co. of Western Australia, Ltd. *See* Coolgardie.

Electric Traction Co. of Hong Kong, Ltd. *See* Hong Kong.

Electrical Development Co. of Ontario. *See* Toronto.

Electricidad de Caracas, Caracas, Venezuela.

Electricity Works—*continued.*

Elmvale Electric Light Co., Elmvale, Ont., Canada.

Embabaan, Swaziland. The Swaziland Corp., Ltd., props., Forbes Main Reef Mine. *c.* L. inc., 110 *v.*, P. 500 *v.*, 100 *K.W.* Engr., S. H. Boright.

Embro, Ont., Canada. Jas. Munro, prop.

Emerson, Man., Canada. *Scheme on foot for establishing water & plant on Rosean River.*

Empire Electric Light Co., Ltd., Margaret-lane, Sydney, N.S.W. L. P. *c.*, 2-wire, 200 *v.*, 587 *K.W.* J. R. W. Gardam, M.I.E.E., engr.

Empresa de Luz Electrica, San Juan, Argentina.

Empresa de Luz Electrica, Quilmes, B. Ayres.

Empresa de Luz y Fuerza (Soc. Anon.), Mendoza, Argentine Republic.

Empresa Força e Luz Elec., Limeira, São Paulo.

Empresa Luz Electrica de Chivilcoy, Chivilcoy.

Empresa Luz Electrica Concordia, Entre Rios, Argentina.

Empresa Luz Electrica de Mercedes, B. Ayres.

Empresa Luz Electrica, San Antonio de Areco, Argentina.

Empresa Luz Electrica, Zarate, Buenos Ayres.

Empreza de Luz y Fuerza Electrica. *See* Guayaquil.

Esperanza Municipality, Esperanza, S. America. L. arc & inc.

Esquimault & Nanaimo Railway Co., Nanaimo, B.C.

Essenden, Victoria. Mr. A. E. Morgans *has secured a concession for* L. Mgr. & engr., W. G. Gordon.

Essex, Ont., Canada. C. E. Naylor, proprietor. L. *a.*, 1-*ph.*, 133 *py.*, primary 1100 *v.*, secondary 104 *v.*; *c.* inc., 110 *v.*, 45 *K.W.* Engr., H. Wilcher.

Eugenia, Ont., Canada. Georgian Bay Power Co., props. *Works under construction.*

Exeter, Ont., Canada. C. B. Snell, proprietor. L. *a.*, 1-*ph.*, 125 *py.*, 1040–110 *v.* Engr., K. W. Shaw.

Falls of Iguazá, Argentine Republic. *It is proposed by Mr. F. K. Cassels to generate electrical energy for distribution in the Republic.*

Farnham Electric Light Co., Farnham, Que., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 2000 *v.*, secondary 100 *v.*, 60 *K.W.* Engr., W. C. Girard.

Fenelon Falls Corp., Fenelon Falls, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200-110 *v.* L., 550 *v.* P., & *c.* P. 550 *v.*, 420 *K.W.* Elecn., E. A. Pearce.

Fergus, Ont., Canada. Dr. A. Groves, owner. L. *c.* arc, *a.* inc., 133 *py.*, primary 2080 *v.*, secondary 104 *v.* Engr., Jos. Wilson.

Fernie, B.C., Canada. Crow's Nest Pass Electric Light & Power Co., Ltd., proprietors. L. *a.*, 2-*ph.*, 60 *py.*, 2400–110 & 220 *v.*; *c.* 110 *v.*, P. T. 220 *v.* Chief engr., J. McEvoy.

Fitzroy & Collingwood, Victoria. L.

Forest Electric Light Co., Forest, Ont. L. *a.*, 2000–104 *v.* Elecn., Jas. Prout.

Fort William, Bengal. L. *c.*, 3-wire, 440 *v.*, 200 *K.W.*

Electricity Works—*continued.*

Fort William, Corporation of, Fort William, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 & 208 *v.*, 600 *K.W.* Engr., J. McRae; elecn., F. S. Jones.

Fort William & Kakabeka Falls, Ont., Canada. Kaministiquia Power Co., Ltd., proprietors. *a.* L. P., 3-*ph.*, 60 *py.*, 2300-110 *v.* L.; 550 *v.* P.; transmission at 25,000 *v.*, 10,000 *K.W.* Cons. engr., R. S. Kelsch; supt., A. L. Bird.

Foster, P.Q., Canada. Brome Lake Electric Power Co., props. Engr., W. Phelps.

Fowlds, H. W., & Co. *See* Hastings, Ont.

Franca, Brazil. Cia. Paulista de Electricidade, props. L. P. *a.*, 3-*ph.*, 50 *py.*, 6000–200 *v.*, 350 *K.W.* Resident engr., J. A. de Camargo.

Frank & Blairmore, N.W.T., Canada. *Electricity supplied by Pass Power & Lighting Co., Ltd. & Grant Bros. Electric Supply Co.*

Frankford Electric Light Co., Ltd., Frankford, Ont., Canada. L. *a.*, 3-*ph.*, 133 *py.*, 2000–110 *v.*, 30 *K.W.*

Fraserville Municipality, Fraserville, Que. L. *a.*, 2-*ph.*, 133 *py.*, primary 2080 *v.*, secondary 104 *v.*, 200 *K.W.* Elecn., J. W. Hogg.

Fredericton Gas & Electric Light Co., Fredericton, N.B., Canada. L. *a.*, 1- & 2-*ph.*, 60 *py.*, primary 2080 & 2200 *v.*, secondary 110 *v.*, 235 *K.W.* Engr., H. D. White.

Fremantle Municipal Tramways & Electric Lighting Board, Fremantle, Western Australia. L. *a.*, 1-*ph.*, 50 *py.*, 2200–220 *v.*; P., 2- & 3-*ph.*, 50 *py.*, 2200–220 & 440 *v.*; T., 550 *v.*, 600 *K.W.* Engr., A. Mitchell, M.I.E.E.; elecn., H. Edmiston.

Fukagawa Electric Light Co., Fukagawa, Tokyo, Japan. L. P. *a.*, 1- & 3-*ph.*, 60 & 125 *py.*, 2000–100 & 200 *v.*, 270 *K.W.* S. K. Oguinoto, engr.

Galle, Ceylon. *A scheme is under consideration by the Municipality.*

Galt Gas Light Co., Ltd., Galt, Ont., Canada. L. *a.*, 2-*ph.*, 125 *py.*, 1040–104 *v.*, 275 *K.W.* Engr., J. Moore.

Galt, Preston & Hespeler Street Railway Co., Galt, Ont., Canada. T. *c.*, 500 *v.*, 185 *K.W.* Engr., R. McWilliams; elecn., M. Kirkwood.

Gananoque Electric Light & Water Supply Co., Gananoque, Ont., Canada. L. *c.*, 3-wire, 115 *v.*; P., 115 & 230 *v.*, 200 *K.W.* Engr., B. Heaslip.

Geelong, Victoria. Electric Light. & T. Co. of Australia, Ltd., proprietors. L. P. *c.*, 220 *v.*, 3-wire, 220 & 440 *v.* for motors, 500 *K.W.* F. W. Clements, M.I.E.E., chief engr.; G. G. Jobbins, A.I.E.E., res. engr.

Geldenhuis Deep, South Africa. L. P. *supply to mines, &c.* *c.*, 110 *v.*, 240 *K.W.* Elecn., S. P. Sather.

Georgetown Electric Light & Power Co., Ltd., Georgetown, Ont., Canada. L. *a.*, 133 *py.*, 2000–104 *v.* Chief engr., J. Hutchinson.

Georgetown, Demerara. Demerara Electric Co., Ltd., proprietors. L. *a.*, 1-*ph.*, 125 *py.*, primary 1100 *v.*, secondary 52 & 104 *v.*; P. & T. *c.*, 500 *v.*, 1150 *K.W.* Engr., J. E. Thompson; elecn., J. H. Cregen.

Electricity Works—*continued.*

George Town, Penang, Malay Peninsular. Municipal Commrs., props. L. *c.*, 3-wire, 220 *v.*, 200 *K.W.* Chief engr., E. S. Haslam.

Georgian Bay Power Co., 123, Bay-st., Toronto, Canada. *See* Eugenia.

Germiston Township with Georgetown, Transvaal. Supplied from General Electric Power Co., Ltd., Germiston. Elecn., Ch. Le Clercq.

Germiston, Transvaal. General Electric Power Co., Ltd., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 3300 *v.*, secondary distribution, 4-wire, 3-*ph.*; L., 115 *v.*; P., 200 *v.*, 3300 to mines, 2000 *K.W.* Engr., A. W. K. Peirce.

Gibraltar (owned by Sanitary Commissioners). *c.* L., arc 110 *v.*, inc. 230 & 460 *v.*; P., 500 *v.*; L. P. *a.*, 1-*ph.*, 76 *py.*, primary 2000 *v.*, secondary 110 & 220 *v.*, 1000 *K.W.* Electrical engr., A. S. L. Barnes, A.M.I.E.E.

Gifu Electric Light Co., Ltd., Gifu, Japan.

Glace Bay Corp., Glace Bay, Ont., Canada. L. *a.*, 2-ph., 60 *py.*, 2200–104 *v.*

Glencoe Electric Light Co., Glencoe, Ont., Canada. L. *c.*, 110 *v.* Chief engr., A. Copland.

Gloucester Electric Co. *See* Bathurst.

Goderich Corporation, Ont. L. *c.*, arc 45 *v.*, inc. 104 *v.*, & *a.*, 1-*ph.*, 125 *py.*, primary 2000 *v.*, secondary 104 *v.*, 142 *K.W.* Engr., J. B. Kelly.

Gore Borough Electricity Works, Southland, N.Z. L. P. *a.*, 1-*ph.*, 60 *py.*, 5000 *v.*, transformed to *c.*, 3-wire, 220–110 *v.*, 75 *K.W.* Engr., I. C. Scott.

Graaf Reinet, Cape Colony. *Municipal Council have decided to call for tenders for* L.

Grahamstown, Cape Colony. *E. L. under consideration by Municipality.*

Granby Town, Granby, Que., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 2080–104 & 110 *v.*, 150 *K.W.* Engr., A. J. Seale; elecn., F. B. Farnsworth.

Grand Forks City Council, Grand Forks, B.C., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.*, 180 *K.W.* Engr., F. Read; elecn., Wm. Waterston.

Grand Valley Railway Co. *See* Brantford.

Gravenhurst Town, Gravenhurst, Ont. L. P. *a*, 2-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., D. Fraser; elecn., A. C. Rankin.

Greenwood Electric Co., Ltd., Greenwood, B.C., Canada. *a.* L., 1-*ph.*, P. 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.*, 300 *K.W.* *Power purchased from Cascade Water Power & Light Co.*

Greytown Corp., Greytown, Natal. L. *c.*, 210–190 *v.*, 32 *K.W.* Engr., W. H. Blatchford.

Grimsby, Ont., Canada. J. W. Van Dyke, prop.

Guadalajara, Mexico. La Electra, Soc. Anon., props. *a.*, 100 *py.*, 20,800/2040–104 *v.*, 1800 *K.W.* Chief engr., M. L. Schiaffino; res. engrs., F. Valadez & C. Guzman.

Gualeguay, Argentina.

Guanajuato Power & Electric Co., Guanajuato, Mexico.

Electricity Works—*continued.*

Guatemala. Empresa Electrica de Guatemala, props. *a.*, 50 *py.*, polyphase 10,000 *v.*, long distance transm., distrib. at 3 × 1000 *v.* 3-*ph.*, with 1000/120 distribut. in streets. Chief engr., Max Obst.

Guayaquil, Ecuador. Empresa de Luz y Fuerza Elec., props. L. Man., J. G. Sanchez.

Guelph Corporation, Guelph, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1000–104 *v.*; P. *c.*, 500 *v.* Engr., J. Yale.

Guelph Radial Railway Co., Guelph, Ont., Canada. T. *c.*, 500 *v.*

Guildford, West Australia. *The Council have obtained tenders for erection of Electricity Works.*

Haiphong, Tonquin. Soc. Indo-Chinoise d'Electricité, props. *c.*, 3-wire, 110 *v.*, 300 *K.W.* Consulting engr., M. Laporte; chief engr., M. Bert.

Hakamatsu Denki K. K., Hakamatsu, Japan. L. P. *a.*, 3-*ph.*, 2000–100 or 200 *v.*, 70 *K.W.* Elecn., I. Ogura.

Hakata Electric Light Co., Fukuoka, Japan. L. *a.*, 1-*ph.*, 133 *py.*, 2200–100 *v.*, 360 *K.W.* Engr., Shigehara Kishihara; elecn., Asataro Shimada.

Halifax Electric Tramway Co., Ltd., Halifax, N.S., Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 75 *v.* L.; 525 *v.* P.; *c.* L., 104 *v.*; P., 525 *v.*; T., 575 *v.*, 2700 *K.W.* Engr., P. A. Freeman.

Hamilton, Australia. *Works to be erected.*

Hamilton & Barton Electric Railway Co. *Current supplied by Hamilton Cataract Power, Light & Traction Co., Ltd.*

Hamilton Cataract Power, Light & Traction Co., Ltd., Hamilton, Ont. *a.*, 3-*ph.*, 66⅔ *py.*, 2200 *v.*; 2-*ph.* at sub-sta. transformed to L., 110 *v.*, & T., 550 *v.*, 6000 *K.W.*

Hamilton, Chedoke & Ancaster Railway Co. *Current supplied by Hamilton Cataract Power, Light & Traction Co., Ltd.*

Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Canada. T. *c.*, 500 *v.*, 250 *K.W.* Engr., W. Jones; elecn., N. Waterbury.

Hamilton Radial Elec. Rly. Co., Hamilton, Ont., Canada. (Controlled by Hamilton Cataract Power, Light & Traction Co., Ltd.) T. *c.*, 500 *v.*

Hamilton Street Railway Co., Hamilton, Ont., Canada. (Controlled by Hamilton Electric Light & Cataract Power Co.) T. *c.*, 500 *v.*

Hanoi, Tonquin. Soc. Indo-Chinoise d'Electricité, props. *c.*, 3-wire, 110 *v.*, 300 *K.W.*

Hanover, Ont., Canada. H. Gruetzner, prop. L. P. *a.*, 3-*ph.*, 1040 & 2080–104 *v.*, 150 *K.W.* Supt.engr., C. Derbecker; elecn., S. Hillgartner.

Hanshin Electric Railway Co., Amagasaki; & Mikage, Japan. T. *c.*, 600 *v.*, 1600 *K.W.* Engr., S. Misaki.

Harrismith Corporation, Harrismith, Orange River Colony. L. *a.*, 1-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 185 *K.W.* Engr., W. B. Brady.

Electricity Works—*continued.*

Harriston, Ont., Canada. G. Leighton, prop. L. *a.*, 1-*ph.*, 1040–104 *v.*, 40 *K.W.* Engr., C. Zuefle.

Hastings, Ont., Canada. H. W. Fowlds & Co., proprietors. L. *c.*, 120 *v.*, 50 *K.W.*

Havana Electricity Co., Havana, Cuba. *a.*, 3-*ph.*, 50 *py.*, 6000–220 *v.*, 2600 *K.W.* Engrs., Livesey, Son & Henderson. *The undertaking of this Co. has been sold to the Cia. de Gas y Electricidad de la Havana.*

Hawera County Electric Co., Ltd., Hawera, Taranaki, N.Z. L. P. *a.*, 3-*ph.*, 50 *py.*, 5500–220 *v.* L., 380 *v.* P., 130 *K.W.* Engr., G. Trevithick, A.M.I.E.E.

Hawkesbury Electric Light & Power Co., Ltd., Hawkesbury, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2300-110 *v.* L., 575 *v.* P.

Heidelburg, Transvaal. *Electric light to be installed.*

Heilbron Electricity Supply Co., Heilbron, Orange River Colony. Harris, Lee & Co., Ltd., props. L., 2-wire *c.*, 240 *v.*, 80 *K.W.* Engr. & man., C. J. Duncan.

Hensall, Ont., Canada. Thos. Welsh, proprietor.

Hespeler Town Council, Hespeler, Ont., Canada.

Hillgrove & Armidale Electrical Corp., Ltd., Hillgrove, N.S.W. L. P. *c.*, 3-wire, 3000 & 1500 *v.*; & *a.*, 1-*ph.*, primary 2000 *v.*, secondary 110 *v.*, 200 *K.W.* E. J. Erskine, M.I.E.E., engr.

Himeji Electric Light Co., Ltd., Himeji, Japan. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.* Engr., S. Hamje.

Hiroshima Elec. Light Co., Hiroshima, Japan. L. *a.*, 3-*ph.*, 60 *py.*, 2000 *v.* Engr., K. Oda. *Power bought in bulk from Water Power Co.*

Hiroshima Water Electric Power Co., Hiroshima, Japan. L. P. *a.*, 10,000 *v.* for transn., 3-*ph.*, 60 *py.*, 100, 200 & 500 *v.* for motors, 750 *K.W.* Engr., T. Tanabe.

Hobart Electric Tramway Co., Ltd., Hobart, Tasmania. P. T. *c.*, 500 *v.*, 375 *K.W.* A. C. Parker, manager.

Hobart, Tasmania. Hobart Gas Co., proprietors. L. P. *a.*, 1-*ph.*, 90 *py.*, primary 2000 *v.*, secondary 110 & 220 *v.*, 252 *K.W.* Engr., H. J. Spencer, A.I.E.E.

Hong-Kong Electric Co., Ltd., Hong-Kong. L. *a.*, 1-*ph.*, 75 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 950 *K.W.* Engr., W. H. Wickham.

Hong Kong. Electric Traction Co. of Hong Kong, Ltd., proprietors. 500 *v.*, 600 *K.W.* Consulting engrs., A. Dickinson & Co.; res. engr., J. Gray Scott, M.I.E.E.

Honolulu Rapid Transit & Land Co., Honolulu, Hawaii.

Hooghly River, India. *A scheme is under consideration for supplying c. current at* 600 *v. or polyphase current at* 10,000 *v.*

Huka Falls, New Zealand. *Works not yet erected.*

Hull Electric Co. *See* Aylmer.

Huntingdon, Que., Canada. J. Hunter & Sons, props. L. *a.*, 1000–110 *v.*

Electricity Works—*continued.*

Huntsville Town Council, Huntsville, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 180 *K.W.* Engr., G. Rolston.

Huronian Power Co., Copper Cliff, Ont., Canada. *a.*, 3-*ph.*, 25 *py.*; L., 2200–110 *v.*; P., 2200 & 550 *v.*; T., 30,000 *v.*, 4000 *K.W.* Elecn., W. D. Fleet.

Huttonville, Ont., Canada. J. McMurchy, prop. L. P. *a.*, 3-*ph.*, 2300–110 *v.*, 300 *K.W.* Engr., Bert Ostrander; elecn., G. Ostrander.

Hyogo, Japan. Sanyo Railway Co., proprietors. L. *c.*, arc 100 & 200 *v.*, inc. 110 & 220 *v.*; P. *c.*, 110 & 250 *v.*; & *a.*, 3-*ph.*, 60 *py.*, 550 *v.*, 595 *K.W.* Chief engr., H. Iwasaki; elecn., T. Okamoto.

Imperial Electric Light Co., Montreal, Canada. L. P. *a.*, 60 & 133 *py.*, primary 2400 *v.*, secondary 104 & 52 *v.*, 1-*ph.*, 104 *v.* for P.

Indwe, Cape Colony. Indwe Railway Collieries & Land Co., Ltd., proprietors. *c.*, 3-wire; L. P. T., 450–500 *v.*, 400 *K.W.* Engr., C. Mullins.

Ingersoll Electric Power & Light Co., Ltd., Ingersoll, Ont., Canada. L. P. *c.*, 3-wire, 110 & 220 *v.*, 2000 *K.W.* H. Leigh, engr.

Inglewood Electric Light & Power Co., Ltd., Taranaki, N.Z. L. P. *a.*, 3-*ph.*, 3200–220 *v.* L., 380 *v.* P., 24 *K.W.* Engr., W. E. Richardson.

International Railway Co. *See* Niagara Falls.

International Transit Co. *See* Sault Ste. Marie.

Invercargill, N.Z. T. *under consideration.*

Ipswich, Queensland. Govt. Rly. Dept., proprietors. T. *a.*, 2-*ph.*, 60 *py.*, 220 *v.*, 1800 *K.W.* *Under construction.*

Iquique Lighting Co., Iquique, Chili. *A concession has been granted to Don V. Hudtuvalcker.*

Iquitos, Peru. A. Bytton & Co., props. L. P. *c.*, 200 & 220 *v.*, 120 *K.W.* Engr., A. S. Bytton.

Iroquois Corp., Iroquois, Ontario. L. *a.*, 2-*ph.*, 2400–110 or 220 *v.*, & *c.* arc 72 *v.*, 72 *K.W.* Engr., R. Barton.

Ise Electric Railway Co., Yamada, Ise, Japan. L. *a.*, 1-*ph.*, 80 *py.*, 2000–100 *v.*; & *c.* L., 100 *v.*; T., 500–575 *v.*, 392 *K.W.* Elecn., K. Takahashi.

Itapira, Brazil. Cia. Paulista de Electricidade, props. *a.*, 3-wire, 50 *py.*, 5000–220 *v.* Chief engr., B. M. de Moraes.

Iyo, Japan. P. *a.*, 3-*ph.*, 60 *py.*, 3500 *v.*

Jamalpur, India. East Indian Railway Co. L. P. *a.*, 3-*ph.*, 220 *v.*, 110 *K.W.* Engr., H. L. Tyson-Wolff.

Johannesburg. Rand Central Elect. Wks., Ltd., props. L. P. *a.*, 3-*ph.*, 50 *py.*, line *v.* 11,000, secondary 500 & 120 *v.*, 3900 *K.W.* Mangr., H. Spengel, M.I.E.E. *Transmission plant at Brakpan. Supplies mines & also current in bulk to Municipality.*

Johannesburg Municipality, Transvaal. L. P. *a.*, 1- & 2-*ph.*, 50 *py.*, 2000–200 *v.*, & *c.* L. inc., 3-wire, 230 *v.*, arc, 460 *v.*; P., 460 *v.*; T., 500 *v.*, abt. 12,000 *K.W.* Engr., F. J. I. Thomas, M.I.M.E., A.M.I.C.E.

Joliette (Town) Elec. Light Plant, Joliette, Que., Canada. L. *a.*, 2-*ph.*, 120 *py.*, primary 2400 *v.*, secondary 104 *v.*, 120 *K.W.* A. Normand, engr.

Electricity Works—*continued.*

Jumbunna, Victoria. Jumbunna Coal Co., proprietors. P. *a.*, 3-*ph.*, 30 *py.*, 440 *v.*, 100 *K.W.* Engr., A. C. Wallace.

Kagoshima Elec. Co., Kagoshima, Japan. L. P. *a.*, 3-*ph.*, 60 *py.*, 3500–104 *v.*; L. 204 *v.*, 250 *K.W.* Engr., K. Okada.

Kakabeka Falls. *See* Fort William.

Kalgoorlie, West Australia. Municipality, proprietors. L. P. *c.*, 3-wire, 220 & 440 *v.*, 736 *K.W.* Engr., D. Curle Smith.

Kalgoorlie Electric Power & Lighting Corporation, Kalgoorlie, West Australia. L. *a.*, 3-*ph.*, 40 *py.*, primary 550 *v.*, secondary 110 *v.*; P. T. *a.*, 3-*ph.*, 40 *py.*, primary 600 *v.*, 1500 *K.W.* Engr., C. E. Crocker, M.I.E.E. *P. supplied to* T.

Kalgoorlie Electric Tramways, Ltd., Maritana-st., Kalgoorlie, Western Australia. 500 *v.* P. *supplied by Kalgoorlie Electric Power & Lighting Corp., Ltd.* Supt., A. Stanley.

Kalk Bay & Muizenburg, Cape Colony. *Works about to be erected. a.*, 3-*ph.*, 50 *py.*, 3000–220 *v.*, 600 *K.W.* Engr., T. Bennett, M.I.C.E.

Kalso, B.C., Canada. Kootenay Electric Co., Ltd., proprietors. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 1100 *v.*, secondary 104 *v.*, 120 *K.W.* Engr., Will R. Smith.

Kaministiquia Power Co., Ltd. *See* Fort William & Kakabeka Falls.

Kamloops City Electric Light Plant, Kamloops, B.C., Canada. L. *a.* inc., 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 150 *K.W.* Engr., C. L. Wain.

Kanagawa Electric Co., Kanagawa, Japan.

Kanazawa Elec. Light & Power Co., Kanazawa, Japan. L. P. *a.*, 2500 *v.*, 3-ph., 60 *py.*, 100 or 200 *v.* for motors. Engr., S. Nakaya.

Kandy, Ceylon. Colombo Gas & Water Co., Ltd., props. L. P. *c.*, 3-wire, 200 & 400 *v.*, 154 *K.W.* R. W. Baird, managing engr.

Kankinarrah Jute Mills, Calcutta, India. L. P.

Kashmir, India. *A company has been formed with a capital of* £2,000,000 *to construct a hydro-electric power installation by harnessing the Jehlam river.*

Katanning, West Australia. L., 220 *v.*, 40 *K.W.* Engrs., F. & C. Piesse.

Keihin Electric Traction Co., Ltd., Kawasaki, Kanagawa-ken, Japan. T. *c.*, 550 *v.*, 1000 *K.W.* Engr., S. Yamazaki.

Kemptville Flour Mill Electric Light & Power Co., Kemptville, Ont., Canada. L. (series inc., 32–C. P.) & P. *a.*, 1- & 3-*ph.*, 60 *py.*, primary 10,000 *v.*, secondary 110, 230 & 2300 *v.*, 250 *K.W.* Engr., J. Maxwell.

Kenora Corporation, Kenora, Ont., Canada. L. *a.*, 1- & 2-*ph.*, 1000 & 2000–104 *v.*; *c.*, L. 104 *v.*, P. 500 *v.*, 400 *K.W.* Engrs., C. E. McMurdie & Jas. Brown; elecn., A. Robinson.

Kent Electric Co. *See* Richibucto.

Kentville E. L. & P. Co., Kentville, N.S. L. *c.*, 3-wire, 106 *v.* for motors. C. L. Baird, engr.

Kerang Electric Supply Co., Pty., Ltd., Kerang, Victoria. L. P. *c.*, 220 *v.*, 90 *K.W.* Engr., N. A. Hodgson.

Electricity Works—*continued.*

Kettle River Power Co., Ltd.

Khartoum, Egypt. *Electricity undertaking to be carried out by the Government.*

Kimberley, South Africa. *De Beers Co. supply current.*

Kimberley, South Africa. De Beers Consolidated Mines, proprietors. L. *a.*, 3-*ph.*, 50 *py.*, 5000 *v.*, transformed as required, 3500 *K.W. Current supplied to town.* Res. engr., R.W. Smith.

Kincardine Corporation, Kincardine, Ont. L. *c.* arc, inc. & L. P. *a.*, 2-*ph.*, 60 *py.*, 2300–104 *v.*, 150 *K.W.* Engr., A. Ingram; elecn., C. Piper.

Kingston, Jamaica. West India Electric Co., Ltd., & Jamaica Electric Light & Power Co., Ltd., props. L. P. T. *a.*, 3-*ph.*, 40 *py.*, 2000–104 *v.* L. & P., T. 15,000 *v.* transmitted 23 miles & converted to *c.* 550 *v.*, 1200 *K.W.* Engr., D. Aiken; gen. man., L. F. Davis, A.I.E.E.; elecns., R. Duperdouzel & H. A. Campbell.

Kingston Corporation, Kingston, Ont., Canada. L. *c.*, series arc, inc. 110 *v.*, *a.*, 1-*ph.*, primary 2080 *v.*, secondary 110 *v.*; P. *c.*, Edison, 3-wire, 220 & 110 *v.*; T. *c.*, 500 *v.*, 500 *K.W.* Engr., Jno. Evans; elecn., H. Simmons.

Kingston, Portsmouth & Cataraqui Street Railway Co., Kingston, Ont., Canada. 500 *v.* Manager, B. W. Folger. *Power purchased from Kingston Light, Heat & Power Co.*

Kingsville Electric Light Co., Kingsville, Ont., Canada. L. *a.*, 1040–104 *v.*, 75 *K.W.*

King Williams Town Corporation, King Williams Town, Cape Colony. L. *a.*, 1-*ph.*, 50 *py.*, primary 2100 *v.*, secondary 220 *v.*, 200 *K.W.* Engr., A. Scott; elecn., G. H. A. Lewis.

Klerksdorp, Transvaal. *No electric lighting scheme yet approved.*

Knowlton, Quebec, Canada. Brome Lake Electric Power Co., proprietors. L. P. *a.*, 3-*ph.*, primary 2000 *v.*, secondary 104 *v.*, 150 *K.W.* Engr., A. W. Pettes.

Kobe Electric Light Co., Kobe, Japan. A. Station at Sakai-machi, Kobe. L. *c.* arc. B. Station at Iriye-dori, Hiogo. L. *a.*, 2-*ph.*, 60 *py.*, primary 1000 *v.*, secondary 100 *v.*, 1300 *K.W.* Engr., H. Amenomiya.

Kobe, Japan. Sanyo Railway Co., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 550–110 *v.* L.; & L. P. *c.*, 110 & 220 *v.*, 610 *K.W.* Engr., H. Iwasaki; elecn., T. Okamoto.

Kochi Electric Light Co., Kochi, Japan. L. *a.*, 1-*ph.*, 60 *py.*, 2000–100 *v.*, 60 *K.W.*

Kōfū Electric Light & Power Co., Yamanashi-ken, Japan. L. P. *a.*, 3-*ph.*, 60 *py.*, 10,000 *v.*; L., 2000–100 *v.*; P., 3480–100 or 220 *v.*, 550 *K.W.* Engr., Y. Iwama.

Kokura Electric Light Co., Kokura, Japan. L. T. *a.*, 1-*ph.*, 60 *py.*, 2000–100 *v.*; & L. *c.*, 100 *v.*, 60 *K.W.* Engr., M. E. Hayashi.

Kolar Mines Power Station, Ltd., Oorgaum, Mysore State, India. *a.* L., 1-*ph.*, 50 *py.*, 2200 *v.*; P., 3-*ph.*, 25 *py.*, 2200–220 *v.*, 1000 *K.W.* Resident engr., E. L. Cave; station engr., J. Murray Hincks, A.I.E.E., A.M.I.MECH.E.

Electricity Works—*continued.*

Kookynie Electric Co., Kookynie, West Australia. *c.*, 2-wire, 220 *v.*, 50 *K.W.* Engr., S. Tatham.

Kootenay Electric Co. *See* Kalso.

Koriyama, Fukushimaken, Japan. Koriyama Silk Spinning Co., Ltd., proprietors. L. P. *a.*, 3-wire for motors, 4-wire for light, 3-*ph.*, 60 *py.*, 10,000 *v.* (generator, 2000 *v.*), 220 *v.* for motors. Engr., J. Yoshida.

Kowloon, China. China Light & Power Co., props. L. P., 2-*ph.*, 60 *py.*, 2000, 2200–100 & 110 *v.*, 225 *K.W.* Res. engr., G. H. Hales.

Kroonstad Municipality, Kroonstad, Orange River Colony. L. P. *c.*, 3-wire, 230 *v.*, 180 *K.W.* Engr., J. Vowles.

Krugersdorp, Transvaal. Lancaster Gold Mine Co., proprietors. *a.*, 3-*ph.*, 50 *py.*, 2200–120 & 500 *v.*, 697 *K.W.* Chief engr., F. G. Parker; res. engr., R. Gillmer.

Krugersdorp, Transvaal. *E. L. scheme approved by T. C.*

Kuala Lumpur, Selangor, Federated Malay States. Government, proprietors. L. *c.*, 3-wire, inc. 230 *v.*, arc & P., 460 *v.*; & *a.*, 4-wire, 3-*ph.*, 40 *py.*, primary 6000 *v.*, secondary 230 *v.* L., 400 *v.* P., 400 *K.W.* Elecns., Preece & Cardew, London; H. B. Phillimore, Kuala Lumpur.

Kumamoto Electric Light Co., Ltd., Kumamoto, Japan. L. *a.*, 2-*ph.*, 60 *py.*, 2300–100 *v.*, 200 *K.W.*

Kyoto City, Suirijimusho, Kyoto, Japan. L. P. *a.*, 2- & 3-*ph.*, 50, 60 & 133 *py.*, primary 2000 & 3500 *v.*, secondary 100 & 200 *v.*, 500 *v. c.* P., 1695 *K.W.* Chief engr., T. Otaki.

Kyoto Electric Light Co., Kyoto, Japan. L. *a.*, 1-, 2- & 3-*ph.*, 60, 85 & 133 *py.*, primary 2000 *v.*, secondary 100 *v.*; P., 3-*ph.*, 60 *py.*, 2000, 3500–100 & 200 *v.*, 700 *K.W.* Engr., T. Hirokawa; elecn., S. Shirai. Sub-Stations at Fukui & Nakatsu.

Kyoto Electric Traction Co., Kyoto, Power House at Higashikujo, Kyoto, Japan. T. *c.*, 500 *v.*, 550 *K.W.* Chief engr. & elecn., Ichiro Goto.

Kyushu Railway & Elec. Dept., Kyushu, Japan. L. *a.*, 1- & 2-*ph.*, 60 *py.*, 1000–100 *v.*; & *c.*, 100 *v.*, 330 *K.W.* Elecn., P. Fujita.

Lachine Corp. Electric Plant, Lachine, Que. L. P. *a.*, 3-*ph.*, 110–500 *v.* Engr., O. Belanger; elecn., D. Leclair.

Lachine Rapids Hydraulic & Land Co., Ltd., Montreal, Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 500 *v.*

Lachute, Argenteuil Co., P.Q., Canada. J. T. Ayers, prop.

Lachute, Que., Canada. J. Palliser, prop. L. *a.*, 2-*ph.*, 125 *py.*, 1000–52 *v.*, 75 *K.W.* Elecn., H. Barker.

La Cruz (Quillota), Linares, Los Angeles & Providencia, Chili. *Concessions for supplying E. L. have been granted to the Cia. General de Electricidad Industrial.*

Ladybrand, S. Africa. *E. L. under consideration by the T. C.*

Electricity Works—*continued.*

Ladysmith, Natal, Municipality. L. P. *c.*, 3-wire, 200 *v.*, 100 *K.W.* Engr., J. S. White.

Lahore, India. Punjab Govt. Public Works Dept., props. L. *c.*, 200 *v.*, 35 *K.W.* Engr., W. R. Wilson, M.I.E.E.; elecn., J. P. Connelly.

Lake Superior Power Co. *See* Sault Ste. Marie.

Lake Titicaca, S. America. *There is a scheme of Prof. E. Guarini to utilise the waters of this lake for electrical purposes.*

Lakefield Electric Light Co., Lakefield, Ont. L. *a.*, 1-*ph.*, 125 *py.*, 1200–104 *v.*, & *c.* P. 500 *v.*

Lambton Corporation, Lambton, N.S.W.

La Paz, Bolivia. Peruvian Corp., Ltd., props. T., 500 *v.*, 300 *K.W.* Resident engr., Sidney C. Shepperd.

La Plata, Buenos Ayres. River Plate Electricity Co., props. *a.* L., 1-*ph.*, 50-*py.*, 3300–220 *v.*, & *c.* L. 220 & 440 *v.*, P. 440 *v.*, T. 500–550 *v.*, 1300 *K.W.* Engr., V. Lindop; elecn., B. C. Wilson.

La Serena, Chili. Cia. Luz Electrica de La Serena, props. *c.*, 3-wire, 250–220 *v.*, 200 *K.W.* Chief engr., C. A. Johannsen.

Las Palmas, Canary Island. Cie. d'Electricité, props. *a.*, 2200 *v.*

Las Rosas, nr. Queretaro, Mexico.

Launceston Municipal Electricity Works, Launceston, Tasmania. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 5000 *v.*, secondary 110 *v.*, 190 *v.* for P., 1200 *K.W.* Enclosed street arc lamps on *a.* constant current series system supplied from 50 light transformers, primaries 3-*ph.*, secondaries 2-*ph.* Wm. Corin, city electrical engr.; Spencer Jewkes, sta. engr. T. *under consideration.*

Leamington Light & Heat Co., Ltd., Leamington, Ont., Canada. L. *a.*, 2-*ph.*, 1040–108 *v.* Engr., J. Snider; elecn., W. Snider.

Leederville Municipal Council, Leederville, West Australia. *c.* L., 220 & 440 *v.*; P. 440 *v.*, 95 *K.W.* Engr., C. J. Phillips, M.AM.I.E.E.

Leongatha, Gippsland, Victoria. L. *c.*, 2-wire, 200 *v.*, 20 *K.W.*

Leonora, West Australia. Bewick Moreing, Ltd., proprietors. L. *c.*, 220 *v.*

Lethbridge Electric Co., Ltd., Lethbridge, Alberta, Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*; P., 2-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 *v.*, 370 *K.W.* Engr., M. Freeman.

Levis County Railway Co. *Power from Canadian Electric Light Co., Ltd.*

Levis, Que., Canada. Canadian Electric Lighting Co., proprietors. L. *a.*, 3-*ph.*, transformed to 2-*ph.* distribution, 60 *py.*, 220–104 *v.*, 2500 *K.W.* Chief engr., D. S. Barton; res. engr., A. F. T. Harrower.

Light, Heat & Power Co. of Lindsay, Ltd., Lindsay, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 1040 *v.*, secondary 104 *v.*, P. 220 *v.*, 800 *K.W.* Engr., W. E. Reesor.

Lima, Peru. Empresa Electrica de Sta. Rosa, props. *a.*, 1- & 3-*ph.*, 60 *py.*, 2080–104 *v.*, 5000 *K.W.* Engr., A. L. Kenyon.

Electricity Works—*continued.*

Limeira, Brazil. Cia. Paulista de Electricidade, props. *a.*, 60 *py.*, 10,000–200 *v.*, 250 *K.W.*

Lincoln Electric Light & Power Co. *See* St. Catherine's.

Listowel Gas & Electric Light Co., Ltd., Listowel, Ont., Canada.

Little Current, Ont., Canada. W. & A. McArthur Co., Ltd., proprietors.

Liverpool Town Council, Liverpool, Queen's Co., N.S., Canada. L. P. *a.*, 2-*ph.*, 60 *py.*, 2080–104 *v.* L., 104 & 500 *v.* P., 450 *K.W.* Elecn., A. H. Drew.

Llai-Llai, Chili. *A concession for E. L. & P. has been granted to the Soc. Fabrica de Sacos Roberto L. Beausire.*

Loja, Ecuador. L.

London, Aylmer & North Shore Electric Railway Co., Aylmer, Ont., Canada. *c.*, 500 *v.*

London Electric Co., Ltd., London, Ont., Canada. L. *c.* arc & *a.*, 1-*ph.*, 125 *py.*, primary 1150 *v.*, secondary 106–110 *v.*; P. *c.*, 250 & 500 *v.*, 1800 *K.W.* Engrs., R. A. Lyons, F. McConnell & Wm. Baker; elecn., A. O. Hunt.

London, Ont., Canada. Power Equipment Co., props. *a.* L., 110 *v.*; *c.* P., 220 *v.*

London, St. Thomas, Port Stanley Railway, Ont., Canada. *Under construction.* P. will be transmitted by *a.*, 3-*ph.*, 25 *py.*, 10,000 *v.*, transformed to 1000 *v.*

London Street Railway Co., London, Ont., Canada. T. *c.*, 550 *v.*, 980 *K.W.* W. Norris, chief engr.

Lourenço Marques. Delagoa Bay Development Corp., props. T., 550 *v.* Engr., J. McKenna; gen. man., C. Satchell.

Lourenço Marques, Delagoa Bay, E. Africa. Cie. Gen. d'Elec., props. *c.*, 240 *v.*, 240 *K.W.* Engr., J. Askew.

Lourenço Marques Electric Light Co., Lourenço Marques. *c.*, 2-wire, 135–120 *v.*, 120 *K.W.*

Lucknow, India. *Concession granted to Kincaid & Co. to construct works. A licence has been obtained by British Eastern Electric Power Co. to construct tramway.*

Lucknow, Ont., Canada. W. Stewart & Son, proprietors.

Lundy's Lane Electric Railway Co., St. Catherine's, Ont., Canada. 600 *v.* Engr., W. H. Horton. *Current supplied by Niagara, St. Catherine's & T. Ry. Co.*

Lunenburg Gas Co., Lunenburg, N.S., Canada. L. *a.*, 3-*ph.*, 60 *py.*, primary 3120 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., L. Dewar.

Maceio, Brazil. J. A. Loureiro & Co., props. *a.*, 100 *py.*, 2000 & 1000–100 *v.*; & *a.*, 100 *py.*, 115 *K.W.* Engr., P. Cicero.

Macleod Electric Light & Power Co., Macleod, Alberta, N.W.T., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2200–110 *v.*, 75 *K.W.* *A* 100 *K.W.* 2200 *v.* 60 *py. generator to be installed.* Engr., Marshall Hill; elecn., L. A. Hutton.

Madoc Municipality, Madoc, Ont., Canada. L. *c.*, 220 *v.*, 65 *K.W.* Engr., Frank Smith.

Electricity Works—*continued.*

Madras Electric Tramways (1904), Ltd., The, Madras, India. 500 *v.*, 870 *K.W.* A. J. Powell, general manager.

Madras, India. *Beyond the electric tramways there are no power stations of any consequence. A few public buildings & shops use the electric light. A licence has been granted to Crompton & Co. to establish works.*

Mafeking, Rhodesia. *Works in abeyance.*

Magog Corporation, Que., Canada. L. P. *a.*, 2-*ph.*, 125 *py.*, primary 2300 *v.*, secondary 104 *v.* L., 500 *v.* P. Engr., R. Pratte.

Mahone Corp., Mahone, N.S., Canada. 1-*ph.*, 60 *py.*, primary 2280 *v.*, secondary 110 *v.*, 75 *K.W.* Engr., L. Dewar.

Maibashi Electric Light Co., Maibashi, Japan.

Maine & New Brunswick Electric Power Co., Andover, N.B., Canada. *Proposed to furnish L. & P. to chief towns in Aroostook Co., Maine; & Perth & Andover, N.B.*

Malta. Civil Government, owners. L. P. *a.*, 1-*ph.*, 100 *py.*, primary 2100 *v.*, secondary 105 *v.*; P., 105 & 200 *v.*, 575 *K.W.* G. E. Muller, engr.

Malta Railway, Malta. Engr., N. Buhagiar.

Malta Tramways. Macartney, McElroy & Co., London, props. 550 *v.* Chief engr., S. G. Trehearne.

Manaia, N.Z. *See* Hawera County Electric Co.

Manaos, Brazil. Amazonas State, props. L. *a.*, 1-*ph.*, 125 *py.*, 2080, 1150–110 *v.*; & *c.* arc L., 6250, 4000 *v.*; P. T., 550 *v.*, 1170 *K.W.* Engr., A. Araujo.

Mandalay. Burma Electric Traction & Lighting Co., Ltd., props. T. *c.*, 500 *v.*, 600 *K.W.* General manager & engr., R. L. Griffin.

Mansourah Electric Supply Co., Ltd., Mansourah, Egypt. Chief engr., J. O. Mullings.

Maracaibo Electric Light Co., Maracaibo, Venezuela.

Markdale, Ont., Canada. Minnis Bros., props. L. *a.*, 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., F. J. Ritchie.

Markham Corporation, Markham, Ont., Canada. L. *a.*, 3-*ph.*, 133 *py.*, primary 1200 *v.*, secondary 110 *v.*, 20 *K.W.* Engr., W. Morrison.

Marmora Electric Co., Marmora, Ont., Canada. L. *a.*, 1-*ph.*, 1040–104 *v.* Engr., A. Eggleton.

Mascara, Algeria. Cie. Electrique, props. L. *a.*, 3-*ph.*, 50 *py.*, 9200–120 *v.*; P. *a.*, 3-*ph.*, 50 *py.*, 10,000–500 & 120 *v.*, 250 *K.W.* Engr., H. Meybohm.

Matsue Electric Light Co., Matsue, Shimaneken, Japan. L. *a.*, 1-*ph.*, 120 *py.*, primary 1010 *v.*, secondary 100 *v.*, 1-*ph.*; P., 133 *py.*, 1050–105 *v.*, 60 *K.W.* Engr., Shinhei Ono.

Matsumoto Electric Light Co., Matsumoto, Shinano, Japan. L. P. *a.*, 3-wire, 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 100 *v.*, 120 *K.W.* Engr., T. Miura.

Mattawa E. L. & P. Co., Ltd., Mattawa, Ont. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 2040 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., Thos. Harwood.

Electricity Works—*continued.*

Meaford, Ont. H. Moore & Sons, props. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 *v.*, 300 *K.W.* Engr., D. Robinson; elecn., H. J. Moore.

Medan, Deli, Sumatra. Electriciteit Maatschappij Medan, props. L. *a.*, 1-*ph.*, 100 *py.*, 1000–110 *v.*, 198 *K.W.* Elecn., B. van der Sterr.

Mègantic (Lac.) Crompton Co., Que., Canada. Cie. Eclairage de Mègantic, proprietors.

Melbourne, Victoria. Electric Lighting & Traction Co. of Australia, Ltd., props. L. P. *a.*, 3-wire, 1-*ph.*, 50 *py.*, primary 4000 *v.*, secondary 200 *v.*, & 400 *v.* for motors, 2175 *K.W.* F. W. Clements, M.I.E.E., engr.

Melbourne City Council, 210, Spencer-st., Melbourne. L. P. *a.* outlying districts, 1-*ph.*, 72 *py.*, primary 2000 *v.*, secondary 100 *v.*; & centre of city, *c.*, 3-wire, series arc, *v.* various, inc. & motors 230 & 460 *v.*, 3934 *K.W.* H. R. Harper, M.I.E.E., engr.

Merrickville Electric Light & Power Co., Merrickville, Ont., Canada.

Merriton Electric Light Co., Merriton, Ont., Canada.

Mexican Light & Power Co., San Jose Real 22, Mexico.

Mexico City. *a.*, 3-wire, 3-*ph.*, 60 *py.*, 2300–120 *v.*, 2800 *K.W.* Cons. engrs., Strain & Robertson.

Mexico City. Cia. Mexicana de Electricidad, props. *a.*, 3-*ph.*, 50 *py.*, 3 × 1500–3 × 120 *v.*, 3000 *K.W.* Engr., — Neugebauer.

Middleburg, Transvaal. War Office, proprietors. L. *c.*, 3-wire, 250 *v.*, 150 *K.W.* Engr., J. E. Maudlen. *The Town Council are considering the question of establishing works.*

Midland Elec. Lt. Co., Midland, Ont., Canada. L. T. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.* Engr., R. Smith.

Midland Junction Municipal Council, Midland Junction, West Australia. L. *c.*, 3-wire, 220 *v.*; P., 440 *v.*, 50 *K.W.* Engr., E. H. Bindley.

Mille Roche, Ont., Canada. St. Lawrence Power Co., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*; L., 2000–110 *v.*; P., 10,000–550 *v.*, 2000 *K.W.* Engr., W. L. Macfarlane.

Milton Electric Light & Power Co., Ltd., Milton, Ont., Canada.

Milton Town, Milton, Ont., Canada. L. *c.*, inc. 110 *v.*, arc 125 *v.* Engr., R. Ellis.

Mitchell Corporation, Ont. L. *c.* arc, *a.* inc., 1-*ph.*, 60 *py.*, primary 1040 *v.*, secondary 110 *v.*, 60 *K.W.* Engr., W. R. Reynolds.

Miyagawa Electric Co. *See* Ise Electric Railway Co.

Miyagi Electric Lighting & Cotton Spinning Co., Sendai, Japan. L. P. *a.*, 1- & 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 100 *v.* Engr., H. Kikutaro.

Mogok, Upper Burma. The Burma Ruby Mines, Ltd., props. L. P. *a.*, 2-*ph.*, 60 *py.*, 2200–100 *v.* L., 220 *v.* P., 360 *K.W.* Engr., A. H. Morgan, A.M.I.C.E., M.I.M.M.; elecn., J. J. Fyfe, A.M.I.E.E.

Electricity Works—*continued.*

Moji Electric Light Co., Moji, Japan. L., 1-*ph.*, 1000–100 *v.*; & *c.* L., 100 *v.*, 160 *K.W.* Chief engr., N. Sokurai.

Monclova, Mexico. D. Degetau, prop. *a.*, 50 *py.*, 3 × 1600–120 *v.*, 120 *K.W.* Consulting engrs., Siemens & Halske.

Moncton, City of, Water & Light Department, Moncton, N.B. L. *c.* arc, *a.*, 2-*ph.*, 60 *py.*, primary 1100 *v.*, secondary 104 *v.*; P., 500 *v.*, 510 *K.W.* J. Edington, engr.

Montague Electric Co., Ltd., Montague, P.E.I., Canada.

Monte Video Municipality, Monte Video, Uruguay. *a.*, 42 *py.*, 2300–105 *v.*, 1640 *K.W.* Engr., J. M. Cioffi. *Works to be acquired by the Government.*

Monterey Electric Light & Power Co., Monterey, Mexico. *a.*, 133 *py.*, & *c.*, 2-wire, 1140–104 *v.*, 520 *K.W.* Engr., E. Dysterud.

Montmagny, Que., Canada. Montmagny Light & Pulp Co., proprietors. L. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 *v.*, 100 *K.W.*

Montreal, Canada. S. Carsley, prop. *c.* L., 110 & 220 *v.*; P., 220 *v.*

Montreal, Canada. North River Power Co., Ltd., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P., 8800 *v.* T., 360 *K.W.* Engr., Bert Fogarty; elecn., N. Robillard.

Montreal Gas Co., Montreal, Canada.

Montreal Light, Heat & Power Co., Montreal, Canada. *c.* L. arc, 2000 *v.*; P., 500 *v.*, 3-wire; & *a.* L., 1-*ph.*, 63 *py.*, 2300–110 *v.*; P., 2- & 3-*ph.*, 63 *py.*, 2300–110 *v.*, 39,500 *K.W.* Manager, H. S. Holt; station superintendent, R. M. Helson.

Montreal & St. Lawrence Light & Power Co., Montreal, Canada.

Montreal Street Railway Co., Montreal, Canada. T. *a.*, 2- & 3-*ph.*, 60 *py.*, 2500 *v.*; *c.*, 550 *v.*, 10,500 *K.W.* Engr., L. H. Lockhart. *New power house under construction.*

Montreal, Que., Canada. Shawinigan Water & Power Co., props. P. *a.*, 2- & 3-*ph.*, 30 & 60 *py.*, 2200, 12,500, 25,000 & 50,000 *v.*; T. *c.*, 500 *v.* Transmission line to Montreal 85 miles, 50,000 *v.*, 3-*ph.*; shorter line, 25,000 *v.*, 35,000 *K.W.* Engr., J. A. Walls.

Montreal Terminal Railway Co., Montreal, Canada. T. *c.*, 500 *v.*

Moolort, Australia. D. L. E. T. Co., proprietors. P. for mining only, 3-*ph.*, 60 *py.*, primary 6600 *v.*, secondary 440 *v.*; & *c.*, 160 & 240 *v.*, 1200 *K.W.* Engr., J. Lindsay; elec. engr.-in-charge, A. Falkenbach, A.M.I.E.E.

Moose Jaw City, Moose Jaw, Assiniboia, Canada. L. *a.*, 2300–104 *v.*

Morrisburg Town, Morrisburg, Ont., Canada.

Moss Vale Electric Supply Co., Moss Vale, N.S.W. L. P. *a.*, 1-*ph.*, 100 *py.*, primary 1000 *v.*, secondary 100 *v.*, 50 *K.W.* Engr., W. Clegg.

Electricity Works—*continued.*

Mossel Bay, Cape Colony. *E. L. under consideration by Council.*

Mount Forest Electric Light Co., Mount Forest, Ont., Canada. Engr., J. Hamilton; elecn., T. Collins.

Mount Lyell Mining & Railway Co., Ltd., Queenstown, Tasmania. L. P. *a.*, 3-*ph.*, 50 *py.*, 3000-550 *v.* P., 550-220 & 110 *v.* L., 1350 *K.W.* Engr., G. W. Wright.

Mount Morgan, Queensland. Mount Morgan Gold Mining Co., proprietors. *c.* L., 45 *v.* arc, 230 & 250 *v.* inc.; P. T., 500 & 550 *v.*, 1500 *K.W.* Engr., R. Rockett; elecn., F. McFarlane.

Murray Bay, Que., Canada. Labrador Electric & Pulp Co., proprietors. L. *a.*, 3-*ph.*, 60 *py.*, 4400-110 *v.*

Mussoorie Municipal Board, Mussoorie, India. L. P. *a.*, 3-*ph.*, 50 *py.*, 6600-220 *v.* L., 380 *v.* P., 450 *K.W.* Engr., C. H. Shanan, A.M.I.C.E., A.M.I.E.E., A.M.I.M.E.

Nagasaki Electric Light Co., Ltd., Nagasaki, Japan. L. *a.*, 1-*ph.*, 133 *py.*, 2000 *v.*

Nagoya Electric Light Co., Nagoya, Japan. L. P. *a.*, 2-*ph.*, 3-wire, 2300 *v.*, 60 *py.*, 200 *v.* for motors. Engr., K. Fukuy, M.E.

Nagoya Electric Railway Co., Nagoya, Japan. T. *c.*, 500 & 550 *v.* Engr., T. Miyaguchi, M.E.

Nairobi, British East Africa. *Concession granted to Mr. Clement Hirtzell. Proposed plan: Water-power to drive 3-phase alternators.*

Nanaimo Elec. Lt., Power & Heating Co., Ltd., Nanaimo, B.C., Canada. P. *a.*, 1-*ph.*, primary 2200 & 1000 *v.*, secondary 110 *v.*, 170 *K.W.* Engr., F. W. Byers; elecn., W. C. Jarvis.

Napanee Water & Electric Light Co., Napanee, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2300-110 *v.*, 150 *K.W.* Engr., E. Lefebol.

Nara Electric Light Co., Ltd., Nara, Japan. L. *a.*, 1-*ph.*, 60 *py.*, primary 1000 *v.*, secondary 52 *v.* Engr., R. Muramatsu.

Natal Government Railways. *See* Durban.

Natal Harbour Works, Durban, Natal. Engr., G. Stobie, M.I.M.E., A.M.I.E.E.

Neepawa Town Council, Neepawa, Man., Canada.

Nelson Corporation, Nelson, B.C., Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 20,000-2200 *v.*; *c.* L., 220 *v.*; T., 550 *v.* *New works erecting* on the Kootenay, *a.*, 3-*ph.*, 60 *py.*, 12,000 *v.*, transmitted 9½ miles, L. P. T., 2200 *v.* Engr., A. L. McCulloch; elecn., W. P. Dickson.

Nelson Elec. Tramways Co., Ltd., Nelson, B.C., Can. T. *a.*, 3-*ph.*, 60 *py.*, 21,000-2300 *v.*; *c.*, 550 *v.*, 350 *K.W.* F. A. Weeks, tram man. & engr.

New Amsterdam Corp., Berbice, Guiana. L. P. *a.*, 1-*ph.*, 60 *py.*, 2000-104 *v.*, 120 *K.W.* H. D. Scudamore, engr.

New Glasgow Electric Co., New Glasgow, N.S., Can. L. P. *a.*, 3-*ph*, 60 *py.* monocyclic, primary 2080 *v.*, secondary 104 *v.*; T., 500 *v.*, 375 *K.W.* Engr., D. Ormiston; elecn., C. E. Wadden.

New Hamburg, Ont., Canada. J. Morley, prop. & elecn. L. *a.*, 1-*ph.*, 1000-110 *v.*

Electricity Works—*continued.*

Newmarket Town, Newmarket, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2000-100 *v.*

New Plymouth Boro' Council, New Plymouth, N.Z. L. *a.*, 1-*ph.*, 50 *py.*, 2300-220 & 440 *v.*, 90 *K.W.* Engr., H. Black.

New South Wales Government Tramways. *See* Sydney.

New Westminster (city), B.C., Canada. L. *c.* arc, 45 *v.*; *a.*, 1-*ph.*, 60 & 133 *py.*, primary 1000 *v.*, secondary 104 *v.*, 450 *K.W.* Jos. Mills, engr.; P. T. Bowler, superintendent.

New Westminster, B.C. *See* British Columbia Electric Railway Co., Ltd.

Newcastle Electric Works, Newcastle, Natal. L. *c.*, 440 *v.*, 120 *K.W.* Man., Allan Cameron.

Newcastle Town Council, Newcastle, Northumberland Co., N.B., Canada.

Newcastle Municipal Council, Newcastle, N.S.W. L. P. *c.* for arc, & *a.*, 1-*ph*, 133 *py.*, primary 1000 *v.*, secondary 50, 110 & 220 *v.*, 100 *K.W.* Engr., Jas. Hirst.

Newmarket Town Council, Newmarket, Ont., Canada. L. *c.*, 100 *v.*, 150 *K.W.* Engrs., Wm. & Walter O'Hallarn.

Newtown, N.S.W. *E. L. & P. under consideration by Council.*

Nhill Electric Light Co., Propty., Ltd., Nhill, Victoria. L. P. *c.*, 3-wire, 100 *v.*, 32 *K.W.* Engr., C. R. Lockley.

Niagara Falls, Canada. The Electrical Development Co. *Works under construction.*

Niagara Falls, Ont., Canada. International Railway Co., props. *c.*, 600 *v.*, 2500 *K.W.* Elecn., G. A. Harvey.

Niagara Falls, Ont., Canada. Ontario Power Co., proprietors. L. P. T. *a.*, 3-*ph.*, 25 *py.*, 12,000-60,000 *v.*, 30,000 *K.W.* Engrs., P. N. & L. L. Nunn; elecn., V. G. Converse.

Niagara Falls Municipality, Niagara Falls, Ont., Canada. L. *a.*, 1-*ph.*, 25 *py.*, primary 2200 *v.*, secondary 110 *v.*; P., 3-*ph.*, 25 *py.*, primary 2200 *v.*, secondary 220 & 440 *v.*, 400 *K.W.* Elecn., G. E. Foster.

Niagara Falls Park & River Railway Co., Niagara Falls, Ont., Canada. T. *c.*, 500 *v.*, 2700 *K.W.* Elecn., G. A. Harvey.

Niagara, St. Catherine's & Toronto Railway Co. *See* St. Catherine's.

Nikko Electric Light Co., Nikko, Japan.

Ningpo, China. *E. L. scheme under consideration.*

Normanby, N.Z. *See* Hawera Electric Light Co., Ltd.

North Bay Light, Heat & Power Co., North Bay, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 104 *v.*, 250 *K.W.* Engr., T. Balantyne; elecn., W. Hallett.

North Hatley, Que., Canada. Eastern Townships Electric Co., proprietors. L. *a.*, 2-*ph.*, 133 *py.*, 2000-104 *v.*, 100 *K.W.*

North River Power Co., Ltd. *See* Montreal.

North Shore Power Co. *See* Three Rivers.

North Sydney, N.S., Canada. *See* Sydney.

Electricity Works—*continued.*

North Vancouver & Moodyville. Vancouver Power Co., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 1000–110 *v.* L., 220 & 440 *v.* P., T. 22,000 *v.*, *c.* 550 *v.* Elecn., W. T. Woodroofe.

Northam Municipal Council, Northam, West Australia. L. *c.*, 3-wire, 220 *v.*, 90 *K.W.* Engr., R. McDonald. *A new* 200 *K.W. plant to be erected.*

Norwich, Ont., Canada. Prop. & engr., H. Webster. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 45 *K.W.*

Norwood, Ont., Canada. W. C. Harrison, prop. L. *a.*, 1-*ph.*, 133 *py.*, 1000–120 *v.*

Nuwara Eliya, Ceylon. *Scheme under consideration.*

Oakville Electric Plant (A. B. Wass, proprietor & electrician), Oakville, Ont. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., H. Hyerst.

Odawara Electric Co., Odawara, Japan. L. P. T. *a.*, 3-*ph.*, 30 *py.*, 3200–100 *v.* L., 173 *v.* P., & *c.* T. 550 *v.*, 600 *K.W.* Engr., K. Kumada.

Okayama Electric Light Co., Ltd., Okayama, Japan. L. *c.*, 100 *v.*, & *a.*, 1-*ph.*, 60 *py.*, 1000–100 *v.*, 170 *K.W.* Engr., N. Fujimura.

Okoloks Electric Co., Ltd., Okoloks, N.W.T., Canada.

Onomichi Elec. Light Co., Onomichi, Japan. L. *c.* Edison 3-wire, 100 *v.* Engr., K. Takakuwa.

Ontario Power Co. *See* Niagara Falls.

Orangeville, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1040–104 *v.*, 120 *K.W.* Engr., W. Harkies; elecn. & prop., C. W. Watson.

Orillia City Light Plant, Orillia, Ont., Canada. L. *c.* arc, *a.* inc. Elec. engr., R. J. Sanderson.

Ormstown, Que., Canada. R. T. Walsh & Son, proprietors. L. *c.*, 3-wire, 110 *v.*, 36 *K.W.* Elecn., R. E. Walsh.

Osaka, Japan. Hanshin Denki Tetsudo K. K., proprietors. T. *c.*, 600 *v.*, 1600 *K.W.* Engr., S. Misaki.

Osaka Electric Light Co., 60, Gochome, Nakanoshima, Osaka, Japan. L. series arc, 1500–2500 *v.*, inc., 52 & 100 *v.*, *a.*, 1-, 2- & 3-*ph.*, 60 & 125 *py.*, primary 1150 & 2300 *v.*, secondary 52 & 104 *v.*; P. T., 3-*ph.*, 60 *py.*, primary 2300 *v.*, secondary 220 *v.*; T. *c.*, 600 *v.*, 4670 *K.W.* *A fifth station under construction.* Engr., T. Ikeda.

Oshawa Electric Light Co., Oshawa, Ont., Canada. L. P. *a.*, 2-*ph.*, 2000 *v.*, 125 *py.*, 350 *K.W.* Engr., C. S. Edmondson.

Oshawa Railway Co., Oshawa, Ont., Canada. T. *c.*, 550 *v.*, 200 *K.W.* Engr., J. W. Burns; elecn., J. J. Mitchell.

Otaru Electric Light Station (proprietor, D. Kurahashi), Otaru, Japan. L. P. *a.*, 3-*ph.*, 50 *py.*, 230–1000 *v.* L., 225 or 115 *v.* P., 250 *K.W.* Engr., S. Saito.

Otonabee Power Co., Ltd. *See* Peterborough.

Otsu, Shigaken, Japan. Kyoto Electric Light Co., proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 3500 *v.*, secondary 110 *v.*, & 104 *v.* for motors. Engr., K. Tada.

Electricity Works—*continued.*

Ottawa Electric Co., Ottawa, Ont., Canada. L. *c.* arc, 6000 *v.*, *a.*, 1-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 107 *v.*; P. *c.*, 3-wire, 250 & 500 *v.*, *a.*, 2-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 440 *v.*, 4000 *K.W.* A. A. Dion, chief supt.

Ottawa Electric Railway Co., Ottawa, Ont., Canada. T. *c.*, 500 *v.*, 1500 *K.W.* Engr., J. Murphy.

Ottawa, Ont., Canada. *The Ontario Hydro-Electric Power Commission has decided to furnish public power plant for the city.*

Owen Sound Corporation, Owen Sound, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 104 *v.* L., 104, 210 & 420 *v.* P., 228 *K.W.* Engr., M. Flood; elecn., Jos. McLinden.

Owen Sound Electric Illuminating & Manufacturing Co., Ltd., Owen Sound, Ont., Canada. L. *a.*, 3-*ph.*, 225 *K.W.* Gen. man., J. W. Linden.

Oxford Electric Light Co., Oxford, N.S., Canada.

Oxford Street Electric Lighting Co., Ltd., Sydney, N.S.W. L. *c.*, 230 *v.*; & P., 220 *v.*, 150 *K.W.* H. Langer, engr.

Paarl, Cape Colony. *E. L. under consideration by the Town Council.*

Paisley, Ont. D. McIntyre, prop. L. *a.*, 2-*ph.*, 33 *py.*, 2080–104 *v.*, 75 *K.W.* Elecn., Jno. A. McNeil.

Pakenham, Ont., Canada. Proprietors, The Dowd Milling Co., Ltd. L. *a.*, 2-*ph.*, 1000–100 *v.*; P. *c.*, 220 *v.*, 50 *K.W.*

Palace Electric Light Station, 253, Pitt-st., Sydney, N.S.W. Estate of George Adams, deceased, proprietors. L. P. *c.*, 100 *v.*, 500 *K.W.* G. T. Stowe, engr.

Palmerston Electric Light Works, Palmerston, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2080–104 *v.* Proprietor, P. H. Robb.

Para, Brazil. Cia. Urbana de Estrada de Ferro Paraense, props. *a.*, 50 *py.*, 2000–120 *v.*, 792 *K.W.* Cons. engrs., Siemens & Halske A. G.

Paris Corporation, Paris, Ont., Canada. L. *c.*, & L. P. *a.*, 2-*ph.*, 125 *py.*, primary 2080 *v.*, secondary 110 *v.* L., 500 *v.* P., 150 *K.W.* Engr., G. W. Wheeler.

Parkhill, Ont., Canada. H. C. Baird & Son, props. L. *c.*, 220 *v.* Engr., G. W. Vanolestim.

Parry Sound Corporation, Parry Sound, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 114 *v.* L., 500 *v.* P., 425 *K.W.* Engr., G. Groves.

Parsboro Town, Parsboro, N.S., Canada. L., 1- & 2-*ph.*, 133 *py.*, 2240–104 *v.*, 95 *K.W.* Engr., J. Choisnet.

Patea Borough Council, Patea, N.Z. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 100 *v.*, 45 *K.W.* Engr., H. Priestley; elecn., R. A. W. Priestley.

Peking Electric Co., Ltd., Peking, China. *c.*, 3-wire, 440 *v.* Res. engr., C. Rosemann; elecn., K. Bernhard.

Electricity Works—*continued.*

Pembroke Electric Light Co., Pembroke, Ont., Canada. L. *c.* & *a.*, 1000–104 *v.*, 150 *K.W.* *Plant extending.*

Penang Municipal Electricity Works, Penang, Straits Settlements. L. T. *c.*, 3-wire, 220 *v.* Engr., O. V. Thomas, M.I.E.E.

Penetang & Midland Electric Street Railway & Power Co., Ltd., Penetang, Ont., Canada.

Penetanguishene & Midland Electric Street Railway Light & Power Co., Ltd., Penetanguishene, Ont., Canada. L. P. T. *c.* arc & inc., 1000 *v.*; & *a.*, 2-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 150 *K.W.* Engr., R. Whitacre.

Penrith Municipal Council, Penrith, N.S.W. L. P. *a.*, 130 *py.*, 1-*ph.*, primary 1000 *v.*, secondary 50 & 100 *v.*, 80 *K.W.* Chief engr., D. H. Stewart.

Perganimo, South America. *A scheme is on foot to establish an electric tramway.*

Perth Corp., Perth, Ont., Canada. L. *c.*, 2000 *v.* J. Code, manager.

Perth Electric Tramway, Ltd., Perth, W. Australia. T. *c.*, 550 *v.*, 1200 *K.W.* Man. & engr., H. J. Somerset, M.I.E.E.

Perth, Ont., Canada. Canadian Electric & Water Power Co., Ltd., proprietors. L. P. T. *a.*, 2-*ph.*, 133 *py.*, primary 2400 *v.*, secondary 104 *v.* L. T., 500 *v.* P., 356 *K.W.* Engr., R. J. Smith.

Perth Gas Co., Ltd., Perth, West Australia. L. P., 3-wire, *c.*, 440–220 *v.*, 1000 *K.W.* H. Broadbent, M.I.E.E., engr.

Peterborough, Ont., Canada. Auburn Power Co., Ltd., proprietors.

Peterborough, Ont., Canada. Otonabee Power Co., Ltd., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080–110 & 220 *v.*, 1500 *K.W.* Manager, W. H. Meldrum.

Peterboro' Light & Power Co., Peterboro', Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200, 110 & 220 *v.* L., 110–550 *v.* P., 2500 *K.W.* Engr., J. H. Larmuth; elecn., H. O. Fisk. P. *supplied by Otonabee Power Co.*

Peterborough Radial Railway Co., Peterborough, Ont., Canada. T. *c.*, 500 *v.*, 240 *K.W.* Engr., J. H. Larmouth; elecn., H. O. Fisk.

Petone, N.Z. *Parliamentary sanction obtained.*

Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont., Can. P. *c.*, 550 *v.*; L. *a.*, 1-*ph.*, 60 & 133 *py.*, primary 1000 *v.*, secondary 107 *v.*, 200 *K.W.* Engr., H. Day; man., W. G. Fraser.

Picton Corporation, Picton, Ont. L. *a.*, 2-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.*, 290 *K.W.* Engr., H. W. Smith; elecn., T. O. Crandall.

Picton Town Council, Picton, N.S., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2200-220 *v.*, 150 *K.W.* Cons. engr., R. S. Kelsch.

Pietermaritzburg, Natal. Natal Govt. Railways, props. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 115 *v.* L., 200 *v.* P., 320 *K.W.* Res. engr., G. F. A. Norman, A.M.I.E.E., A.M.I.MECH.E.

Pietermaritzburg Corp., Natal. L. P. T. *a.*, 1-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.* L., 200 *v.* P.; T. *c.*, 500–550 *v.*, 1560 *K.W.* Engr., A. S. Munro, A.M.I.E.E.; elecn., S. Job; tramways manager, P. Finlayson.

Electricity Works—*continued.*

Pietersburg, Transvaal. *E. L. under consideration by the T. C.*

Pilgrim's Rest, Lydenburg, Transvaal. Transvaal Gold Mining Estates, Ltd., proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, 3000, 120 & 220 *v.*; *c.*, L. 120 & 220 *v.*, P. 220 & 550 *v.*, T. 550 *v.* Elecl. engr., W. Elsdon-Dew, A.M.I.E.E.

Piracicaba, Brazil. Cia. Paulista de Electricidade, props. *a.*, 3-*ph.*, 50 *py.*, 4000–200 *v.* Engr., A. A. B. Penteado.

Pisagua, Chili. Corp., props. L.

Plessisville, Que., Canada. Cie. Electrique de Plessisville, proprietors.

Pointe-au-Pic, Que., Canada. Labrador Electric & Pulp Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 4400–220 & 110 *v.*

Port Arthur Corporation, Port Arthur, Ont., Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 104 or 500 *v.* for motors, & *c.*, 500 *v.*

Port Dalhousie, St. Catherine's & Thorold Electric Street Railway Co., St. Catherine's, Ont., Canada. T. *c.*, 600 *v.* Engr., W. H. Horton. *Current supplied by Niagara, St. Catherine's & Toronto Railway Co.*

Port Dalhousie, Ont., Canada. Maple Leaf Rubber Co., Ltd., proprietors. L. *c.*, 2400–110 *v.*, 150 *K.W.* Elecns., W. Hutton & J. Dixon.

Port Dover, Ont., Canada. Keilig & Fisher Light & M'c'h. Co., props.

Port Elgin, Ont., Canada. *See* Saugeen Electric Light & Power Co., Ltd.

Port Elizabeth Electric Tramway Co., 4, Main-st., Port Elizabeth, S. Africa. Cape Electric Tramways Co., proprietors. T. *c.*, 500–550 *v.*, 400 *K.W.* J. A. Barkley, general manager.

Port Elizabeth Municipality, Port Elizabeth, South Africa. L. *c.*, 3-wire, 500 *v.*, 800 *K.W.* Engr., R. Pape.

Port Hope Electric Light & Power Co., Ltd., Port Hope, Ont., Canada. L. *c.*, arc & *a.*, 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 104 *v.* L., 110 *v.* P., 150 *K.W.* Engr., V. B. Coleman.

Port Louis, Mauritius. L. *a.*, 1-*ph.*, 5000 *v.*

Port Perry Town, Port Perry, Ont., Canada. L. P.

Port of Spain, Trinidad. Trinidad Electric Co., Ltd., props. L. *a.*, 1-*ph.*, 60 *py.*, 2300–110 *v.*; P., 1- & 2-*ph.*, 60 *py.*, 2300–110 *v.*; & *c.* P. T., 550 *v.*, 1320 *K.W.* Gen. man. & cons. engr., F. W. Teele, M.SC.

Port Said, Egypt. Cie. Centrale du Gaz, props. L. *c.*, 3-wire, 220 *v.*; P. 440 *v.*, 100 *K.W.* Engr., L. David.

Portage La Prairie, Man., Canada. Central Electric Co., props. L. *a.*, 133 *py.*, 104 *v.*

Potchefstroom, Transvaal. *Municipal scheme under consideration.*

Potchefstroom Consumers' Light & Power Co., Ltd., Potchefstroom, Transvaal. L. *c.*, 3-wire, 235–240 *v.*, 125 *K.W.* Engr., W. D. Ross.

Power Equipment Co. *See* London.

Prescott Municipality, Prescott, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 160 *K.W.* H. Reney, engr.

Electricity Works—*continued.*

Preston City, Preston, Ont., Canada. L. *a.*, 125 *py.*, 2080–104 *v.*

Pretoria Cantonments, Transvaal. War Office, props. *c.* L., 3-wire, 250 *v.*; P., 250 & 500 *v.*, 240 *K.W.*

Pretoria Corporation, Pretoria, Transvaal. L. *c.*, 3-wire, 250 *v.*, 1300 *K.W.* Engr. & man., T. C. Wolley Dod, A.M.I.E.E.

Prince Albert Municipality, Prince Albert, Saskatchewan, Canada. *a.*, 2-wire, 1-*ph.*, 60 *py.*, 1100–104 *v.*, 120 *K.W.* Engr., O. Klein.

Quebec, Canada. Quebec Railway, Light & Power Co., proprietors. L. P. *a.*, 2-*ph.*, 66⅔ *py.*, primary 2000 *v.*, secondary 104 *v.*; T. *c.*, 550 *v.*, 3000 *K.W.* Lewis Burran, engr. *Extensive developments have been commenced.*

Quebec, Canada. Quebec Jacques-Cartier Electric Co., proprietors. L. P. *a.*, 3-*ph.* transmission, 22,000 *v.* & 2-*ph.* distribution, 60 *py.*, primary 2000 *v.*, secondary 108 *v.*, 500 *v.* for motors, 2400 *K.W.* Engr., L. Denis.

Queenstown, Cape Colony. *The question of E. L. stands in abeyance.*

Queenstown, Tasmania. *Current for electric lighting supplied by* Mount Lyell Mining & Railway Co., Ltd. L. *a.*, 1- & 3-*ph.*, 50 *py.*, 220 & 500 *v.*, 200 *K.W.* Engr., A. N. Macincol.

Quezaltenango, Guatemala. Cia. del Alumbrado Electrico Aparicio Hijos y Cia., props. *a.*, 2-*ph.*, trans. in sub-sta. 60 *py.*, 2200–100 *v.*, 310 *K.W.* Engr., H. Noerbel.

Quito, Riobamba, Ambato & Latacunga. *Projects for E. L. plants being developed.*

Rand, The. *A scheme is on foot to erect an electric power station to supply the Rand mines with electrical energy.*

Rand Central Electric Works, Ltd. *See* Johannesburg.

Rangoon Electric Tramway & Supply Co., Ltd. (J. W. Darwood & Co.), Rangoon, Burma. L. *a.*, 1-*ph.*, 50 *py.*, 2080–115 & 230 *v.*; P., 1- & 3-*ph.*, 50 *py.*, 2080–115 & 230 *v.*; T. *c.*, 550 *v.* Engr., J. D. Dyson, A.M.I.E.E.

Rat Portage, Ont., Canada. Transposed to Kenora, *q.v.*

Raub Pahang, Malay Peninsular. Raub Australian Gold Mining Co., Ltd., proprietors. L. P. *a.*, 2-*ph.*, 53 *py.*, 5000–220 *v.*, 525 *K.W.*

Redfern Municipality, Redfern, Sydney, N.S.W. L. *a.*, 1-*ph.*, 70 *py.*, primary 1100 *v.*, secondary 100 & 200 *v.*, 120 *K.W.* 150 arc lamps for street L., series *a.* system, with constant current transformers, fitted. J. W. Balfour, engr.

Regina, Corporation of, Electric Light Department, Regina, N.W.T. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 210 *v.* P., 400 *K.W.* Engr., E. W. Bull.

Renfrew Electric Co., Ltd., Renfrew, Ont., Canada. L. P. *a.*, 2-*ph.*, 60 *py.*, 1040–110 *v.*; P. *c.*, 110 *v.*, 100 *K.W.* Engr., G. Fife; elecn., H. H. Wright.

Renfrew Power Co., Renfrew, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2300–115 *v.*

Electricity Works—*continued.*

Revelstoke City Electricity Works, Revelstoke, B.C., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 2300–104 *v.*, 240 *K.W.* Supt., R. Gordon.

Ribeirao Preto, Brazil. Rufino de Almeida & Co., props. *a.*, 3-*ph.*, 50 *py.*, 2000 & 2200–120 *v.*, 100 *K.W.* Cons. engrs., Siemens & Halske.

Richibucto, N.B., Canada. Kent Electric Co., Ltd., props. L. *a.*, 1-*ph.*, 133-*py.*, 2200–110 *v.*, 120 *K.W.* Engr., C. Amireaux; elecn., L. Brown.

Richmond County Electric Co., Richmond, Que., Canada. L. P. *a.*, 2-*ph.*, 133 *py.*, primary 2000 *v.*, secondary 100 *v.*, 120 *K.W.* Engr., A. Dunn.

Ridgetown Electric Light Co., Ridgetown, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2080–104 *v.*

Rio Claro, Brazil. Th. Wille & Co., Santos, props. *a.*, 3-wire, 50 *py.*, 4500–120 *v.*, 580 *K.W.* Cons. engr., E. von Frankenberg.

Rio de Janeiro Tramway, Light & Power Co., Ltd., 78, Avenida Central Rio de Janeiro, Brazil.

Rio Santiago, La Plata. *The Navy Dept. is drawing up plans for erection of P. house.*

River Plate Electricity Co., Ltd., La Plata, Argentine Republic.

Roberval, Que., Canada. Cie. Electrique de Roberval, proprietors. L. *a.*, 1-*ph.*, 2080–104 *v.*, 180 *K.W.* Elecn., E. Delisle.

Rockhampton, Queensland. Gas & Coke Co., props. L. P. *c.*, 3-wire, 110 *v.*, 50 *K.W.* Engr., W. T. Nye.

Roodeport, Transvaal. Lancaster Gold Mining Co., Ltd., proprietors. P. *a.*, 3-*ph.*, 50 *py.*, primary 2200 *v.*, *transformed as required.*

Rosario Electric Co., Rosario de Santa Fé, Argentina. L. P. *c.*, 440 & 220 *v.*, 1660 *K.W.* Engr., A. H. Unwin; elecn., C. E. Smith.

Roslyn Town Council Tramways, Roslyn, N.Z. P. *supplied from Waipori Falls.*

Rossland, B.C., Canada. West Kootenay Power & Light Co., Ltd., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 550 & 110 *v.* P., 3000 *K.W.* Elecn., J. D. McDonald.

Rotorua, N.Z. Government, props. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 4000 *v.*, secondary 100 *v.*, 200 *K.W.* Engr., L. Birks, B.SC.

Royal Electric Co., Montreal, Canada.

Sackville Electric Light & Telephone Co., Sackville, Westmorland Co., N.B., Canada. L. *a.*, 1-*ph.*, 120 *py.*, 220 *v.*, 135 *K.W.* Engr., B. J. McHaffey; elecn., F. C. Harris.

St. Andrews & Carillion, Montreal, Canada. Bert Fogarty, prop. & engr. L. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.*, 200 *K.W.*

St. Casimir, Que., Canada. M. A. & H. Grandbois, proprietors.

St. Catharine's, Ont., Canada. Niagara, St. Catharine's & Toronto Railway Co., proprietors. T. *a.*, 3-*ph.*, 25 *py.*, 11,000 *v.*, converted to *c.* 600 *v.*, 900 *K.W.* Engr., W. H. Horton.

Electricity Works—*continued.*

St. Catherine's, Ont., Canada. Lincoln Electric Light & Power Co., Ltd., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 220 *v.* P.; & *c.* P., 500 *v.*, 2000 *K.W.* Elecn., A. F. McBean.

St. Francois Hydraulic Co. *See* Thetford Mines.

St. George's Electric Co., St. George's East, Beaune, Que., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 15,000 *v.*, transformed to 3-wire *c.*, 500 *K.W.* Engr., L. Cayonette.

St. Hyacinthe, Que., Canada. Gas, Electric & Power Co. of St. Hyacinthe, props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080–104 *v.* L., 550 *v.* P., 600 *K.W.* Engr., A. Desolier; elecn., G. Pominville.

St. Jerome Power & Electric Light Co., Ltd., St. Jerome, Que., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2000–110 *v.*, 75 *K.W.* Elecn., R. H. Madden.

St. John, N.B., Canada. *See* Carlton Electric Light & Power Co.

St. John Electric Light Co., Ltd., P.O. Box 240, St. John, Que., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 9000–104 *v.*, 175 *K.W.* Engr., S. E. Fletcher.

St. John Railway Co., St. John, N.B., Canada. L. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 107 *v.*; P. *c.*, 250 *v.*; T., 550 *v.*, 3000 *K.W.* Engr., T. Irwin; elecn., H. A. Brown.

St. John Street Railway Co., St. John, Newfoundland. T. *c.*

St. John's, Newfoundland. Reid Newfoundland Co., proprietors. L. P. *a.*, 3-*ph.*, transmitted 8 miles at 15,000 *v.*; distribution, primary 2240 *v.*, secondary 104 *v.*, 60 *py.*; T. *c.*, 500 *v.*, by rotary converters, 1200 *K.W.* Engr., L. A. Howland; elecn., J. W. Morris.

St. John's Electric Light Co., St. John's, Que., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.*, 300 *K.W.* Engr., F. A. Chisholm.

St. Lawrence Power Co. *See* Mille Roche.

St. Marys Corp., Ont. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.* Engr., R. Waugh.

St. Paul's Bay, Que., Canada. Cie. Electrique de la Baie de St. Paul, proprietors.

St. Stephen, N.B., Canada. St. Croix Gas Light Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 2200–102 *v.*

St. Stephen Electric Light Co., St. Stephen, N.B., Canada. L. *c.* arc.

Ste. Therese de Blainville, Que., Canada. J. Roux, proprietor. L. *a.*, 1-*ph.*, 1100–110 *v.*, 30 *K.W.* Engr., G. Roux; elecn., F. Roux.

St. Thomas Light, Heat & Power Dept., St. Thomas, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 1000–50 & 100 *v.*; P. *c.*, 500 *v.* Man., G. L. Oill.

St. Thomas Street Railway Co., St. Thomas, Ont., Canada. T. *c.*, 500 *v.*

Sakai Electric Light Co., Sakai, Japan. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080–104 *v.* L., 230 *v.* P., 150 *K.W.* Engr., M. Jio. *Amalgamated with Osaka Electric Light Co.*

Saldanha Bay Harbour & Estates Co., Saldanha Bay, Cape Colony. *Electricity works & tramways under consideration.*

Electricity Works—*continued.*

Salisbury, Rhodesia. Proposed system: L. *c.*, 110–220 *v.*, 150 *K.W.* *Works to be erected later.*

San Francisco de Limache & Limache, Chili. *The Tabolan Electric Co. has obtained a decree to supply E. L. & P.*

San Juan, Argentina, S. America. *E. L. under consideration.*

San Juan Light & Transit Co., San Juan, Puerto Rico.

San Luis, Argentina. *A concession has been granted to Mr. F. R. Sanchez.*

San Salvador, Mexico. Luz Electrica San Salvador, props. *a.*, polyphase, 50 *py.*, 3000–120 *v.* Cons. engrs., Siemens & Halske.

Sandon Water & Light Co., Sandon, B.C., Canada. P. *c.*, 3-wire, 110–220 *v.*, 80 *K.W.* Elecn., A. H. Sanderson.

Sandwich, Windsor & Amherstberg Railway, Windsor, Ont., Canada. L. P. *a.*, 104 *v.*, 1-*ph.*, 133 *py.*; T. *c.*, 500 *v.*, 300 *K.W.* Engr., J. McConnell; elecn., G. McLeod.

Santa Fé, Argentine Republic. *The German Electric Light Co. has offered to the Municipality to take over the E. L. Station & electrify one tramline.*

Santiago, Chili. Chilian Electric Tramway & Light Co., props. L. T. *c.*, 3-wire, 460 & 550–220 *v.*, 3380 *K.W.* Engr., E. W. Martin; man., S. Ossa.

Santos, City of, Developments Co., Santos, Brazil. L. T. *a.*, 3000–220 *v.*, 450 *K.W.* Cons. engrs., Mordey & Dawbarn.

São Paulo Tramway, Lt. & Power Co., São Paulo, Brazil. L. P. T. *a.*, 1- & 3-*ph.*, 60 *py.*, 2000–115 & 440 *v.*, 5600 *K.W.* Cons. engr., F. S. Pearson; chief engr., Jas. Mitchell.

Sapporo Dento Kabushiki Kaisha, proprietors, Odori, Sapporo & Hokkaido, Japan. L. P. *c.*, 3-wire & 2-wire, & *a.*, 60 *py.*, 1-*ph.*, 2000 *v.* (primary). Engr., R. Suzuki.

Sarnia Gas & Electric Light Co., Sarnia, Ont., Canada. L. P. T. *a.*, 2-*ph.*, 125 *py.*, primary 2080 *v.*, secondary 104 *v.* L. & P.; P. T. *c.*, 500 *v.*, 460 *K.W.* *a.*, 360 *K.W.* *c.* Engr., E. B. Phelps; elecn., W. Williams.

Sarnia Street Railway Co., Sarnia, Ont., Canada. 500 *v.*, 360 *K.W.* Engr., W. Williams.

Saugeen Electric Light & Power Co., Ltd., Walkerton, Ont. L. *a.*, 3-*ph.*, 60 *py.*, primary 6600–2200 *v.*, secondary 104 *v.*, 300 *K.W.* Engr., J. M. Miller. *Supplies current for* L. *to Southampton & Port Elgin.*

Sault Ste. Marie, Ont., Canada. Tagona Water & Light Co., props. L. *a.*, 1-*ph.*, 125 *py.*, primary 2100–2200 *v.*, secondary 104 *v.*; P. *c.*, 550 *v.*, 875 *K.W.* Engr., L. H. Davis.

Sault Ste. Marie, Ont., Canada. International Transit Co., proprietors. P. *supplied by Lake Superior Power Co.*, *c.*, 500 *v.*

Sault Ste. Marie, Ont., Canada. The Lake Superior Power Co., proprietors. P. T. *c.*, 500 *v.*, 2025 *K.W.* Engr., L. H. Davis.

Schomburg & Aurora Railway Co. *See* Aurora.

Electricity Works—*continued.*

Sea-Point & Green-Point, Capetown. *Electric lighting under consideration.*

Seaforth Electric Light, Heat & Power Co., Ltd., Seaforth, Ont., Canada.

Selkirk Electric Co., Ltd., Selkirk, Man., Canada. L. P. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., J. M. Fromks; elecn., Alex. P. Stuart.

Sendai, Japan. Miyagi Spinning & Lighting Co., proprietors. L. *a.*, 80 *py.*, primary 2150 *v.*, secondary 100 *v.*, 525 *K.W.* Engr., Hayashi Kikutaro.

Sendai Electric Light Co., Sendai, Japan. L. *a.*, 3-*ph.*, 60 *py.*, 2000–100 *v.* L., 100 & 220 *v.* P., 600 *K.W.* Engr., S. Kawamura.

Seoul, Corea. American Korean Electric Co., props. *a.*, 3-wire, 120 *py.*, 385–110 *v.* Consulting engr., H. Maki, B.A.; chief engr., R. A. McLellan.

Shanghai, China. French Municipal Council, props. L. *c.*, 3-wire, 120 & 240 *v.*, 282 *K.W.* Engr., E. Gaillard; elecn., G. Chevance.

Shanghai Municipal Council, Shanghai, China. *a.*, 2- & 3-wire, 1-*ph.*, 50 *py.*, 2000–100, 200 & 400 *v.*, 1600 *K.W.*; & *c.*, 500 *v.* Cons. engrs., Preece & Cardew; chief engr., T. H. U. Aldridge.

Shawinigan Falls, Que., Canada. St. Maurice Light & Power Co., props. *a.*, 2-*ph.*, L. P., 2200–110 *v.* L., 220 *v.* P.; T., 2000 *v.*, 100 *K.W.* *Current bought from Shawinigan Water & Power Co.*

Shawinigan Water & Power Co. *See* Montreal.

Shelburne Electric Light Co., Shelburne, Ont., Canada. L. *c.* arc & *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 102 *v.*, 60 *K.W.* Engr., S. G. Hall; elecn. & prop., J. Pickering.

Shelburne Electrical Co., Ltd., Shelburne, N.S., Canada. *Works to be erected.*

Sherbrooke Power, Light & Heat Co., Sherbrooke, Que., Canada. L. P. *a.*, 1- & 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 110, 220, 440 & 550 *v.* P., 1340 *K.W.* Engr., A. Sangster; elecn., G. Taylor.

Sherbrooke Street Railway Co., Sherbrooke, Que., Canada. T. *c.*, 500 *v.*

Shiba Generating Station, Shiba-ku; Tamachi; & Tokyo, Japan. Tokyo Electric Light Co., props. L. *a.*, 1-*ph.*, 80 to 100 *py.*, 2000 & 3000–100 *v.*, 320 *K.W.* Chief engr., M. Komu.

Shingu Elec. Light Co., Shingu, Japan. W. Kawamura, proprietor. L. P. *a.*, 3-*ph.*, 60 *py.*, L. 2300–100 *v.*, P. 2200–220 *v.*, 160 *K.W.* Engr., R. Yasuda.

Shiznoka Electric Light Co., Ltd., Shiznoka, Japan. L. *a.*, 1-*ph.*, 125 *py.*, primary 2000 *v.*, secondary 100 *v.*

Shubenacadie, Hants Co., N.S., Canada. Logan & Co., proprietors. L. *c.*, 110 *v.*, 17 *K.W.*

Siam Electricity Co., Ltd. *See* Bangkok.

Simcoe Gas & Water Co., Simcoe, Ont., Canada. L. *c.* arc, 2000 *v.* Engr., T. R. Irwin; elecn., J. C. Sovereign.

Electricity Works—*continued.*

Simla, India. *Town Council's proposed system:* *a.*, 3-*ph.*, 50 *py.*, 200 *v.*, transformed to 10,000, transmitted to substa., and transformed to 2000 *v.*, distributed to 5 smaller substa., and transformed to 200 *v.*, 150 *K.W.*

Singapore Electric Tramways, Ltd., Singapore, Straits Settlements. *c.* L., 230 & 460 *v.*; P., 460 *v.*; T., 550 *v.*, 1500 *K.W.* Gen. man., I. H. Garratt, M.I.E.E., M.I.M.E.; power sta. supt., F. H. Robinson; elecn., H. G. Wightwick, A.M.I.E.E.

Singapore Municipality. L. T. *c.*, 3-wire, 230 & 460 *v.*, 1250 *K.W.* Engr., J. H. MacKail, A.M.I.E.E.

Skaiawa. *See* Hawera County Electric Co.

Slocan Power Co., Sandon, B.C., incorporated to construct 1000 H.P. plant for supplying mines in vicinity with electric light & power. *a.*, 3-*ph.*

Smith's Falls, Ontario. Citizens' Electric Co., Ltd., props. L. *a.*, 1-*ph.*, primary 1000 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., J. Scroggie.

Smith's Falls Electric Power Co., Smith's Falls, Ont., Canada. L. *a.*, 125 *py.*, & P. *c.*, 500 *v.* Chief engr., Jno. Davidson.

Solo Electriciteits Maatschappij, Solo, Java.

Somerset Strand Electric Lighting & Tramway Co., Somerset West, Cape Colony.

Somerset West. *See* Cape Explosives Works.

Sorel Electric Light Co., Sorel, Que., Canada. Power supplied in bulk from Shawinigan Water & Power Co. at 2-*ph.*, *a.*, 30 *py.*, 12,500 *v.*, transformed to *a.*, 2-*ph.*, 4-wire, 110 *v.* L., 220 *v.* P. Elecn., R. B. McDunnough.

Soulanges Canal Power House, Coteau du Lac, Co. Soulanges, Que., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, L. 2080–115 *v.*, P. 2400–220 *v.*, 300 *K.W.* Engr., D. Lalonde.

South American Light & Power Co., Ltd., Bahia Blanca, Argentina.

South Perth Electric Supply & Power Co., South Perth, West Australia. L. *c.*, 3-wire, 460 *v.*, 50 *K.W.* Engr., H. A. J. Bader.

South Randfontein Gold Mining Co. P. & T. *under consideration.*

South Western Traction Co., London, Ont., Canada. *Station to be erected* at Lambeth or near St. Thomas.

Southampton, Ont., Canada. *See* Saugeen.

Southern Light & Power Co., Ltd. *See* Toronto.

Spring Hill, N.S., Canada. Edison Electric Light & Power Co. of Springhill, Ltd., props. L. *a.*, 1-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 *v.*, 120 *K.W.* Engr., A. A. Fraser; elecn., W. J. Pippy.

Srinagar, Kashmir, India. Jummu & Kashmir State, props. L. *c.*, arc 110 *v.*, inc. 220 *v.*, 88 *K.W.* Engr., L. C. Bose.

Stanbridge East, Que., Canada. M. S. Cornell & Sons, props. & engrs. L. *c.*, 110 *v.*, 17½ *K.W.*

Standard Light & Power Co., Montreal, Canada. L. P. *c.*, 125 *v.* J. Black, engr.

Standerton, Transvaal. *Works to be erected.*

Electricity Works—*continued.*

Stanstead E. L. Co., Stanstead, Que., Canada. L. *a.* inc., 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 104–52 *v.*; *c.* arc, 2000 *v.*, 120 *K.W.* Manager, H. E. Cheunell.

Stayner, Ont., Canada. J. Knox, proprietor & manager.

Stellenbosch, Cape Colony. *E. L. under consideration by Council.*

Stormont Elec. Light & Power Co. *See* Cornwall.

Strand Electric Lighting Co., Sydney, N.S.W. L. P. T. *c.*, 3-wire, 110–220 *v.*, 950 *K.W.* H. Smith, engr.

Stratford Electric Supply Co., Ltd., Stratford, N.Z. L. *a.*, 2-wire, 1-*ph.*, 40 *py.*, primary 2000 *v.*, secondary 100 *v.*, 90 *K.W.* Engr., W. J. Newton.

Stratford Gas Co., Stratford, Ont., Canada. L. P. *a.*, 1-*ph.*, 125 *py.*, primary 2000 *v.*, secondary 110 *v.*; & *c.*, 220 or 110 *v.* Engr., F. R. Chowen.

Strathroy Municipal Electric Light & Water Works, Strathroy, Ont., Canada. L. P. series arc, *a.*, 2-*ph.*, 66 *py.*, primary 1040 *v.*, secondary 104 *v.*, 150 *K.W.* Engr., A. Plank; elecn., J. Teckre.

Sturgeon Falls Electric Light & Power Co., Ltd., Sturgeon Falls, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1040–104 *v.*, 220 *K.W.* Engr., W. H. Young.

Subiaco Municipal Council, Subiaco, West Australia. L. *c.*, 3-wire, 220 *v.*; P., 220 & 440 *v.*, 192 *K.W.* Engr., W. R. Groom.

Sucre, Bolivia. *A scheme for* E. L. & P. *has been decided upon.*

Sudbury Corporation, Sudbury, Ont., Canada. L. P. *a.*, 3-*ph.*, 22,000 *v.*, transformed to 2-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P., 300 *K.W.* Engr., R. H. Martindale. 184 *K.W. to be added.*

Suez, Egypt. Société Electrique d'Ismailia, props. *a.*, 3-*ph.*, 50 *py.*, 240–220 *v.* Consulting engr., M. Grob; chief engr., N. Hartmann.

Sumitomo Besshi Copper Mine, Japan. K. Sumitomo, prop. *a.*, L. 3-*ph.*, 30 *py.*, 3000–100 *v.*, P. 3-*ph.*, 30 *py.*, 11,000 & 3300–100 & 370 *v.*; & *c.*, L. 100 *v.*, P. 220 *v.*, T. 550 *v.*, 680 *K.W.* (5 gen. stations.) Engr., S. Imada, M.E.; elecn., K. Nishikawa, E.E.

Summerside Electric Co., Summerside, P.E.I., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 500 *K.W.* T. B. Grady, electrician & manager.

Sunderland Electric Power Co., Ltd., Sunderland, Ont., Canada.

Sussex Manufacturing Co., Sussex, N.B., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2000–104 *v.*, 40 *K.W.* Engr., C. D. Mills.

Sutton, Ont., Canada. W. H. Summerfeldt & Sons, proprietors. L. P. *c.*, 220 *v.*, 50 *K.W.* Elecn., W. S. Summerfeldt.

Sydney & Glace Bay Railway Co., Sydney, N.S., Canada. *c.*, 500 *v.*

Sydney, N.S., Canada. *Municipality will erect works.*

Electricity Works—*continued.*

Sydney, N.S., Canada. Cape Breton Electric Co., proprietors. T. *c.*, 500 *v.*

Sydney, N.S., Canada. Stone & Webster, props. L. *a.*, 1-*ph.*, 60 *py.*, 2200–110 *v.*; P., 1- & 2-*ph.*, 60 *py.*, 2200–110 & 220 *v.*; T. *c.*, 550 *v.*, 1200 *K.W.* Engr., W. P. Stubbert; elecn., A. W. MacIsaac.

Sydney, N.S.W., Municipality. L. P. *a.*, 3-*ph.*, 50 *py.*, 5200–240 & 415 *v.*; L. P. *c.*, 240 or 480 *v.*, 3240 *K.W.* Engr., T. Rooke.

Sydney, N.S.W. *See* Oxford Street Electric Lighting Co., Ltd.

Sydney, N.S.W. *See* Palace Electricity Works.

Sydney, N.S.W. *See* Empire Electric Light Co.

Sydney, N.S.W. *See* Strand Electric Lighting Co.

Sydney, N.S.W. Government, proprietors. L. *c.*, 500 *v.*; P. T. *a.*, 3-*ph.*, 25 *py.*, primary 6600 *v.*, secondary 350 *v.*; T. *c.*, 500 to 600 *v.*, 9400 *K.W.* O. W. Brain, M.I.E.E., engr.

Sydney, N.S.W. Imperial Arcade Electric Light Co., proprietors. L. P. *c.*, 100 *v.*, 75 *K.W.* Engr., W. Simpson.

Tagona Water & Light Co. *See* Sault Ste. Marie.

Tamworth Municipality, Tamworth, N.S.W. L. *c.*, 2-wire, 230 *v.*, 47 *K.W.* W. G. Counsell, engr.

Tavistock, Ont., Canada. J. G. Field, proprietor.

Te Aroha Boro' Council, Te Aroha, Auckland, N.Z. L. *a.*, 1-*ph.*, 50 *py.*, 3000–440 *v.*, 52 *K.W.* Engr., A. T. Crosher.

Teeswater Electric Light Co., Teeswater, Ont., Canada. George S. Fowler & James Gallagher, proprietors. L. P. *a.*, 2-*ph.*, primary 1100 *v.*, secondary 110 *v.*, 400 *K.W.*

Tehri-Garwhal, India. *A small water-power scheme now being carried out for L. town & Maharajah's palace.* 120 *v.*, 18 *K.W.* Engrs., Enever Bros. & J. Butler.

Terrebonne Electric Light Co., Terrebonne, Que., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 1040–104 *v.*, 75 *K.W.*

Thamesville Corporation, Thamesville, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 60 *K.W.* Engr., F. Eberley.

Thargomindah, Queensland. Bulloo Shire Council, proprietors. *c.*, 2-wire, 200–220 *v.*, 10 *K.W.* Engr., G. A. Lewis.

Thessalon Town Council, Thessalon, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 60 *K.W.* Engr., E. E. Thompson.

Thetford Mines, Que., Canada. St. Francois Hydraulic Co., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*, 15,000-2200 *v.*, 1000 *K.W.* Elecn., A. A. Vachan.

Thornbury Electric Light Co., Thornbury, Ont., Canada. L. *c.* arc.

Thorold City Electric Light Plant, Thorold, Ont., Canada. L. *c.*, arc 45 *v.*, inc. 108 *v.*, *a.* 1-*ph.*, 133 *py.*, primary 2200 *v.*, secondary 110 *v.*, 120 *K.W.* Elecn., L. O'Connor.

Three Rivers, Que., Canada. North Shore Power Co., props. L. *a.*, 2-*ph.*, 33 *py.*, primary 2000 *v.*, secondary 104 *v.*; P. *a.*, 3-*ph.*, 60 *py.*, primary 2500 *v.*, 1520 *K.W.* Engr., C. Degrez.

Electricity Works—*continued.*

Tientsin, China. French Municipality, props. *c.*, 3-wire, 500–220 *v.*, 456 *K.W.* Engr., Geo. Proust.

Tientsin Gas & Electric Light Co., Ltd., Cemetery-rd., Tientsin, China. Engr., A. J. C. Waterland, M.I.E.E.

Tilbury, Ont., Canada. W. W. Kett, prop.

Tilsonburg, Ont., Canada. L. P. *a.*, 1-*ph.*, 133 *py.*, primary 2080 *v.*, secondary 105 *v.*, 125 *K.W.* Engrs. & props., F. J. & W. E. Barkey.

Timaru, N.Z. E. L. *plant to be installed.*

Tokushima Electric Light Co., Tokushima, Japan.

Tokyo Densha Tetsudo Kaisha (Tokyo Electric Tramways Co.), Tokyo, Japan. P. *a.*, 3-*ph.*, 25 *py.*, primary 6600 *v.*, secondary 360 *v.*; T. *c.*, 575 *v.*, 3600 *K.W.* Engrs., M. Enya, Y. Kasuya, K. Yoshimura, Y. Yamaki.

Tokyo Electric Light Co., 3, Yūraku-chō Sanchōme, Kojimachi-Ku, Tokyo, Japan. L. *c.*, 100 *v.*; & *a.*, 1- & 3-*ph.*, 100 & 50 *py.*, primary 3000 & 2000 *v.*, secondary 110 *v.*; P. *c.*, 200 *v.*; T. *c.*, 500 *v.*, 9100 *K.W.* 15,000 *K.W. under construction.* Chief engr., I. Nakahara.

Tokyo Metropolitan Street Railway Co., Tokyo, Japan. *a.*, 3-*ph.*, 60 *py.*, 3500 *v.*, & *c.* 500 *v.*, 7600 *K.W.* Engr., T. Uyski.

Toronto, Canada. Southern Light & Power Co., Ltd., proprietors. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 13,500 *v.*, L. 4000–2000–110 *v.*, P. 2000–500 & 250 *v.*, 2400 *K.W.* Engr., G. L. Kitchen.

Toronto, Ont., Canada. Electrical Development Co. of Ontario, proprietors. P. *a.*, 3-*ph.*, 25 *py.*, 60,000–12,000 *v.*, 8000 *K.W.* *Under construction.*

Toronto, Ont., Canada. *Estimate for municipal supply scheme has been prepared by city elec. engr., — Rust.*

Toronto, Ont., Canada. Stark Traction Light & Power System, Ltd.

Toronto Electric Light Co., Esplanade-st., Toronto, Ont., Canada. L. *a.*, primary 2000 *v.*, secondary 114 *v.*; & *c.*, 110 *v.*; for P., 500 & 250 *v.*, 5400 *K.W.* Chief engr., R. G. Black.

Toronto Junction Corporation, Toronto Junction, Ont. L. P. *c.* Engr., Jas. Hardy.

Toronto Railway Co., Toronto, Ont., Canada. T. *a.*, 3-*ph.*, 25 *py.*, 12,000–350 *v.*; & *c.*, 575 *v.*, 5000 *K.W.* Engr., F. Tushingham; elecn., W. H. Fiske.

Toronto Suburban Street Railway Co., Toronto Junction, Ont., Canada. T. *c.*, 550 *v.*, 400 *K.W.* Engr., Jas. Banks; elecn., Thos. Barnes.

Toronto & York Radial Railway, Toronto, Canada. T. *a.*, 3-*ph.*, 60 *py.*, 16,500 *v.*–570 *v.* *c.*, 1220 *K.W.* Engr., J. S. McKechnie.

Toyama Electric Light Co., Toyama, Japan. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080–104 *v.* L., 104 or 230 *v.* P., 150 *K.W.* Engr., K. Yanagita; elecn., S. Honjio.

Toyohashi Elec. Light Co., Ltd., Toyohashi, Japan. *a.*, 1-*ph.*, 80 *py.*, 2000 *v.*, secondary L., 100 *v.*; P. T., 204 *v.*; *c.* P., 200 *v.*; T., 204 *v.*, 90 *K.W.* Engr., S. Hashizume.

Electricity Works—*continued.*

Trail, B.C., Canada. Canadian Smelting Works, props. *c.* P., 500 *v.*; *a.* L., 1-*ph.*, 125 *py.*, primary 2080 *v.*, secondary 110 *v.*; P., 3-*ph.*, 60 *py.*, 20,000–500 *v.*, 284 *K.W.* Engr., J. R. M'Dougall.

Trenton Electric Co., Trenton, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 115 *v.*, 550 *K.W.* L. & P. *supplied to Belleville.* Supt., A. T. Hicks.

Trenton Electric & Water Co., Ltd., Trenton, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 115 *v.*, 550 *K.W.* Elecn., A. T. Hicks.

Trinidad Electric Co., Ltd., Port of Spain, Trinidad, West Indies. L. P. *a.*, 1- & 2-*ph.*, 60 *py.*, primary 2300 *v.*, secondary 110 & 220 *v.*; P. T. *c.*, 550 *v.*, 1320 *K.W.* General man. & cons. engr., Fred W. Teele.

Truro, N.S. Chambers Electric Light & Power Co., proprietors. *c.* L., 120 *v.*; P. T., 250 *v.*, 500 *K.W.*

Tucuman, Argentina. River Plate Electricity Co., props. L. P. *c.*, 220 & 440 *v.*, 500 *K.W.* Engr., J. F. Shoolbred.

Tweed Electric Light & Power Co., Tweed, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 2200 *v.*, secondary 104 *v.*, 75 *K.W.* Engr., G. Hardy; elecn., A. L. May.

Uitenhage, Cape Colony. *E. L. under consideration by Municipality.*

Uji River Hydro-Electric Power Co., Osaka. Japan.

Umtali & Massikessi, South Africa. *Private Co. has received* L. *&* P. *concessions from Mozambique Co., generating* P. *from Massikessi Falls. No works erected.*

Umtata, Cape Colony. *Proposed system: a.*, 3-*ph.*, 50 *py.*, 5000–220 *v.* Cons. engrs., W. T. Oliver & E. G. Jones, Cape Town.

Usina Municipal Luz Electrica, 289, Garantias, San Nicolas, Argentine Republic.

Uxbridge, Ontario, Canada. I. J. Gould, proprietor. L. *a.*, 1-*ph.*, 60 *py.*, primary 1040 *v.*, secondary 104 *v.*

Valencia, Venezuela. Empresa Elec. Stelling & Cia., props. L. *a.*, 1-*ph.*, 120 *py.*, 1100–119 *v.* & *c.*, 80 *K.W.* Engr., C. Stelling.

Valleyfield Electric Co., Ltd., Valleyfield, Que., Canada. L. *c.*, 3-wire, 110 *v.*; P., 220 *v.*; L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.*, 150 *K.W.* Engr., J. E. Marchard.

Valparaiso Gas Co., Valparaiso, Chili. *Plant sold to Valparaiso Electric Tramway Co.*

Vancouver, B.C., Canada. British Columbia Electric Railway Co., Ltd., props. L. *a.*, 2-*ph.*, 60 *py.*, 2000–110 *v.*; P. *a.*, 2- & 3-*ph.*, 60 *py.*, 2000–200 *v.*; P. T. *c.*, 500 *v.*, 7500 *K.W.* Gen. man., R. H. Sperling; gen. supt., Jas. Milne.

Vancouver (North). British Columbia Electric Railway Co., Ltd., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2000–110 *v.* L., 110 & 220 *v.* P., 20,000–550 *v.* T., 1000 *K.W.* Gen. supt., Jas. Milne.

Electricity Works—*continued.*

Vancouver Power Co., Vancouver, B.C., Canada. L. P. T., *a.* 3-*ph.*, 60 *py.*, 2000–110 *v.* L., 220–440 *v.* P., 22,000–550 *v. c.* P. T., 6000 *K.W.* Gen. supt., Jas. Milne; elecn., W. T. Woodroofe.

Vankleek Hill Electric Co., Ltd., Vankleek Hill, Ont. L. P. *a.*, 2-*ph.*, 60 *py.*, 10,000 & 2000–115 & 240 *v.*, 200 *K.W.* Elecn., J. A. Robertson. *Sub-station only.* P. *bought from Hawkesbury E. L. & P. Co.*

Vernon City Council, Vernon, B.C., Canada.

Victoria, B.C., Canada. British Columbia Electric Railway Co., proprietors. *a.* L. P., 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P.; & *c.* P. T., 500 *v.*, 4600 *K.W.* Engr., G. M. Tripp.

Victoria Falls. *African Concessions Syndicate, Ltd., has concession to develop energy from Zambesi Falls & River for supplying Rhodesia.*

Victoria Electricity Works, Victoria, Entre Rios, Argentina.

Victoria City Council, Victoria, B.C., Canada. L. *a.*, 2-*ph.*, 2000 *v.*, 300 *K.W.* Engr., M. Hutchison.

Victoriaville, Que., Canada. A. Gagnon & Co., prop. L. *a.*, primary 2080 *v.*, secondary 104 *v.*

Villa Franca do Campo, Paraguay. *a.*, 3-wire, 50 *py.*, 3100–115 *v.* Engr. & prop., José Cordeiro.

Volksrust. *E. L. under consideration.*

Vryburg, Cape Colony. *E. L. under consideration.*

Vryheid, Natal. *A concession for E. L. & P. has been granted to Messrs. Reynolds, Tait & Stevenson.*

Waihi Grand Junction Gold Co.'s Mine, Waihi, N.Z. 3-*ph.*, 50 *py.*, 550 *v. Under construction.* Cons. engr., Percy Allen, Runcorn, Cheshire.

Waipori Falls Electric Power Co., 51, Crawford-st., Dunedin, N.Z. *The rights of this Co. have been acquired by the Corporation. Proposed scheme:* L. P. *a.*, 3-*ph.*, 50 *py.*, 20,000 *v.*, transformed to *c.*, 3-wire, 200 & 440 *v.*, 2000 *K.W.* Engr., W. T. Goodman; elecn., E. E. Stark. *Works under construction.*

Wakamatsu Electric Light Co., Wakamatsu, Japan.

Wakayama Electric Light Co., Ltd., 6, Hatayasiki-matsugaecho, Wakayama, Kii, Japan. L. *a.*, 1-*ph.*, 125 *py.*, 2080 *v.*, 104 *v.* for motors. Chief engr., Honjio Sato.

Walhalla, Victoria. *It is proposed to form a Co. to supply E. L.*

Walkerton Electric Light & Power Co., Ltd., Walkerton, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 2200 *v.*, secondary 104 *v.*, 120 *K.W.*

Wallaceburg, Ont., Canada. Premier Electric Light & Power Co. Ltd., proprietors. L. *c.* arc, inc. & *a.*, 1-*ph.*, 133⅓ *py.*, 2200–104 *v.*, 120 *K.W.* Man., H. H. Toply; elecn., R. S. Soper.

Wallaroo & Moonta Mining & Smelting Co., Ltd., Wallaroo Mines, South Australia. L. P. *a.*, 3-*ph.*, 25 *py.*, 220 *v.*, 400 *K.W.* Engr., A. Brown; elecn., E. F. Blatchford, A.I.E.E.

Waratah, Tasmania. Mount Bischoff Tin Mining Co., proprietors. L. *c.*, 50 *v.*, 15 *K.W.* Engr., W. E. Pennefather.

Electricity Works—*continued.*

Waterloo, Que., Canada. Bromo Lake Electric Power Co., proprietors. L. *a.*, 125 *K.W.* Elecn., H. G. Greene.

Waterloo, Ont., Canada. L. *c.*, 115 *v.*, *a.*, 1-*ph.*, 133 *py.*, primary 1150 *v.*, secondary 115 *v.*; P. *c.*, 3-wire, 230 *v.*, 220 *K.W.* Engrs., N. Beam & A. Buckly; elecns., Geo. Gross & Wm. Reiber.

Watford, Ont., Canada. R. C. McLeay, prop.

Weedon, Que., Canada. St. Francois Hydraulic Co., proprietors. L. P. T. *a.*, 3-*ph.*, 66 *py.*; L. 2200–110 *v.*, P. 2200–440 *v.*, T. 15,000 *v.*, 2000 *K.W.* Engr., A. G. Sangster.

Welland Electrical Co., Welland, Ont., Canada. L. *c.* arc & *a.*, 125 *py.*, 1100 *v.*

Wellington, C. Colony. *E. L. under consideration.*

Wellington, City of, Electric Light & Power Co., Ltd., Wellington, N.Z. L. P. *a.*, 1-*ph.*, 80 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 1875 *K.W.* Man. & engr., G. S. Maben, A.M.I.E.E.

Wellington, N.Z., City Corporation Tramways, Wellington, N.Z. L. *a.*, 1-*ph.*, 80 *py.*, 2200–200 *v.*; *c.* L. P., 500 *v.*; T., 550 *v.*, 1650 *K.W.* Engr. & manager, Stuart Richardson, M.I.E.E.

West India Electric Co. *See* Kingston.

West Kootenay Power & Light Co. *See* Rossland.

West Lorne Electric Light Co., Ltd., West Lorne, Ont., Canada. L. *c.*, 2-wire, 110 *v.*, 30 *K.W.* Engr., J. Logan.

Westmount, Que., Canada. *Electricity supplied by Montreal Light, Heat & Power Co.*

Weston Corporation, Weston, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 2080–104 *v.*, 60 *K.W.* Engr., J. Rumney.

Wetas Kirwin Town Council, Wetas Kirwin, N.W.T., Canada. *a.*, 2-*ph.*, 2300–110 *v.*, 75 *K.W.* Chief engr., G. R. Taylor.

Whitby, Ont., Canada. Water & Light Commissioners, props. L. *c.* arc & *a.*, 2-*ph.*, 60 *py.*, 2200–108 *v.*, 125 *K.W.* Engr., J. Sleightolm; elecn., R. M. Saxby.

Wiarton, Ont., Canada. Canada Furniture Manufacturers, Ltd., proprietors. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 115 *K.W.* Engr., J. Rodgers; elecn., R. Miller.

Winburg, Orange River Colony. *Electric light works under construction.*

Windsor, Ont., Canada. People's Electric Co., proprietors.

Windsor Electric Light & Power Co., Windsor, N.S., Canada. L. P. *c.*

Wingham Corporation, Wingham, Ont., Canada. L. *a.*, 1-*ph.*, 1040–104 *v.*, 180 *K.W.* Engr., H. H. Green; elecn., J. E. Bradum.

Winnipeg, Man., Canada. Manitoba Electric & Gas Light Co., proprietors. L. *a.*, 2200–110 *v.*; P. *c.*, 500 *v.*, 1650 *K.W.*

Winnipeg Corp., Winnipeg, Man., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.*; & *c.* L., 110 & 220 *v.*, 1000 *K.W.* City engr., H. I. Renton; city elecn., F. A. Cambridge. *The above plant is not used for commercial L., P. or T.*

Electricity Works—*continued.*

Winnipeg Electric Street Railway Co., Winnipeg, Man., B.C., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 2200–110 *v.*; *c.* P. T., 500–550 *v.*, 4000 *K.W.* Engr., D. Phillips.

Wolfville, N.S., Canada. Acadia Edison Electric Light Co., proprietors. L. *c.*

Woodstock Electric Light Co., Woodstock, N.B., Canada. L. *c.*, 110 *v.*, & *a.*, 1-*ph*, 125 *py.*, 2080–104 *v.*, 270 *K.W.*

Woodstock City, Woodstock, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 & 208 *v.*, 400 *K.W.* Engr., J. G. Archibald.

Woodstock Corporation, N.B., Canada. L. *c.*, 110 *v.*

Woodstock, Thames Valley & Ingersoll Electric Railway Co., Woodstock, Ont., Canada. T. *c.*, 550 *v.*, 220 *K.W.*

Wroxeter, Ont., Canada. J. Patterson & Son, props. & engrs. L. *a.*, 1-*ph.*, 60 *py.*, 1000–104 *v.*, 25 *K.W.* *Current supplied to Gorrie.*

Wynberg. Cape Peninsula Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 115 *v.*, 190 *K.W.* Engr., W. G. P. Macmuldrow; assistant, C. M. Read.

Wynberg Substation. (*Run from Claremont.*) Cape Peninsula Lighting Co., Ltd., proprietors. L. *c.*, 3-wire, 225 *v.*, 150 *K.W.* Engr., C. M. Read.

Yarker, Ont., Canada. Benjamin Manufacturing Co., Ltd., proprietors. L. *c.*, 250 *v.*, 75 *K.W.* Engr., G. Joyner; elecn., B. Gilbert.

Yarmouth Street Railway Co., Ltd., Yarmouth, N.S., Canada. L. inc., 110 *v.*; P. T. *c.*, 500 *v.*, 180 *K.W.* Engr., Geo. Foulis.

Yarmouth Town, Yarmouth, N.S., Canada. L. *c.* arc 8000 *v.*, inc. 100 *v.*, 64 *K.W.* Engr., John Ross.

Yeoville, Johannesburg, Transvaal. *Electric lighting under consideration.*

Yokohama Electric Tramway Co., Ltd., Yokohama, Japan. T. Engr., S. Baba.

Yokohama Union Electric Light Co., Yokohama, Japan. L. *c.*, 100 *v.*, & *a.*, 1- & 2-*ph.*, 100 or 60 *py.*, 2400–100 *v.*, 1800 *K.W.* Engr., J. Kobori.

Yokosuka Electric Light Co., Yokosuka, Japan. Engr., Y. Furukawa.

Yonezawa Suijoku denki Kaisha, Yonezawa, Yamagataken, Japan. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 100 *v.*; P., 100 & 220 *v.*, 150 *K.W.* Engr., T. Okudaira.

Young Municipal Council, Young, N.S.W. L. *a.*, 1-*ph.*, 125 *py.*, primary 1000 *v.*, secondary 100 & 52 *v.*, 90 *K.W.* Engr., E. M. Grant, M.I.E.E.

Zeehan Town Board, Zeehan, Tasmania. L. P. *c.*, 3-wire, 450–225 *v.*

Zomba, British Central Africa. Administration of B.C.A. Protectorate, proprietors. L. *c.*, 2-wire, 220 *v.*, 20 *K.W.* Engr., T. J. Binnie.

Electricity Works—Contractors for Construction & Equipment.

ELECTRIC ENGINEERING, IMPORT & EXPORT CO., corner rue de France & rue du Baron Gros, Tientsin, North China. *See advt. facing title page.*

Electro-Silver & Nickel Platers & Gilders.

F.—Dorure et platinage par la pile.
G.—Versilberer.

Joselevich Hnos., C. Corrientes 1682, B. Ayres.
Taylor, D. G., George-st., Brisbane.
Walker & Hall, 364, Little Collins-st., Melbourne.

Electroliers, Brackets & Pendants.

F.—Lustres et appliques.
G.—Candalaber, Konsole u. Hängelampen.

Anglade, J. E., & Sons, Esmeralda 355, Buenos Ayres.
Azaretto Hermanos, Cuyo 1901, Buenos Ayres.
Clark & Lewis, Smith's Falls, Ont., Canada.

Engine Makers—Steam (Electrical Purposes).

F.—Machines à Vapeur.
G.—Dampf-Maschinen.

Goldie & McCulloch Co., Ltd., Galt, Ont., Canada.
Marshall Sons & Co., Ltd., Gainsborough, England; 99, Clive-st., & 25, Strand, Calcutta.
Robb Engineering Co., Ltd., Amherst, N.S.
Waterous Engine Works Co., Brantford, Canada.

Engineers—Civil.

F.—Ingénieurs—Civils.
G.—Ingenieure—Civil.

Beal, L. O., jun., 79, Princes-st., Dunedin, N.Z.
Booth, J., M.C.E., 25, Rathdown-st., Carlton, Melbourne, Victoria.
Cambie, H. J., c/o C.P.R., Vancouver, B.C., Canada.
Conyers, S.W., Public Works Dept., Sydney, N.S.W.
Craig, W., Public Works Dept., Cape Town.
French, A. E., Rio de Janeiro Tramway, Light & Power Co., Ltd., Rio de Janeiro.
Hill, Albert J., C.E., M.E., New Westminster, B.C., Canada.
Holmes, R. W., M.I.C.E., Public Works Department, Wellington, N.Z.
Kastrup, J., B. Mitre 349, Buenos Ayres.
Kingsmill, T.W., 2, Yuhang-rd., Shanghai, China.
Lord, E. I., Greymouth, N.Z.
Mayne, C., M.I.C.E., Municipal Council, Shanghai, China.
Moncrieff, A. B., M.I.C.E., Adelaide, S. Australia.
Smith, Wm., & Co., Batu Gajah, Perak & Negri Sembilan, Malay Peninsula.

Engineers—Consulting.

F.—Ingénieurs consultants.
G.—Ingenieure—Beratende.

Alexander, J. C., Equitable-bldgs., George-st., Sydney, N.S.W.

Engineers—Consulting—*continued.*

Almeida & Co., 7A, Change-alley, Singapore, Straits Settlements.
Alsop, Wm., 101, Scott-st., Newcastle, N.S.W.
Arozarene, R. M. de, A.AM.I.E.E., Mexico City.
Auldjo, L. C., Equitable-bldg., George-st., Sydney, N.S.W.
Bailey & Murphy, 20, Connaught-rd., Hong Kong.
Barnett, C. W., Logans-bdg., Beach-st., Penang, Straits Settlements.
Barnett & Stark, Beach-st., Penang, Straits Settlements.
Bell, Norman M., A.M.I.C.E., 356, Queen-st., Brisbane.
Blackwell, F. O., Mexican Light & Power Co., Mexico.
Burman, E. S., 59, William-st., Melbourne.
Calastremé, J. C., M.I.MECH.E., A.M.I.E.E., 586, Avenida de Mayo, Buenos Ayres.
Cantwell & Co., 14, Lindsay-st., Calcutta.
Coxon, F., 63, Pitt-st., Sydney, N.S.W.
Crawford, Archibald Allan, Bombay.
Cutten Bros., Princes-st., Dunedin, N.Z.
Danvers, E., M.I.E.E., 475, B. Mitre, Buenos Aires.
Davey, H. M., 91A, Princes-st., Dunedin, N.Z.
Deane, H., Hoskin's-bldgs., Spring-st., Sydney, N.S.W.
Doyle, J. T., calle Alsina 2964, Buenos Ayres.
Doyle, Pat, C.E., M.R.I.A., F.R.A.S., F.R.S.E., Calcutta.
Finlayson Bros., A.M.P.-chbrs., Brisbane, Queensland.
Fletcher, H. C., M.I.M.E., Box 224, Bulawayo, Rhodesia.
Fraser, W. C., 32, Clarence-st., Sydney, N.S.W.
Granowski, O., 364, Queen-st., Brisbane, Queensland.
Grant, R., 32, Point-st., Pyrmont, N.S.W.
Grundel, J., Soerabaya, Java.
Hart, A. H., Luck's-bldgs., Gloucester-st. West, Christchurch, N.Z.
Hay, R., M.I.C.E., Dunedin, N.Z.
Henderson, S., Equitable-bldg., George-st., Sydney, N.S.W.
Hepburn & Spruson, 169, King-st., Sydney, N.S.W.
How, W. F., Mutual Life-bldgs., George-st., Sydney, N.S.W.
Huckson & Hutchinson, Franklin-chbrs., Macquarie-st., Hobart, Tasmania.
Johnson, W. A., 470, King-st. West, Toronto.
JOHNSON, WALLACE C., M.A.B.S., M.CAN.S.C.E., Bank of Ottawa-bldg., Montreal, P.Q.; & Niagara Falls, N.Y.
Josephson, J. P., 81, Elizabeth-st., Sydney, N.S.W.
Keating & Duncan, Home Life-bldg., Toronto, Canada.
Kelsch, R. S., M.AM.I.E.E., New York Life-bldg., Montreal.
Laidley, R. W., Exchange, Sydney, N.S.W.
Macdonald & Co., 13, Beaconsfield Arcade, Hong Kong.
Mais, H. C., M.I.C.E., 60, Queen-st., Melbourne.
Massey, George, P.O.-chbrs., Pitt-st., Sydney, N.S.W.

Engineers—Consulting—*continued.*

Milne, W., & Son, 13, Castle-bldgs., Durban, Natal.
Morrison, Gratton & Scott, The Bund, Shanghai, China.
Murray, Reg. A. F., 395, Collins-st., Melbourne.
Olive, W. T., M.I.C.E. (P.O. Box 1103), Cape Town.
Phillips, W., Markur-bldg., Apollo-st., Bombay.
Pringle, T., & Son, Coristine-bldgs., St. Nicholas-st., Montreal.
Ross, H. E., Equitable-bldg., Sydney, N.S.W.
Ross & Holgate, 80, St. F. Xavier-st., Montreal.
Sachse, A. O., cor. Collins & William-sts., Melbourne, Victoria.
Sanders, G. E., A.M.I.E.E., A.M.I.M.E., P.O. Box 260, East London, Cape Colony.
Selfe, Norman, 279, George-st., Sydney, N.S.W.
Sharkey, J. P., Mercantile-chbrs., Castlereagh-st., Sydney, N.S.W.
Simpson, F., 476, calle B. Mitre, Buenos Ayres.
Sinclair, R., 82, Pitt-st., Sydney, N.S.W.
Skaife, L., 20, St. James-st., Montreal, Canada.
Smith, Cecil B., Room 41, 25, Toronto-st., Toronto, Canada.
Spain, W., Denver Eng. Works, Johannesburg.
Stanley, H. C., M.I.C.E., Royal-chbrs., Hunter-st., Sydney, N.S.W.
Teele, Fred. W., M.SC., M.A.S.M.E., N.A.S.E., Trinidad Electric Co., Ltd., Trinidad.
Thomson, J. R., Union Bank-chbrs., Pitt-st., Sydney.
Trackson, P. S., Elizabeth-st., Brisbane.
Tunbridge & Tunbridge, 11, Vickery's-chbrs., 76, Pitt-st., Sydney, N.S.W.; & Flinders-st., Townsville, Queensland.
Turnbull, W. R., Rothesay, N.B., Canada.
Walker, A. J., A.M.I.E.E., 208, Victoria Arcada, Auckland. N.Z.
Wildridge & Sinclair, 82, Pitt-st., Sydney.
Wilks, E. C., & Co., Hong Kong.
Young, R., Western-rd., Penang, Straits Settlements.

Engineers—Electrical.

F.—Ingénieurs—électriciens.
G.—Elektrotechniker.

Abbott, A. H., M.I.M.E., A.M.I.E.E., Octavius Steel & Co., Old Court House-st., Calcutta.
Abella, Juan, M.I.E.E., A.AM.I.E.E., 715, Avenida Mayo, Buenos Aires.
Adams Engineering Co., Wellington, N.Z.
Adams, Wm., & Co., 163, Clarence-st., Sydney, N.S.W.
Addison, J., c/o T. Reunert, Kimberley, South Africa.
Ahearn, T., Ahearn & Soper, Ltd., Ottawa, Ont., Canada.
Ahearn & Soper, Ltd., Ottawa, Canada.
Alcock, A. U., M.I.E.E., Russell-st., Melbourne, Victoria.
Alexander, R. D. T., Magda-Muttra State Railway, Kotah, Rajputana, India.

Engineers—Electrical—*continued.*

Allard, A., Mexican Light & Power Co., Mexico.
Allen Electric Co., Brantford, Ont., Canada.
Allison, H. P., A.M.I.C.E., A.M.I.E.E., c/o F. & C. Osler, 12, Old Court House-st., Calcutta.
Allport, Russell & Co., Melville-st., Hobart, Tasmania.
Anderson, Wm., Cascade Water, Power & Light Co., Cascade, B.C., Canada.
Andrada, E. de Aguiar de, São Paulo Railway Co., São Paulo, Brazil.
Andrews & Mauthel, Federal Engineering Works, Tory-st., Wellington, N.Z.
Appleby, H. W., M.I.E.E., New Kleinfontein Co., P.O. Benoni, Transvaal.
Arbuckle, H. W., Rifle Factory, Ishapore, nr. Calcutta.
Arens & Co., rua do Commercio 24, São Paulo, Brazil.
Arichi, T., 7, Awajicho, 4, Chome, Kanda, Tokyo, Japan.
Arizpe, Rafael R., Edificio Banco Hipotecario, Oficinas 7 & 8, Mexico.
Armstrong, —, Grand Junction, Waihi, N.Z.
Armstrong, F. W., Canterbury Fire Underwriters Association, Christchurch, N.Z.
Arnot, W. M., A.M.I.E.E., Johannesburg, S. Africa.
Artola, J. M. de, Casilla 968, Valparaiso, Chili.
Asano, O., DR.E., M.E., M.I.E.E., Ministry of Communications, Tokyo, Japan.
Ascorve, Enrique, (P.O. Box 11B), 3, Mariscala, Mexico City.
Ascorve, Ernesto, (P.O. Box 11B), 3, Mariscala, Mexico City.
Australian General Electric Co., Equitable-bldg., Melbourne: & Sydney.
Awoki, D., M.I.E.E., Tokyo Electric Power Co., Ltd., Kobekicho, Tokyo, Japan.
Bailey, E., c/o G. & O. Braniff & Co., Cadena 19, Mexico.
Bain, A., Major, R.E., M.I.E.E., Northern Nigeria, West Africa.
Bainton, J. R., Equitable-bldgs., Sydney, N.S.W.
Baker & Woods, Hargreaves-st., Bendigo, Victoria.
Bakhoum, Th., Boulac, Cairo, Egypt.
Balaji, Baganna, M.I.E.E., Baroda, India.
Ball, P., & Co., View-st., Bendigo, Victoria.
Bannai, T., M.E., Tokyo, Japan.
Barker, —, Grand Oriental Hotel, Colombo, Ceylon.
Barker, Wm., & Co., Port Victoria, Hong Kong.
Barnard, A. S., M.I.E.E, A.M.I.C.E., Ceylon Government, Colombo.
Barnet, J., Ross-st., Forest Lodge, N.S.W.
Barnett, J. T., M.I.E.E., Tunlong, Tambourine Mountain, Queensland, Australia.
Barron, J., Opoho, Dunedin, N.Z.
Barry, R. A., P.O. Box 4180, Johannesburg.
Barton, E. G. C., M.I.E.E., City Electric Light Co., Ltd., Brisbane, Queensland.
Baxendale, A. S., M.I.E.E., Selangor, Negri Sembilan & Pahang, F.M.S.

Engineers—Electrical—*continued.*

Bay, Dr., Administration des Chemins de Fer, Cairo, Egypt.
Bayly, Brackenbury, M.I.E.E., G.P.O., Cape Town.
Beal, Dupair E., Power Station, Okere Falls, Rotorua, N.Z.
Beames, C. F., M.AM.I.E.E., San Juan Light & Transit Co., San Juan, Porto Rico.
Beaumont, E. K., Central Mine, Broken Hill, N.S.W.
Beaver, G. H., 8/1, Dalhousie-sq., Calcutta.
Beeman, J. S., 60, Queen-st., Melbourne, Vict.
Behrend, Schmidt & Co., 37, rua General Camara, Rio de Janeiro.
Bellamy, C. V., M.I.E.E., M.I.C.E., M.I.M.E., &c., Public Works, Lagos, W. Africa.
Bellantuono & Folgia, 12, rue Tewfik 1er, Alexandria.
Bennett & Wright Co., Ltd., 72, Queen-st. East, Toronto, Ont., Canada.
Bergner, P., & Co., Mexico.
Berrington, T. D., M.I.E.E., Indian Telegraph Department, Calcutta, India.
Betts, L. B., M.I.E.E., John King & Co., Calcutta.
Bevan & Cook, 36, Clarence-st., Sydney, N.S.W.
Bingham, H., A.M.I.E.E., Box 291, G.P.O., Sydney, N.S.W.
Black, Fredk., The King's-chbrs., Wellington, N.Z.
Blagden, A. H., A.I.E.E., assistant, Municipal Council Electrical Dept., Shanghai, China.
Blandford, William, Electric Telegraph Department, Melbourne, Victoria.
Blane & Co., Ltd., Winchester House, Loveday-st., Johannesburg.
Blumenthal & Co., 9, Pritchard-st., Johannesburg, Transvaal.
Bohler, G., Mort's Dock & Engineering Co., Ltd., Balmain, Sydney, N.S.W.
Boll, P., & Co., View-st., Bendigo, Victoria.
Booth, A. W., The Avenue, Hurstville, N.S.W.
Boulad, H. H., Chareh Nubar Pacha, Cairo, Egypt.
Boulton, G., Mort's Dock & Engineering Co., Ltd., Balmain, Sydney, N.S.W.
Bourne, R. O., M.I.E.E., Melbourne, Victoria.
Boustead Bros., Colombo, Ceylon.
Bradford, John R., Post & Telegraph Dept., Brisbane, Queensland.
Braga, Ed., jun., Juiz de Fora Minas, Rio de Janeiro, Brazil.
Braga, M., 64B, rua do Ouvidor, Rio de Janeiro.
Bragg, Prof. W. H., M.A. (Cantab), M.I.E.E., University of Adelaide, S. Australia.
Brahm & Cia., Lima, Peru.
Brain, H. E., A.I.E.E., Ferro Carril Buenos Aires al Pacifico, Estacion Palermo, Buenos Aires.
Brand, W. N., Buenos Ayres Electric Tramways Co., Rivera 121, Buenos Ayres.
Braschi, V. M., & Co., calle de Cadena 2, Mexico.
Brask, A., Siam Elecy. Co., Bangkok, Siam.
Brearley, J. H. D., B.SC., M.I.E.E., A.M.I.C.E., c/o Noyes Bros., Melbourne, Victoria.
Brenner, W. H., The Zemma Works, Yokohama, Japan.

Engineers—Electrical—*continued.*

Bridger, Ed., c/o J. A. Newton & Co., Bourke-st., Melbourne, Victoria.
Bridger, H. B., Hong Kong Electric Co., Hong Kong.
British Columbia Electrical Construction Co., Vancouver, B.C., Canada.
British General Electric Co., Ltd., cor. of Waterkant & Chiappine-sts., Cape Town.
Broens & Hoesli, Charch Dubray 2, Tewfikieh, Cairo, Egypt.
Brooks, H., c/o Allen & Irving, Penang.
Brooks, T., Electrical Engineers' Branch, Railway Department, 51, Phillip-st., Sydney, N.S.W.
Broomhall, C., Rotorua, N.Z.
Broomhead, J. W., 53, Weston-rd., Balmain, N.S.W.
Brown, J. Fiddes, M.I.E.E., M.I.MECH.E., Buenos Ayres & Lacroze Tramways Co., Buenos Ayres.
Brown, Walter C., A.M.I.E.E., New Primrose Gold Mining Co., Germiston, S. Africa.
Brühl, Paul, M.I.E.E., Engineering College, Sibpur, nr. Calcutta.
Brush Electrical Engineering Co., Ltd., 56, Margaret-st., Wynyard-sq., Sydney; 499, Bourke-st., Melbourne, Victoria; & Canada-bldg., Hornby-rd., Fort, Bombay.
Buckingham, A. O., Electric Lighting & Traction Co. of Australia, Ltd., Green-st., Richmond, Melbourne, Victoria.
Buckley, T., Elizabeth-st., Wellington, N.Z.
Bulkley, J. N., United Engineering Co., Ltd. (P.O. Box 1082), Johannesburg.
Bull, L. H., Cobden, N.Z.
Bullock, H. J., A.I.E.E., St. Helen's Prospect, Adelaide, South Australia.
Burbank, Percy, Peruvian Telephone Co., Lima, Peru.
Burn & Co., Ltd., 7, Hastings-st., Calcutta.
Burnett, J. A., Montreal Light, Heat & Power Co., N.Y. Life Insurance-bldg., Montreal.
Burson, H. A., A.M.I.E.E., Cana Bullock Electric Manufacturing Co., Montreal, Canada.
Buxton, Cassini & Co., calle Cuyo 462, Buenos Ayres.
Byington & Co., 4, rua do Commercio, S. Paulo, Brazil.
Cadogan, A. L., Hillgrove & Armidale Electricity Co., Ltd., Hillgrove, Australia.
Calderon & Sellick, c/o Banco del Peru et Londres, Lima, Peru.
Calvert, R. C. M., Government of Mysore, Bangalore, India.
Campbell, J. W., Canadian General Electric Co., Toronto, Canada.
Canadian White Co., Sovereign Bank-bldg., Montreal, Canada.
Canales, Jose G., Central Station, Tangiers, Morocco.
Candida, A., & Conti, C, rue Nébi Daniel, Alexandria, Egypt.
Carabella, G., & Co., 6, via Rossetto, Alexandria; & Tewfikieh, Cairo, Egypt.

Engineers—Electrical—*continued.*

Carlin, W. H., Crown Reef Gold Mining Co., Johannesburg, South Africa.
Carpenter, H., Whiteman-st., South Melbourne, Victoria.
Carver, W. M., P.O. Box 1386, Johannesburg, Transvaal.
Cassels, F. K., M.I.E.E., 60, Pavon Avellaneda, Buenos Ayres.
Cederholm & Tolley, 5A, Manners-st., Wellington, N.Z.
Chermont & Ca., Box 252, Para, Brazil.
Chester, A., (P.O. Box 1317), 26, Balmoral-chbrs., Commissioner-st., Johannesburg, Transvaal.
Clark, E. V., B.SC., A.M.I.C.E, School of Mines, Adelaide, S. Australia.
Clark, W. J., Stratford, Ont., Canada.
Clayden, H. W., A.M.I.E.E., Consolidated Main Reef Mining Co., Maraisburg, nr. Johannesburg.
Clayton, A., Hampton-st., Brighton, Victoria.
Clayton-Joel, W., & Co., 120, King-st., Melbourne, Victoria.
Clifford, E. A. T. W., Electrical Department, Natal Government Railways, Pietermaritzburg, South Africa.
Colbeck, P., A.I.E.E., Hubert Davies & Spain, P.O. Box 943, Pretoria, Transvaal.
Collins & Runciman, 177, Pietermaritzburg-st., Pietermaritzburg.
Collyer & Brock, 1801A, Notre Dame-st., Montreal.
Colonna & Cuzzer, 1, rue Stamboul, Alexandria, Egypt.
Colson, Brookhouse & Pyne, 536, B. Mitre, Buenos Ayres.
Compañia de Fabricantes Extrangeros, Lda. (Soc. Anon.), 302, Balcarce, Buenos Ayres.
Conin, Pastour E., Charch Zéki, imm. Boustros, Tewfikieh, Cairo, Egypt.
Constable, A. D., A.AM.I.E E., H.M. Dockyard, Gibraltar.
Cooper, A. T., Port Said & Suez Coal Co., Port Said, Egypt.
Corbac, George v., Arnhold Karberg & Co., Tientsin, China.
Corner, W. B., Government Railways Dept., Phillip-st., Sydney, N.S.W.
Coupland, J. R, 1, Erskine-st., Sydney, N.S.W.
Cousens, R. L., M.I.E.E., Steyner's-bldgs., Johannesburg (P.O. Box 4261).
Craddock, A. R., Bedford-row, Christchurch, N.Z.
Crawter, Wm., Gun Carriage Factory, Jubbulpore, India.
Crocker-Wheeler Co., 73, Clarence-st., Sydney, N.S.W.
Crosher, W., & Sons, Electric Depôt, High-st., Auckland, N.Z.
Crown Iron Works, Manchester-st., Christchurch, N.Z.
Crowther, A. D., Beira & Mashonaland Railways, Umtali, Rhodesia.
Culbertson, Dr. J. N., M.I.E.E., Merchants' Telephone Co., Montreal, Canada.

Engineers—Electrical—*continued.*

Cummings, J. & J., 375, George-st., Sydney, N.S.W.
Currie, Wm., jun., A.AM.I.E.E., 89, Union-ave., Montreal, Canada.
Curtis, E. S., A.M.I.E.E., Box 2845, Johannesburg, Transvaal.
Dando, H. A., Franklin-rd., Ponsonby, Auckland, N.Z.
D'Aoust, J. L., 1987, St. James-st., St. Henri, Que., Canada.
David, L., Service Electrique Cie. du Gaz, Port Said, Egypt.
Davids, R. G. B., M.I.E.E., Pedreira, S. Paulo, Brazil.
Davies, C., Transvaal & Delagoa Bay Colliery, Witbank, Transvaal.
Davies, J., West & Russell-sts., Durban, Natal.
Davies, J. Hubert, M.I.E.E., M.I.M.E., A.M.I.C.E., Farrars-bldgs., Fox-st. (P.O. Box 1386), Johannesburg, South Africa.
Davies, Purvis & Co., Citizens-bldgs., King William-st., Adelaide, South Australia.
Davis, C. R. S., Reunert & Lenz, P.O. Box 92, Johannesburg, Transvaal.
Davis, Fred. H., 4, Winchester-st., Loveday-st., Johannesburg.
Dawson, J., Cuba-st., Extension, Wellington, N.Z.
Dawson, John Alex., M.I.E.E., Korang Ryrie-st., Geelong, Victoria.
De Figueiredo, Carlos, 57, rua da Constituicaô, Rio de Janeiro.
De Guerrier, F. E, A.M.I.E.E., Calcutta Tramways Co., Ltd., Calcutta.
De Pinna, N., 122, Marshall-st., Johannesburg.
Dew, W. Elsdon, A.I.E.E., Transvaal Gold Exploration & Land Co., Transvaal.
Dick, A., C.S. *Store Nordiske*, Shanghai, China.
Dietrich, W. N., Canadian Pacific Railway, Montreal, Canada.
Dircks, A. A., M.I.E.E., Post & Telegraph Dept., Perth, West Australia.
Dix, H. S., c/o Boustead Bros., Colombo, Ceylon.
Doidge, J. Ernest, The Nundydroog Gold Mining Co., Ltd., Oorgaum, Mysore State, India.
Domon, O. F., M.I.E.E., Kuala Lumpur, Selangor, Federated Malay States.
Donham, B. C., Collbran & Bostwick, Seoul, Corea.
Donovan, W., A.M.I.E.E., Oriental Telephone & Electric Co., Ltd., 89, Clive-st., Calcutta.
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Powell-Williams, F., Marshall, Sons & Co., Ltd., 8, Hummum-st., Bombay.
Prendergast & Wood, 229, Collins-st., Melbourne, Victoria.

Engineers—Electrical—*continued.*

Preston, F. K., A.M.I.C.E., A.M.I.E.E., A.M.I.M.E., c/o Malcomers & Co., East London, South Africa.
Price, A. W., Crompton & Co., Ltd., 19, York-st., Sydney, N.S.W.
Purdom, W. A., M.I.E.E., 279, George-st., Sydney, N.S.W.
Rance, B., A.I.E.E., Ruby Mines, Mogôk, Upper Burma.
Rance, J., M.I.E.E., c/o Jessop & Co., 93, Clive-st., Calcutta.
Randolph, H., M.I.E.E., India Rubber, Gutta Percha & Telegraph Works Co., Reconquista 140, Buenos Ayres.
Rausch, Carl, "Wilhelmshohe," Pine-st., Randwick, N.S.W.
Rawson, C. S., c/o The Edison & Swan U. E. L. Co., Ltd., 16, Carrington-st., Sydney, N.S.W.
Rayfield, H., 148, Anderson-st., Johannesburg.
Read, J. R., Canadian West Co., Ltd., 152, Hastings-st., Vancouver, B.C.
Reath, W. E. (P.O. Box 1653), Johannesburg, South Africa.
Reid, Alex., Raetihi, N.Z.
Reidy, R. J., M.I.E.E., Western Telegraph Co., Ltd., Rio de Janeiro.
Renstrom, F. A., A.AM.I.E.E., Cia. de Transmission Electrica de Palencia, Apartado 95, Pachuca, Mexico.
Reunert & Lenz, Johannesburg.
Reynolds, A. E., Mexican Light & Power Co., Mexico.
Reynolds, H. H., M.I.E.E., c/o Kilburn & Co., Calcutta.
Rice, F. P., 42, London House, Johannesburg, Transvaal.
Riko, H., Engineering Bureau, Ministry of Communications, Tokyo, Japan.
Risch, G. H. C., M.I.E.E., Central South African Railways, Johannesburg, Transvaal.
Ritchie, Hazen, A.I.E.E., Canadian General Electric Co., Ottawa, Canada.
Roach, J. B., Shanghai Municipal Council, Electrical Department, Yuhang-rd., Shanghai, China.
Robbins, E. E., 103, King-st., Newcastle, N.S.W.
Robbins, P. A., De Beers Consolidated Mines, Ltd., Kimberley, South Africa.
Roberts, A. D., Kingston, Jamaica, W.I.
Roberts & Co., Fox & Delver-sts., Johannesburg.
Robertson, Jas. M., A.AM.I.E.E., Montreal Light, Heat & Power Co., Montreal, P.Q., Canada.
Robson, Geo., & Co., Colombo, Ceylon.
Rodda, G. A., c/o W. Adams & Co., Ltd., 163, Clarence-st., Sydney, N.S.W.
Rosemann, C., Peking Electric Co., Ltd., Peking.
Ross, W. D., Potchefstroom Electric Light Co., Potchefstroom, Transvaal.
Rosser, R. J., A.M.I.E.E., Central Electric Light Station, Cape Town.
Rowe, N., Guanajuato Power & Electric Co., Guanajuato, Mexico.
Rowe & Stapleton, 10, Flinders-bldgs., Victoria-st., Melbourne.

Engineers—Electrical—*continued.*

Rowntree, F., & Son, Gladstone-st., Hobart, Tasmania.
Ruiz, Pablo, y Verd, Mahon, Balearic Islands.
Rumford, J. B., Empire Electric Light Co., Margaret-lane, Sydney, N.S.W.
Ryan & Peterson, East London & King William's Town, S. Africa.
Rylands, F. B., A.M.I.E.E., Ceylon Government Factory, P.W.D., Colombo, Ceylon.
Salazar, Prof. A. E., The University, Santiago, Chili.
Salinger, Jas., 8, Wellesley-st. West, Auckland, N.Z.
Saunders, J. B., M.I.E.E., Bengal Telephone Co., Ltd., Calcutta, India.
Scapusio & Cia., 821, calle Cordoba, Buenos Ayres.
Schärer, H. C., Noyes Bros., 109, Pitt-st., Sydney.
Schöndube, E., Tercero de San Augustin 5, Mexico City.
Schulze, Oscar, 269, Kent-st., Sydney, N.S.W.
Scott, J. Gray, M.I.E.E., Electric Traction Co., Hong Kong.
Scott, W. E., 419A, Bourke-st., Melbourne, Vic.
Scott & Horton, 419A, Bourke-st., Melbourne, Vic.
Scott, J. E., & Co., 246, St. James-st., Montreal.
Seaton, A. C., A.M.I.E.E., Corporation Electricity Works, Maritzburg, Natal.
Seki, Hokato, Post Office, Kagoshima, Japan.
Sekiguchi, H., Imperial Department of Communications, Tokyo, Japan.
Selby, George William, M.I.E.E., 31, Queen-st., Melbourne, Victoria.
Selby & Co., 31, Queen-st., Melbourne.
Self, Thomas E., A.M.C.E.C., Postal Telegraphs, Hobart, Tasmania.
Seligmann & Co., 22 & 23, Breda-chbrs., Fox & Risch-sts., Johannesburg, Transvaal.
Sellick, S. S., A.M.I.E.E., c/o Banco del Peru et Londres, Lima, Peru.
Shaw, F., Royal Palace, Bangkok, Siam.
Shaw, F. S., A.M.I.E.E., L. J. Healing & Co., Kobe, Japan.
Shepard, R. R., A.AM.I.E.E., Mexican General Electric Co., Apartado 403, Mexico.
Sheppard, S. C., A.M.I.E.E., La Paz, Bolivia, South America.
Shinjo, Y., Tokyo Electric Co., Tokyo, Japan.
Siemens Bros. & Co., Ltd., 16, O'Connell-st., Sydney; & 29, William-st., Melbourne.
Siemens-Schuckert-Werke (Gust. Grob, E.E., general agent), P.O. Box 855, Cairo, Egypt.
Simpson, E. L., A.AM.I.E.E., Mexican Light & Power Co., Ltd., calle San José el Real 22, Mexico.
Simpson Bros., Clarence-bldg., Sydney, N.S.W.
Sinckler, Reynold R., M.I.E.E., Barbadoes Telephone Co., Barbadoes, West Indies.
Sivewright, Sir Jas., K.C.M.G., M.I.E.E., Cape Town.
Slade Electric Co., Quebec, Canada.
Slater & Co., Universal-bldgs., Grenfell-st., Adelaide.
Slater, J., & Co., 466, Collins-st., Melbourne, Victoria; & Pulteney-st., Adelaide.

Engineers—Electrical—*continued.*

Sluytermann, B., View-st., Bendigo, Victoria.
Smart, Edgar, Box 830, Johannesburg.
Smart Bros., Broadway, Stratford, N.Z.
Smith, C. A., Chili Telephone Co., Valparaiso, Chili.
Smith, D. C., M.I.E.E., Municipal Electricity Works, Kalgoorlie.
Smith, John T., Alice-st. Power Station, Durban, Natal.
Smith, T. W., Russell-st., Melbourne, Victoria.
Smith & Kopsen, 68–70, Clarence-st., Sydney.
Smith & Petrie, 112–114, Pretorius-st., Pretoria, Transvaal.
Smith, T., & Co., 204, Russell-st., Melbourne, Victoria.
Soper, W. Y., Ahearn & Soper, Ltd., Ottawa.
SPLATT, WALL & CO., Perth, West Australia. Electrical engineers, importers, dealers in all kinds of machinery & electrical goods.
Spruson, Wilfred J. (Hepburn & Spruson), 169, King-st., Sydney, N.S.W.
Stacpoole, F. W., Oriziba, Mexico.
Standard Electric Co., 5, Apollo-st., Fort, Bombay.
Standford, W., M.I.E.E., Cape Town, S. Africa.
Stark, A. M., Toronto, Canada.
Steel, Octavius, & Co., Calcutta.
Stenmark & Vaaler, Bulawayo, Rhodesia.
Steuart & Fenn, Ltd., Princes-st., Dunedin; & Queen-st., Auckland, N.Z.
Stewart, J. E., M.I.E.E., A.M.I.C.E., 651, Avenida de Mayo, Buenos Aires.
Stirling, W., & Co., Waverley Mansions, 8/2, Hastings-st., Calcutta.
Stone, J. P., Ferro Carril Oeste de Buenos Aires, Estacion Liniers, Buenos Aires.
Stone, W., Railway Dept., Melbourne.
Stone, W. H., F.I.I., M.I.E.E., Department of Communications, Tokyo.
Strike, R. J., Town Hall, Launceston, Tasmania.
Strong & Hoore, Mutual-bldgs., Smith-st., Durban, Natal; & Pietermaritzburg.
Stuart-Menteth, W. F., A.M.I.C.E., M.I.E.E., c/o T. Cook & Sons, Bombay.
Stubbings, J. J., Hong Kong Electric Co., Wanchai, Hong Kong.
Styan, H. S., M.I.E.E., Indian Government Telegraphs, Rawal Pindi.
Sugino, B., Takato & Co., Tokyo, Japan.
Sumers, Ltd., Johannesburg.
Sund, P., Siam Electricity Co., Bangkok, Siam.
Sutherland Bros., Bloemfontein, O.R.C.
Sutherland, G. & A., 342, Little Collins-st., Melbourne, Victoria.
Sutherland & Roberts, 18, Barrack-st., Sydney, N.S.W.
T. T. Electric Fittings Co., 280, George-st., Sydney, N.S.W.
Tada, K., M.E., Kyoto Electric Light Co., Otsu, Japan.
Takano, S., M.E., General Postal Telegraph Office, Takamatsu, Sannki, Japan.

Engineers—Electrical—*continued.*

Takata, Y., M.E., Central Post Office, Osaka, Japan.
Talbot, F. F., M.I.E.E., 334, calle Corrientes Rosario de Santa Fé, Argentine Republic.
Tamaki, B., M.E., Ministry of Communications, Tokyo, Japan.
Tanabe, T., B.S., Hiroshima Water Electric Power Co., Hiroshima, Japan.
Tatham, S. B., Club-chbrs., Kalgoorlie, West Australia.
Taylor, H. W., Williams-rd., Durban.
Technical & Commercial Corporation, Ltd., Silesia-bldgs., Main-st., Johannesburg.
Thackrah, F. R., A.M.I.E.E., Van Ryn Gold Mining Estate, Ltd. (P.O. Box 22), Benoni, Transvaal.
Thermo Engineering Co., 122, Marshall-st., Johannesburg.
Thomas, G. E. V., A.M.I.E.E., Singapore.
Thomas, J. F. I., Municipal Offices, Johannesburg, Transvaal.
Thresher, H. S., Water & Sewerage Board, Sydney, N.S.W.
Todd, A. J., A.M.I.E.E., 44, Collins-st., Hobart, Tasmania.
Todd, Sir C., K.C.M.G., M.A., F.R.S., M.I.E.E. (local hon. secretary & treasurer I.E.E.), Adelaide, South Australia.
Todman, H. R., Greaves, Cotton & Co., 47, Apollo-st., Bombay.
Tomline, R., & Co., St. Asaph-st., Christchurch, N.Z.
Tonegawa, M., M.E., Telegraph & Telephone Office, Kyoto, Japan.
Tonkin, J. H., 92, George-st., Dunedin, N.Z.
Tonks, T., Brisbane Electrical Co., Elizabeth-st., Brisbane.
Toomath, E. B., Aurora-ter., Wellington, N.Z.
Toronto Electrical Works, 42, Adelaide-st. West, Toronto, Canada.
Tournay-Hinde, A. W., Sulphide Corp., Ltd., Creek, nr. Newcastle, N.S.W.
Trackson Bros., Ltd., 48 & 50, Elizabeth-st., Brisbane, Queensland.
Transvaal Engineering Co., Pretoria.
Tranter, J., & Sons, 99, St. Asaph-st., Christchurch, N.Z.
Trevett, C. G., A.M.I.E.E., 15, Castle-st., Cape Town; & 37, Oxford-st., East London.
Trimble, James, Corporation Electricity Works, Bracebridge, Ont., Canada.
Tringham, J. P., Leopoldina Railway, Rio de Janeiro, Brazil.
Trowbridge, E. D., Cia. Telephonica, Rio de Janeiro.
Tsuboi, M., M.E., M.I.E.E., Nippon Railway Co., Tokyo, Japan.
Turnbull, R. T., M.I.E.E., Turnbull & Jones, Ltd., Wellington, N.Z.
Turnbull & Jones, Ltd., Wellington; Dunedin; & Christchurch, N.Z.
Ulmer, M., Mexican Light & Power Co., 22, San José el Real, esq. Cinco de Mayo, Mexico.

Engineers—Electrical—*continued.*

Unbehaun & Johnstone, Bartletto-ct., Hay-st., Perth, West Australia.
United Electric Co., Ltd., 468-474, King-st. W., Toronto.
Unwin, A. H., Rosario Electric Co., Casilla del Correo 137, Rosario de Santa Fé, S. America.
Uttley, E. A., A.M.I.E.E., Bulawayo, Rhodesia.
Valois, J. A., 55, St. Antoine, Montreal, Canada.
Vaudry & Matte, St. Jean-st., Quebec, Canada.
Vaughan, F. P., 3, Mill-st., St. John, N.B., Can.
Vaux, A. A.M.I.E.E., Clyde Engineering Works, Bree-st., Cape Town.
Veritys, Ltd., 380, Bourke-st., Melbourne.
Vilondaki, M., Shanghai Electric & Asbestos Co., Ltd., 4, Pekin-rd., Shanghai, China.
Vincent, J., Hollander's-bldgs., Field-st., Durban, Natal.
Vitelli, A., & Cie., 2, rue Tewfik 1er, Alexandria, Egypt.
Voglino, Alejandro, Villa Maria, Argentina.
Vyvyan, R. N., Marconi Wireless Telegraph Co. of Canada, Ltd., Cape Breton, Canada.
Waddell, A. E., c/o J. R. Coupland, 1, Erskine-st., Sydney, N.S.W.
Wagner, J. G., 304-306, Lonsdale-st., Melbourne.
Walkem, G. A., A.M.I.E.E., P.O. Box 595, Vancouver, B.C., Canada.
Walker & Esson, Bree & Smal-sts., Johannesburg.
Waller, Alec, Alexandria Ramleh Railway Co., Ltd., Alexandria, Egypt.
Warburton, G. S., Balmain, N.S.W.
Warburton, Franki & Co., 167, Clarence-st., Sydney, N.S.W.
Watkinson, B. T., & Son, 109, Tuam-st., Christchurch, N.Z.
Watson, R., Postal Telegraphs, Beaufort West, Cape Colony.
Watson & Co., 9A, Hankow-rd., Shanghai, China.
Watts, John, Canadian General Electric Co., 14, King-st. East, Toronto, Ont., Canada.
Waygoods, Ltd., Bathurst-st., Sydney, N.S.W.
Webb, A. C. F., M.I.E.E., Vickery's-chbrs., Pitt-st., Sydney, N.S.W.
Webb, C. A., A.M.I.E.E., P.O. Box 694, Durban, Natal.
Webb, E. L., A.M.I.E.E., South Perth Electric Supply & Power Co., Ltd., Murray-st., Perth, West Australia.
Webb, G. A., P.O. Box 38, Randfontein, Transvaal.
Webb, G. R., M.I.E.E., J.P., Gt. Indian Peninsular Railway, Parel, Bombay.
Wedekind & Weihmüller, 754, calle Libertad, Buenos Ayres.
Weller, H. W., A.M.I.C.E., M.AM.I.E.E., New York Life-bldg., Montreal.
West, W. G. (Waugh & Josephson), St. Peters, Sydney, N.S.W.
Westwood, E. H. W., A.M.I.E.E., c/o J. G. White & Co., Ltd., 11, Shields-st., Flemmington, Victoria.
Weymouth, G. A. P., A.M.I.E.E., 234, Little Lonsdale-st., Melbourne, Victoria.

Engineers—Electrical—*continued.*

Weymouth, G., Proprietary, Ltd., 234, Little Lonsdale-st., Melbourne, Victoria.
White, E. C., Union Bank-bldg., Winnipeg, Man.
Whitmee, H. B., India Rubber Co., 213, West-st., Durban, Natal.
Wightman, R., H.M. Naval Yard, Simonstown, Cape Colony.
Williams, J. E., A.I.E.E., Public Works Dept., Khartoum.
Williams, Hunt & Co., 9, Morris-bldgs., Johannesburg, Transvaal.
Williamson, J., M.I.E.E., c/o City of Santos Improvements Co., Ltd., Santos, Brazil.
Willis, F. W., Cauvery Power Scheme, Kolar Gold Fields, South India.
Wilmot, L. B., Witwatersrand Deep, Ltd., Box 5, Knights, Transvaal.
Wilms, L., M.I.C.E., M.I.E.E., East Road Proprietary Mines (Box 88), East Rand, Transvaal.
Wilson, J. F., Oriental Telephone & Electric Co., Ltd., 7, Pollock-st., Calcutta.
Witting, Eborall & Co., Ltd. (Wm. Hosken & Co., agents), P.O. Box 667, Johannesburg.
Wolf, Lee H., Honolulu Rapid Transit & Land Co., Honolulu, Hawaiian Islands.
Wolff, F. M., Pretoria, Transvaal.
Wood, A. H., Queen's Walk, Melbourne, Vic.
Woodworth, L. B., A.M.I.E.E., New Heriot Gold Mine Co., Johannesburg, South Africa.
Wragg, H., Rezende Gold Mining Co., Ltd., Umtali, Rhodesia.
Wynne, H. J., A.M.I.C.E., New Zealand Railway, Wellington, N.Z.
Yacoubian, A. & N., Chareh el Bawaki, Cairo, Egypt.
Yamada, Y., Post Office, Takamatsu, Japan.
Yenya, Teijiro, Post Office, Nagasaki, Japan.
Yoshino, D., Bôsō Railway Co., Chibamachi, Chibaku, Japan.
Zinder, A., M.I.E.E., Telegraph Service, Buenos Ayres.

Engineers—Electrical Consulting.

F.—Ingénieurs électriciens consultants.
G.—Ingenieure—Elektrische Beratende.

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Ashman, W. H., 443, Bourke-st., Melbourne, Victoria.
Brandeis, C., 112, St. James-st., Montreal, Canada.
Carmichael, J. W., 40, Bell Tele.-bldg., Montreal, Que., Canada.
Cliff, R. C., A.M.I.E.E., Terry's-chbrs., Castlereagh-st., Sydney.
Danvers, Ernest, M.I.E.E., F.R.G.S., 475, Bartolome Mitre, Buenos Ayres.
Danvers, Fisher & Puente, 195, calle San Martin, Buenos Ayres.
Hamilton, F. A., M.I.E.E., Halifax, N.S.

Engineers—Electrical Consulting—*contd.*

Heather, J. S., c/o H. Eckstein & Co., Johannesburg.
Horne, W. J., A.M.I.C.E., A.M.I.E.E., South African College, Cape Town.
Johnson, G., M.I.E.E., A.M.I.M.E., P.O. Box 224, Bulawayo, Rhodesia.
Jones, E. G. Clifford (P.O. Box 451), 5 & 6, Fletchers-chbrs., Longmarket-st., Cape Town.
Kincaid, Waller, Manville & Dawson, 651, Avenida Mayo, Buenos Ayres.
Macdonald, G. M., University St. Francis Xavier's College, Antigonish, N.S.
Macmuldrow, W. G. P., Lloyd's-chbrs., Burg-st., Cape Town.
Meares, J. W., M.I.E.E., F.R.A.S., Govt. of India, Calcutta. (*On furlough;* address, c/o India Office, Whitehall, London.
Mershon, R. D., Street Rly.-chbrs., Montreal, Can.
Milne, J., National Trust-bldg., Toronto, Canada.
Murray, Noel, 60, Market-st., Melbourne, Victoria.
Saunders, F., P.O. Box 1375, Johannesburg.
Speakman, R. E., Canada Life-bldgs., Toronto, Ontario.
Standard Construction Co., 17, Place d'Armes Hill; & 11½, Gosford-st. (opposite City Hall), Montreal, Que., Canada.
Stark, E. E., 51, Crawford-st., Dunedin, N.Z.
Turbayne, W. A., 127, King-st., East Hamilton, Ontario, Canada.

Engineers—Electrical Manufacturing.

F.—Ingénieurs—Fabricant électr.
G.—Ingenieure—Elektr. & fabr.

Allgemeine Elektricitäts Gesellschaft, Cuyo 963, Buenos Ayres.
American Electrical Novelty & Manufacturing Co., 176, Pitt-st., Sydney, N.S.W.
British General Electric Co., Ltd., cor. Loveday & Anderson-sts., Johannesburg.
Canadian Electrical Construction, Manufacturing & Supply Co., 112, St. James-st., Montreal, Canada.
Holtby, A. C., M.I.E.E., S. Neumann & Co., Johannesburg, Transvaal. Private P.O. Box 4336.
Niagara Electrical Co., Niagara Falls South, Ont.

Engineers—Electricity Works.

F.—Ingenieurs—Usines électriques.
G.—Ingenieure—Elektricitäts Centrale.

Abe, T., Ise Electric Railway Co., Ise, Japan.
Aiken, D., West India Electric Co. & Jamaica E. L. & P. Co., Ltd., Kingston, Jamaica.
Alder, H. G., Corporation, Boulder, W. Australia.
Aldridge, T. H. U. (Municipal), Shanghai, China.
Amenomiya, H., Kobe Electric Light Co., Kobe, Japan.
Amireaux, C., The Kent Electric Co., Ltd., Richibucto, N.B., Canada.
Araujo, A., Manaos, Brazil.

Engineers—Electricity Works—*continued.*

Archibald, J. G., City, Woodstock, Ont., Canada.
Askew, J., Cie. Generale d' Electricité, Lourenço Marques, Delagoa Bay.
Baba, S., Yokohama Electric Tramway Co., Ltd., Yokohama, Japan.
Babin, F., Kent Electric Co., Richibucto, Kent Co., N.B., Canada.
Badger, J. S., Brisbane Tramways Co., Ltd., Brisbane, Queensland.
Baird, C. L., Kentville Electric Light & Power Co., Kentville, N.S., Canada.
Baird, R. W., Colombo Gas & Water Works Co., Ltd., Kandy, Ceylon.
Baker, Wm., London Electric Co., London, Ont., Canada.
Balantyne, T., North Bay Light, Heat & Power Co., North Bay, Ont., Canada.
Balfour, J. W., Municipality, Redfern, Sydney.
Banham, C. Procter, M.I.MECH.E., M.I.E.E., Table Bay Harbour Board, Cape Town.
Banks, J., Toronto Suburban Street Railway Co., Toronto Junction, Ont., Canada.
Barclay, H., Cape Town Tramways, Port Elizabeth.
Barkey, W. E., Tilsonburg, Ont., Canada.
Barnes, A. S. L., A.M.I.E.E., Gibraltar.
Barton, D. S. (chief), Canadian Electric Lighting Co., Levis, Que., Canada.
Barton, R., Corp., Iroquois, Ont., Canada.
Beal, Dupair E., Power Station, Okere Falls, Rotorua, N.Z.
Beam, N., Waterloo, Ont., Canada.
Beatty, J. H., Municipal Plant, Campbellford, Ont., Canada.
Bent, C. L., Canada Electric Co., Ltd., Amherst, N.S., Canada.
Belanger, O., Corporation, Lachine, Que., Canada.
Bert, M., Société Indo-Chinoise d'Electricite Haiphong, Tonquin.
Bindley, E. H., Municipality, Midland Junction, West Australia.
Binnie, T. J., Zomba, British Central Africa.
Birchard, W. H., Aurora, Ont., Canada.
Bird, A. L., supt., Kaministiquia Power Co., Ltd., Fort William & Kakabeka Falls, Ont., Canada.
Birks, L., Government, Rotorua, N.Z.
Black, H., New Plymouth, N.Z.
Black, R. G., Toronto Electric Light & Power Co., Toronto, Ont.
Blatchford, W. H., Local Board Electricity Works, Greytown, Natal.
Boright, S. H., The Swaziland Corp. Ltd., Forbes Main Reef Mine, Embabaam, Swaziland.
Bose, L. C., Srinagar, Kashmir, India.
Bradley, S. W., Cornwall Electric Railway Co., Cornwall, Ont., Canada.
Brady, W. B., Corporation, Harrismith, O.R.C.
Brain, O. W., M.I.E.E., Government, Sydney, N.S.W.
Brand, W. N., Buenos Ayres Electric Tramways Co., Buenos Ayres.
Broadbent, H., M.I.E.E., Electricity Department, Perth Gas Co., Ltd., Perth, Western Australia.

Engineers—Electricity Works—*continued.*

Brown, A., Wallaroo Mines, South Australia.
Brown, Jas., Corporation, Kenora, Ont., Canada.
Brown, J. Fiddes, M.I.E.E., M.I.MECH.E., Lacroze Tramway Co., Buenos Aires.
Buck, H. W., Canadian Niagara Power Co. Niagara Falls, Ont., Canada.
Buckly, A., Waterloo, Ont., Canada.
Bull, E.W., Corp., Regina, Saskatchewan, Canada.
Bulter, C., Carman Electric Light & Power Co., Ltd., Carman, Man., Canada.
Burns, J. W., Oshawa Rly. Co., Oshawa, Canada.
Burran, Lewis, Quebec Railway, Light & Power Co., Que., Canada.
Byers, F. W., Nanaimo Electric Light, Heat & Power Co., Nanaimo, B.C.
Bytton, A. S., Iquitos, Peru.
Callahan, B., Charlottetown Light & Power Co., Charlottetown, P.E.I., Canada.
Camajaro, J. A. de, Cia. Paulista de Electricidade, Franca, Brazil.
Cameron, Allan, Newcastle Electric Works, Newcastle, Natal.
Carey, M., Auckland Electric Tramway Co., Auckland, N.Z.
Carnaghan, E. D., Cia. Durangneña de Luz Electrica, Durango, Mexico.
Carruthers, H. R., Alvinston Power Co., Ltd, Alvinston, Ont., Canada.
Cave, E. L., Kolar Mines Power Station, Ltd., Oorgaum, Mysore State, India.
Cayonette, L., St. George's Electric Co., St. George's East, Beaune, Que., Canada.
Chamberlain, F. H., Tramway Board, Christchurch, N.Z.
Chisholm, F. A., St. John's Electric Light Co., St. John's, Que., Canada.
Choisnet, J., Corporation, Parsboro, N.S., Canada.
Chowen, Fred R., Stratford Gas Co., Stratford, Ont., Canada.
Cicero, P., Maceio, Brazil.
Cioffi, J. M., Municipality, Monte Video, Uruguay.
Clegg, W., Moss Vale Electric Supply Co., Moss Vale, N.S.W.
Clements, F. W., M.I.E.E., Electric Lighting & Traction Co. of Aus., Ltd., Geelong; & Melbourne, Victoria; & Adelaide, S. Australia.
Cochrane, E. J., Electric Supply Co. of Victoria, Ltd., Ballarat, Victoria.
Coleman, V. B., Port Hope Electric Light & Power Co., Port Hope, Ont., Canada.
Combe, L. H., Colombo Electric Tramways & Lighting Co., Ltd., Colombo, Ceylon.
Cooper, A. T., M.I.E.E., A.M.I.M.E., F.R.A.S., Bombay Elect. Supply & Trys. Co., Ltd., Bombay, India.
Copland, A., Glencoe Electric Light Co., Glencoe, Ont., Canada.
Cordeiro, José, Villa Franca do Campo.
Corin, Wm., A.M.I.C.E., M.I.E.E., Municipal Electricity Works, Launceston, Tasmania.
Cornish, J. T., A.M.I.E.E., La Capital Traction & Electric Co., Ltd., &c., Avenida de Mayo 761, Buenos Aires.
Counsell, W. G., Municipality, Tamworth, N.S.W.

Engineers—Electricity Works—*continued.*

Crocker, C. E., M.I.E.E., Kalgoorlie Electric Power Corporation, Kalgoorlie, West Australia.
Crosher, A. T., Corporation, Te Aroha, N.Z.
Cruickshank, R., Corporation, Campbeltown, N.Z.
Cusgrein, L. A., Cie. des Eaux et de l'Electricité de Chicoutimi, Chicoutimi, Que., Can.
D'Abbadie, A., M.I.E.R.P., Cia. de Luz y Fuerza, Cordoba, Argentine.
Davidson, G. H., Brighton, Ont., Canada.
Davidson, John, Smith's Falls Electric Light Co., Smith's Falls, Ont., Canada.
Davis, L. H., Tagona Water Light Co., & Lake Superior Power Cos., Sault Ste. Marie, Ont., Canada.
Day, H., Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont., Canada.
Deakin, B., M.I.M.E., M.I.E.E., Electric Supply Co. of Victoria, Ltd., Ballarat; & Bendigo, Victoria.
Dean, E. W., Cia. Alemaña Transatlantica, Buenos Ayres, Argentina.
Degrez, C., North Shore Power Co., Three Rivers, Que., Canada.
Denham, J., Cape Government Railways, Cape Town, South Africa.
Denis, L., Quebec Jacques-Cartier Electric Co., Quebec, Canada.
Derbecker, C., Hanover, Ont., Canada.
Desolier, A., Cie. de Gaz, Electricité et Pouvoir, St. Hyacinthe, Que., Canada.
Dew, Wm. Elsdon, A.M.I.E.E., Transvaal Gold Mining Estates, Ltd., Pilgrim's Rest, Lydenburg, Transvaal.
Dewar, L., Lunenburg Gas Co., Lunenburg; & Corporation, Mahone, N.S., Canada.
Dick, A. B. (temporary), Bethlehem, Orange River Colony.
Dickson, W. P., Corporation, Nelson, B.C., Canada.
Dion, A. A., Ottawa Elec. Co., Ottawa, Ont., Can.
Dobson, A., Cannington, Ont., Canada.
Duncan, C. J., Heilbron Electric Supply Co., Heilbron, Orange River Colony.
Dunn, A., Richmond County Electric Co., Richmond, Que., Canada.
Duperdouzel, H., West India Electric Co., Ltd., Kingston, Jamaica.
Dyson, J. D., A.M.I.E.E., Rangoon Electric Tramways & Supply Co., Ltd., Rangoon.
Easton, J. W., Corporation, Brockville, Ont., Canada.
Eberlee, Chas., Corporation, Dresden, Ont., Can.
Edington, J., City of Moncton Water & Light Department, Moncton, N.B., Canada.
Edmondson, C. S., Oshawa Electric Co., Oshawa, Ont., Canada.
Eggleton, A., Marmora Electric Co., Marmora, Ont., Canada.
Ellicott, W. J., Consolidated Copper Co., Cananea, Senova, Mexico.
Ellis, R., Town, Milton, Ont., Canada.
Elmer, J. M., Canadian Klondike Mining Co., Dawson City, Klondike.

Engineers—Electricity Works—*continued.*

Elsdon-Dew, W., A.M.I.E.E., Transvaal Gold Mining Estates, Ltd, Pilgrim's Rest, Lydenburg, Transvaal.
Enya, M., Tokyo Electric Tramways Co., Shiba, Tokyo, Japan.
Erskine, E. J., M.I.E.E., Hillgrove & Armidale Electrical Corp., Hillgrove, N.S.W.
Eustace, S. G. L., A.M.I.E.E., Calcutta Electric Supply Corporation, Ltd., Calcutta.
Evans, John, Municipality, Kingston, Ont., Can.
Farrer, H. G. V., City, Campbellton, N.B., Canada.
Ferranini, J., Cia. Paulista de Electricidade, Descalvaldo, Brazil.
Fife, G., Renfrew Electric Co., Renfrew, Ont., Canada.
Fisk, H. O. (chief), Peterboro' Light & Power Co., Peterboro', Ont., Canada.
Flood, M., Corporation, Owen Sound, Ont., Canada.
Fogarty, Bert, North River Power Co., Ltd., Montreal, Canada.
Foulis, Geo., Yarmouth Street Railway Co., Ltd., Yarmouth, N.S., Canada.
Franklin, E. S., M.I.E.E., M.I.MECH.E., Bengal-Nagpur Railway Co., Kharagpur, India.
Fraser, D., first engineer, Town Electricity Works, Gravenhurst, Ont., Canada.
Freeman, M., Lethbridge Water Works & Electric Light Co., Lethbridge, Alberta, Canada.
Freeman, P. A., Halifax Electric Tramway Co., Ltd., Halifax, N.S., Canada.
Fromks, J. M., Selkirk Electric Co., Selkirk, Man., Canada.
Fruse, E., Berlin, Ont., Canada.
Fujimura, N., Okayama Electric Light Co., Ltd., Okayama, Japan.
Fujioka, Dr. I., M.E., M.I.E.E., Tokyo Metropolitan Street Railway Co., Tokyo, Japan.
Fukuy, K., M.E., Nagoya Electric Light Co., Nagoya, Japan.
Gaillard, E., French Municipality, Shanghai, China.
Gardam, J. R. W., M.I.E.E., Empire Electric Light Co., Ltd., Margaret-lane, Sydney, N.S.W.
Gellender, E. H., Boksburg, Transvaal.
Gibbs, H. P., Cauvery Power Scheme, Bangalore, India.
Gilbert, E., Corporation, Berlin, Ont., Canada.
Giles, A. S., Camp's Bay Electric Tramways Co., Ltd., Cape Town.
Gillmer, R., Lancaster Gold Mine Co., Krugersdorp, Transvaal.
Girard, W. C., Farnham Electric Light Co., Farnham, Que., Canada.
Goldsmith, H. P., Bridgetown Electric Light, Heat & Power Co., Ltd., Bridgetown, N.S., Canada.
Goodman, W. G. T., M.I.E.E., Corporation Tramways & Electric Power Dept., Dunedin, N.Z.
Gordon, R., supt., City, Revelstoke, B.C., Canada.
Gordon, W. G., Essendon & Flemington Tramways, Essendon, Victoria.

Engineers—Electricity Works—*continued.*

Goto, Ichiro, Kyoto Electric Traction Co., Kyoto, Japan.
Grandbois, E., Chatham Gas Co., Ltd., Chatham, Ont., Canada.
Grant, E. M., M.I.E.E., Municipality, Young, N.S.W.
Green, H. H., Corporation, Wingham, Ont., Canada.
Griffin, J. G., A.M.I.E.E., Delhi Electric Tramways & Lighting Co., Delhi.
Griffin, R. L., Burma Electric Traction & Lighting Co., Ltd., Mandalay, Burma.
Groom, W. R., Municipality, Subiaco, West Australia.
Groves, G., Corp., Parry Sound, Ont., Canada.
Guzman, C., La Electra Soc. Anon., Guadalajara, Mexico.
Hamilton, John, Mount Forest Electric Light Co., Mount Forest, Ont., Canada.
Hamilton, J., Cathcart Proprietary Gold Mining Co., Ararat, Victoria.
Hamje, S., Himeji Electric Light Co., Ltd., Himeji, Japan.
Handley, G. W., Concepcion del Uruguay, Entre Rios, Argentina.
Hardy, Geo., Tweed Electric Light & Power Co., Tweed, Ont., Canada.
Hardy, J., Corporation, Toronto Junction, Ont.
Hare, J. A., Corporation, Barrie, Ont., Canada.
Harkies, W., Orangeville, Ont., Canada.
Harper, H. R., M.I.E.E., City Council's Station, 210, Spencer-st., Melbourne.
Harrower, A. F. T. (resident), Canadian Electric Lighting Co., Levis, Que., Canada.
Hartmann, N., Société Elec. d'Ismailia, Suez.
Harwood, Thos., Mattawa Electric Light & Power Co., Ltd., Mattawa, Ont., Canada.
Hashizume, S., Toyosbashi Electric Light Co., Ltd., Toyohashi, Japan.
Haslam, E. S., George Town, Penang, Malay Peninsular.
Hayashi, M. E., Kokura Electric Light Co., Kokura, Japan.
Heaslip, B., Gananoque Electric Light & Water Supply Co., Gananoque, Ont., Canada.
Helson, R. M. (station supt.), Montreal Light, Heat & Power Co., Montreal, Canada.
Heywood, C. H., Vina del Mor, Valparaiso.
Hicks, A. T., Trenton Electric & Water Co., Ltd., Trenton; & Belleville, Ont., Canada.
Hill, Marshall, Macleod Electric Light & Power Co., Macleod, Alberta, N.W.T., Canada.
Hincks, J. M. (sta.), A.I.E.E., A.M.I.MECH.E., Kolar Mines Power Station, Ltd., Oorgaum, Mysore State, S. India.
Hirokawa, T., B.S., Kyoto Electric Light Co., Kyoto, Japan.
Hodgson, Norman A., Kerang Electric Supply Co. Pty., Ltd., Kerang, Australia.
Holt, H. S., Montreal Light, Heat & Power Co., Montreal, Canada.
Hopton, C. A., A.I.E.E., Dundee, Natal.
Horton, W. H., Lundy's Lane Electric Railway Co., St. Catherine's, Ont., Canada.

Engineers—Electricity Works—*continued.*

Horton, W. H., Niagara, St. Catherine's & Toronto Railway Co., St. Catherine's, Ontario, Canada.
Howland, L. A., Reid Newfoundland Co., St. John's, Newfoundland.
Hutchinson, J., Georgetown Electric Light & Power Co., Ltd., Georgetown, Ont., Canada.
Hutchison, M., City Council, Victoria, B.C., Canada.
Hyerst, H., Oakville, Ont., Canada.
Ichikawa, —, M.E., Keihin Electric Traction Co., Ltd., Kawasaki, Kanagawa-ken, Japan.
Ikeda, T., Osaka Electric Light Co., Osaka, Japan.
Imada, S., M.E., Sumitomo Besshi Copper Mine, Japan.
Ingram, A., Corporation, Kincardine, Ont., Canada.
Irwin, T., St. John Railway Co., St. John, N.B., Canada.
Irwin, T. R., Simcoe Gas & Water Co., Simcoe, Ont., Canada.
Isaka, Y., E.E., Ise Electric Railway Co., Yamada Ise, Japan.
Iwama, Y., Kofu Electric Light & Power Co., Yamanashi-ken, Japan.
Iwasaki, H., Kobe, Hiogo, Sanyo Rail Electric Dept., Kobe, Japan.
James, J. H., Cottesloe, West Australia.
Jewkes, Spencer, Municipality, Launceston, Tasmania.
Jio, M., Sakai Electric Light Co., Sakai, Japan.
Jobbins, G. G., A.I.E.E., resident engineer, Electric Lighting & Traction Co. of Australia, Ltd., Geelong, Victoria.
Johannsen, C. A., Cia. Luz Electrica de la Serena, La Serena, Chili.
Joyner, G., Benjamin Manufacturing Co., Ltd., Yarkes, Ont., Canada.
Kawamura, S., Sendai Electric Light Co., Sendai, Japan.
Keen, A., tramways power station, Cape Town.
Kelly, Jno. B., Corporation, Goderich, Ont., Canada.
Kenyon, A. L., Empresa Electrica de Sta. Rosa, Lima, Peru.
Kishihara, Shigehara, Hakata Electric Light Co., Fukuoka, Japan.
Klein, O., Corporation, Prince Albert, Saskatchewan, Canada.
Knight, W., Burks Falls Water, Light & Power Co., Burks Falls, Ont., Canada.
Kobori, J., Yokohama Union Electric Light Co., Yokohama, Japan.
Komu, M., Shiba Generating Station, Tokio Electric Light Co., Tamachi, Shiba-ku, Tokyo.
Kuge, W. S., Iroquois Electric Light Co., Iroquois, Ont., Canada.
Kumada, K., Odawara Electric Co., Odawara, Japan.
Kyle, W. P., Corporation, Almonte, Ont. Canada.
Langer, H., Oxford Street Electric Lighting Co., Ltd., Sydney, N.S.W.

Engineers—Electricity Works—*continued.*

Law, Alex., Dutton Electric Light Co., Ltd., Dutton, Ont., Canada.
Lefebol, E., Napanee Water & Electric Light Co., Napanee, Ont., Canada.
Lefiell, A., Dawson City Electric Light & Power Co., Ltd., Dawson, N.W.T., Canada.
Leger, P. J., Bathurst, N.B., Canada.
Leigh, H., Ingersoll Electric Light & Power Co., Ltd., Ingersoll, Ont., Canada.
Lewis, G. A., Council, Thargomindah, Queensland.
Lindsay, J., Moolort, Vic., Australia.
Lister, F. Liversedge, A.M.I.C.E., A.M.I.E.E., Bulawayo Waterworks Co., Ltd., Bulawayo, Rhodesia.
Lockhart, L. H., Montreal Park & Island Railway Co., Montreal, Canada.
Lofts, G. H., Town Board Electricity Works, Devonport, Tasmania.
Logan, J., West Lorne Electric Light Co., Ltd., West Lorne, Ont., Canada.
Long, W. F., A.M.I.E.E., Corporation, Cape Town.
Lotbinière, Major A. J. de, C.I.E., R.E., Electrical Dept., Jammu & Kashmir State, India.
Luxton, F., Bowmanville Electric Light Co., Ltd., Bowmanville, Ont., Canada.
Maben, G. S., City of Wellington Electric Light & Power Co., Ltd., Wellington, N.Z.
MacCanley, T. H., Corporation, Port Arthur, Ont., Canada.
McCarty, F. A., Municipality, Fremantle, West Australia.
McColl, J. F., Corp, Calgary, Alberta, Canada.
McConnell, F., London Electric Co., London, Ont., Canada.
McConnell, J., Sandwich, Windsor & Amherstburg Railway, Windsor, Ont., Canada.
McCulloch, A. L., Corp., Nelson, B.C., Canada.
McDonald, R., Municipality, Northam, West Australia.
McEvoy, J., Crow's Nest Pass Electric Light & Power Co., Ltd., Fernie, B.C., Canada.
Macfarlane, W. L., St. Lawrence Power Co., Mille Roche, Ont., Canada.
McHaffey, B. J., Sackville Electric Light & Telephone Co., Sackville, N.B., Canada.
Macincol, A. N., Mount Lyell Mining & Railway Co., Ltd., Queenstown, Tasmania.
McKechnie, J. S., Metropolitan Division, Toronto & York Radial Railway Co., Toronto, Canada.
Mackenzie, I. Scott, B.E., A.I.E.E., Dacca, Bengal.
MacLellan, R. A., American Korean Electric Co., Seoul, Korea.
McLeod, W., Aurora, Ont., Canada.
McMurdie, C. E., Corporation, Kenora, Ont., Canada.
McNaughton, P., Municipality, Edmonton, N.W.T.
McRae, John, Corp., Fort William, Ont., Canada.
McWilliams, R., Galt, Preston & Hespeler Street Railway Co., Galt, Ont., Canada.

Engineers—Electricity Works—*continued.*

Mansel, R. S., A.I.E.E., Cape Explosives Works Power Station, Somerset West, Cape Colony.
Marchard, J. E., Valleyfield Electric Co., Valleyfield, Que., Canada.
Mars, F. J., Broken Hill, N.S.W.
Martin, E. W., Chilian Electric Tramway & Light Co., Santiago, Chili.
Martindale, R. H., Corporation, Sudbury, Ont., Canada.
Matheus, Dr. D. A., Cia. Paulista de Electricidade, Bragança, Brazil.
Maudlen, J. E., Middelburg, Transvaal.
Maxwell, John, Kemptville Electric Light & Power Co., Kemptville, Ont., Canada.
Meldrum, W. H., Otonabee Power Co., Peterborough, Ont., Canada.
Meybohm, H., Cie. Electrique Mascara, Algeria.
Millard, J. L., Corp., Aylmer, Ont., Canada.
Miller, J. M., Saugeen Electric Light & Power Co., Ltd., Walkerton, Ont., Canada.
Mills, C. D., Sussex Manufacturing Co., Sussex, N.B., Canada.
Mills, J., City, New Westminster, B.C.
Milne, Jas., British Columbia Electric Railway Co., Ltd., North Vancouver & Vancouver Power Co., Vancouver, B.C., Canada.
Misaki, S., Hanshin Electric Railway Co., Kobe; Mikage; & Kiuse, Japan.
Mitchell, A., Municipal Tramways & Electric Lighting Board, Fremantle, W. Australia.
Mitchell, Jas., Sao Paulo Tramway, Light & Power Co., Rua Direita, Sao Paulo, Brazil.
Miura, T., Matsumoto Electric Light Co., Matsumoto, Shinano, Japan.
Moore, J., Galt Gas Light Co., Ltd., Galt, Ont., Canada.
Mordy-Lambe, J., Corporation, East London, South Africa.
Moreno, E., Chivilcoy, Buenos Ayres.
Morgan, A. H., A.M.I.C.E., M.I.M.M., The Burma Ruby Mines, Ltd., Mogok, Upper Burma.
Morrison, W., Corp., Markham, Ont., Canada.
Muller, G. E., A.M.I.E.E., Government, Malta.
Mullings, J. O., Mansourah Electric Supply Co., Mansourah, Egypt.
Mullins, C., Indwe Railway Collieries & Land Co., Ltd., Indwe, Cape Colony.
Munroe, A. S., Corporation, Pietermaritzburg, Natal.
Muramatsu, R., Nara Electric Light Co., Ltd., Nara, Japan.
Nakahara, I., M.E., M.I.E.E., Tokyo Electric Light Co., Tokyo, Japan.
Nakaya, S., Kanazawa Electric Light & Power Co., Kanazawa, Japan.
Naylor, C. E., Essex, Ont., Canada.
Neugebauer, —, Cia. Mexicanà de Electricidad, Mexico City.
Neville, F. H. R., A.M.I.E.E., Lake View Consols, Kalgoolie, West Australia.
Newton, W. J., Stratford Electric Supply Co., Stratford, N.Z.

Engineers—Electricity Works—*continued.*

Nicol, T. G., Mahone Electric Co., Ltd., Mahone, N.S., Canada.
Noakes, L., Camp's Bay Tramway Co., Ltd., Cape Town.
Noerbel, H., Cia. del Alumbrado Electrico Aparicio Hyas y Cia., Quezaltenango, Guatemala.
Norman, G. F. A., A.M.I.E.E., A.M.I.MECH.E., Natal Government Railways, Pietermaritzburg, Natal.
Normand, A., Town, Joliette, Quebec, Canada.
Norris, W., London Street Railway Co., London, Ont., Canada.
Nunn, L. L., Ontario Power Co., Niagara Falls, Ont., Canada.
Nunn, P. N., Ontario Power Co., Niagara Falls, Ont., Canada.
Nye, W. T., Rockhampton Gas & Coke Co., Ltd., Alma-st., Rockhampton, Queensland.
Obst. Max. Empresa Electrica de Guatemala, Guatemala.
Oguinoto, S. K., Fukagawa Electric Light Co., Fukagawa, Tokyo, Japan.
Ogura, I., Aidzu Denryoku Habushiki Kivaisha, Wakamatsu Fukushimaken, Japan.
O'Hallarn, Walter, Corporation, Newmarket, Ont., Canada.
O'Hallarn, Wm., Corporation, Newmarket, Ont., Canada.
Okada, Kamenosuke, Kagoshima Electric Co., Kagoshima, Japan.
Okudaira, Y., Yonezawa Suijoku denki Kaisha, Yonezawa, Yamagataken, Japan.
Ono, Shinhei, Matsue Electric Light Co., Matsue, Shimaneken, Japan.
Ormiston, D., New Glasgow Electric Co., Ltd., New Glasgow, N.S., Canada.
Ostrander, Bert, Brampton Electric Co., Brampton, Ont., Canada.
Otaki, T., Kyoto City, Suirijimusho, Kyoto, Japan.
Oyama, K., Shingu Electric Light Co., Shingu, Japan.
Page, W. A., Corporation Electricity Works, Dresden, Ont., Canada.
Pape, R., Port Elizabeth, South Africa.
Parker, A. C., Hobart Electric Tramway Co., Ltd., Hobart, Tasmania.
Parker, F. G., Lancaster Gold Mine Co., Krugersdorp, Transvaal.
Pashby, A. H., Corp., Aliwal North, Cape Colony.
Peeling, C. N., Municipality, Campbellford, Ont., Canada.
Peet, H. F., Corporation Electricity Works, Bloemfontein, South Africa.
Pennefather, W. E., Mt. Bischoff Tin Mining Co., Waratah, Tasmania.
Phelps, E. B., Sarnia Gas & Electric Light Co., Sarnia, Ont., Canada.
Phelps, W., Brome Lake Electric Power Co., Foster, P.Q., Canada.
Phillimore, H. B., Kuala Lumpur.

Engineers—Electricity Works—*continued.*

Phillips, C. J., M.AM.I.E.E., Municipality, Leederville, West Australia.
Phillips, D., Winnipeg Electric Street Railway Co., Winnipeg, Man., Canada.
Pickering, J., Shelbourne Electric Light Co., Shelbourne, Ont., Canada.
Plank, Alfred, Municipal Electric Light & Water Works, Strathroy, Ont., Canada.
Powell, A. J., Madras Electric Tramways (1904), Ltd., Madras, India.
Pratte, R., Corporation, Magog, Que., Canada.
Priestley, H., Borough Council, Patea, N.Z.
Proust, Geo., French Municipality, Tientsin, China.
Ralonde, D., Soulanges Canal Power House, Coteau du Lac, Co. Soulanges, Que., Canada.
Read, C. M., Cape Peninsula Lighting Co., Ltd., Claremont & Wynberg, Cape Colony.
Reesor, W. E., Light, Heat & Power Co. of Lindsay, Ltd., Lindsay, Ont., Canada.
Reid, F. W., City Council, Grand Forks, B.C., Canada.
Reid, M. L., Electric Supply Co. of Western Australia, Coolgardie, Western Australia.
Reney, H., Prescott Electric Light Co., Prescott, Ont., Canada.
Renton, H. I., Winnipeg, Man., Canada.
Revell, F., St. Thomas, Ont., Canada.
Reynolds, W. R., Corporation, Mitchell, Ont., Canada.
Richardson, S., M.I.E.E., Corporation Tramways, Wellington, N.Z.
Richardson, W., Inglewood Electric Light & Power Co., Ltd., Inglewood, Taranaki, N.Z.
Ricketts, S. F., China Light & Power Co., Ltd., Canton, China.
Roberts, J., A.I.E.E., Municipality, Durban, Natal.
Robertson, G. P., Municipality, Darjeeling, India.
Robinson, D., Electricity Works, Meaford, Ont., Canada.
Robinson, F. H., Singapore Electric Tramways Ltd., Singapore, Straits Settlements.
Rockett, Robt., Mount Morgan Gold Mining Co., Mount Morgan, Queensland.
Rodgers, John, Wiarton, Ont., Canada.
Rolston, Geo., Corp., Huntsville, Ont., Canada.
Rooke, T., A.M.I.C.E., Town Hall, Sydney, N.S.W.
Rose, John, Corporation, Collingwood, Ont., Canada.
Rosemann, C., Peking Electric Co., Ltd., Peking, China.
Ross, John, Town, Yarmouth, N.S., Canada.
Ross, W. D., Potchefstroom Electric Light Co., Ltd., Potchefstroom, Transvaal.
Roux, G., Ste. Thérèse de Blainville, Que., Canada.
Rumney, J., Corporation, Weston, Ont., Canada.
Saito, S., Otaru, Japan.
Sanderson, R. J., City Light Plant, Orilia, Ont., Canada.
Sangster, A., Sherbrooke Power, Light & Heat Co., Sherbrooke, Que., Canada.

Engineers—Electricity Works—*continued.*

Sangster, A. G., St. Francis Hydraulic Co., D'Israel, Que., Canada.
Sato, Honjio, Wakayama Electric Light Co., Ltd., 6, Hatayasiki-matsugaecho, Wakayama, Kii, Japan.
Schiaffino, M. L., La Electra Soc. Anon., Guadalajara, Mexico.
Scott, A., Corporation, King William's Town, Cape Colony.
Scott, I. C., Gore Borough Electricity Works, Southland, N.Z.
Scott, J. Gray, M.I.E.E., Electric Traction Co. of Hong Kong, Ltd., Hong Kong.
Scroggie, John, Citizens' Electric Co., Ltd., Smith's Falls, Ont., Canada.
Scudamore, H. D., New Amsterdam Corporation, Berbice, Guiana.
Seale, A. J., Corporation, Granby, Que., Canada.
Shanan, C. H., A.M.I.C.E., A.M.I.M.E., A.M.I.E.E., Municipal Board, Mussoorie, U.P., India.
Shaw, K. W., Exeter, Ont., Canada.
Sheppard, Sidney C., Peruvia Corporation, Ltd., La Paz, Bolivia.
Shoolbred, J. F., River Plate Electricity Co., Tucuman, Argentina.
Simpson, J., Grand Valley Railway Co., Brantford, Ont., Canada.
Sleightolm, J., Whitby, Ont., Canada.
Smith, Frank, Municipality, Madoc, Ont., Canada.
Smith, H., Strand Electric Lighting Co., Ltd., Sydney, N.S.W.
Smith, H. W., Corporation, Picton, Ont., Canada.
Smith, R., Midland Electric Light Co., Midland, Ont., Canada.
Smith, R. J., Canadian Electric & Water Power Co., Ltd., Perth, Ont., Canada.
Smith, R. W., De Beers Consolidated Mines, Ltd., Kimberley, South Africa.
Smith, Will. R., Kootenay Electric Co., Ltd., Kalso, B.C., Canada.
Snider, J., Leamington Light & Heat Co., Ltd., Leamington, Ont., Canada.
Sokurai, N., Moji Electric Light Co., Moji, Japan.
Somerset, H. J., M.I.E.E., Perth Electric Tramway, Ltd., Perth, West Australia.
Spencer, H. J., Hobart Gas & Electric Light & Power Co., Hobart, Tasmania.
Spengel, H., M.I.E.E., manager Rand Central Electric Works, Ltd., Johannesburg, Transvaal.
Sperling, R. H., British Columbia Electric Railway Co., Ltd., Vancouver, B.C., Canada.
Stelling, C., Empresa Elec. Stelling & Cia., Valencia, Venezuela.
Stevenson, W. J., Clinton Electric Light Co., Clinton, Ont., Canada.
Stewart, D. H. (chief), Corporation, Penrith, N.S.W.
Stobie, Geo., Natal Harbour Electricity Works, Durban, Natal.
Stonehouse, H., Premier Electric Light & Power Co., Wallaceburg, Ont., Canada.
Stowe, G., Palace E. L. Station, Sydney.

Engineers—Electricity Works—*continued.*

Strome, Th., Calgary Water Power Co., Ltd., Calgary, Alberta, N.W.T., Canada.
Stubbert, W. P., Sydney, N.S., Canada.
Sutherland, J. G. B., Moodie's Gold Mining & Engineering Co., Ltd., Barberton, Transvaal.
Tada, K., Kyoto Electric Light Co., Otsu, Shigaken, Japan.
Takahashi, K. (elecn.), Ise Electric Railway Co., Yamada, Ise, Japan.
Takakuwa, K., Onomichi Electric Light Co., Onomichi, Japan.
Tanabe, T., Hiroshima Water Electric Power Co., Hiroshima, Japan.
Tarby, J. E., Mauritius General Electric Supply Co., Curepipe, Mauritius.
Taylor, G. R., Town Council Wetas Kirwin, N.W.T., Canada.
Thomas, J. F. I., M.I.M.E., A.M.I.C.E., Municipality, Johannesburg, Transvaal.
Thomas, O. V., M.I.E.E., A.M.I.C.E., Municipal Electricity Works, Penang, Straits Settlements.
Thompson, E. E., Town Council, Thessalon, Ont., Canada.
Thompson, J. E., Demerara Electric Co., Ltd., Georgetown, Demerara.
Traill, Capt. W. S., R.E., Mysore Government, Bangalore.
Trehearne, S. G., Tramways, Malta.
Trevithick, G., A.M.I.E.E., Hawera County Electric Co., Ltd., Hawera, Taranaki, N.Z.
Trueman, Jas., Alliston Electric Light Co., Alliston, Ont., Canada.
Tushingham, F., Toronto Railway Co., Toronto, Ont., Canada.
Tyson Wolff, H. L., M.I.E.E., East Indian Railway Co., Jamalpur, Bengal.
Unwin, A. H., Rosario Electric Co., Rosario, Argentina.
Valadez, F., La Electra Soc. Anon., Guadalajara, Mexico.
Van Clerv, A. H., Canadian Niagara Power Co., Niagara Falls, Ont., Canada.
Vanolestin, G. W., Parkhill, Ont., Canada.
Verdam, J., Nederlandsch-Indische Elec. Maatschappij, Batavia, Java.
Vowles, J., Municipality, Kroonstad, Orange River Colony.
Wain, C. L., City, Kamloops, B.C., Canada.
Wall, L. J. B., M.I.E.E., M.AM.I.E.E., Cottesloe, West Australia.
Ward, A., City Electric Supply Co., Ltd., Brisbane, Queensland.
Warden, F. W., Charters Towers Electric Supply Co., Charters Towers, Queensland.
Wass, A. B., Oakville, Ont., Canada.
Waterland, A. J. C., M.I.E.E., Tientsin Gas & Electric Light Co., Ltd., Tientsin, China.
Waugh, R., Corporation, St. Mary's, Ont., Canada.
Weeks, F. A., Nelson Electric Tramways Co., Ltd., Nelson, B.C., Canada.
Wells, M., manager, Calcutta Tramways Co., Ltd., Calcutta, India.

Engineers—Electricity Works—*continued.*

Wharram, C. E., Corporation, Blenheim, Ont., Canada.
Wheadon, F. W., A.I.E.E., Adelaide Electric Supply Co., Ltd., Grenfell-st., Adelaide, South Australia.
Wheeler, G. W., Corporation, Paris, Ont., Canada.
Whidden, D. G., Antigonish Electric Co., Antigonish, N.S., Canada.
Whitacre, R., Penetanguishene & Midland Electric Street Railway, Light & Power Co., Ltd., Penetanguishene, Ont., Canada.
White, H. D., Fredericton Gas Light Co., Fredericton, N.B., Canada.
White, J. S., Municipality, Ladysmith, Natal.
Wickham, W. H., Hong Kong Electric Co., Ltd., Hong Kong.
Wilcher, H., Essex, Ont., Canada.
Wilkinson, F., A.M.I.E.E., Municipality, Claremont, West Australia.
Williams, W., Sarnia Street Railway Co., Sarnia, Ont., Canada.
Williamson, A., Bunbury Electric Light & Power Co., Bunbury, W. Australia.
Wilson, J., Fergus, Ont., Canada.
Wilson, W. R., M.I.E.E., P.W. Dept., Punjab, Lahore.
Woller, A., Alexandria-Ramleh Electric Railway, Alexandria, Egypt.
Wolley-Dod, T. C., A.M.I.E.E., Corporation, Pretoria, Transvaal.
Wright, G. W., Mount Lyell Mining & Railway Co., Ltd., Queenstown, Tasmania.
Yale, J., Corporation, Guelph, Ont., Canada.
Yamagita, K., Toyama Electric Light Co., Toyama, Japan.
Yamaki, Y., M.E., Tokyo Electric Tramway Co., Shiba, Tokyo, Japan.
Yoshida, J., Koriyama Silk Spinning Co., Ltd., Koriyama, Fukushimaken, Japan.
Young, W. H., Sturgeon Falls Electric Light & Power Co., Ltd., Sturgeon Falls, Ont., Canada.
Zuefle, C., Harriston, Ont., Canada.

Engineers—General.

F.—Ingénieurs—en général.
G.—Ingenieure—Allgemeine.

Ahmuty & Co., 6, Church-lane, Calcutta, India.
Alcock, W. & E., Port Elizabeth, South Africa.
Alexander, Robt., H.M.C.S. *Iris*, Auckland, N.Z.
Allinson & Co., Riccarton, Christchurch, N.Z.
Anderson & Irving, Lime-st., Sydney, N.S.W.
Banks, Clifford, 12, Park-st. West, Brunswick, Victoria.
Betteley & Co., Valparaiso, Chili.
Bevan & Edwards Propy., Ltd., 574–580, Latrobe-st., Melbourne, Victoria.
Birch, Fredk., Blenheim, N.Z.
Bleloch & O'Flaherty, 14, Brown's-bldgs., Loveday-st., Johannesburg, Transvaal.
Boden Bros. Engineering Co., Maclean, N.S.W.

Engineers—General—*continued.*

Bolton, A. J., & Co., 32, Jackson's Ghat-st., Calcutta.
Bosch, Barthel & Co., 196, Pitt-st., Sydney, N.S.W.
Boyer, P., Parizot, L., & Cie., rue Sahel el Ghellah, & P.O. Box, 125, Boulac, Cairo, Egypt.
Boyes, Mark G., & Co., Boulac, Cairo, Egypt.
Brown, McKenzie & Symes, Johannesburg.
Buhagiar, N., Malta Railway, Malta.
Cable, Wm., & Co., Waterloo-quay, Wellington, N.Z.
Chinese Engineering & Mining Co., Ltd., Tientsin, China.
Christy, F. C., Box 14, Exchange, Melbourne, Victoria.
Colombo Commercial Co., Ltd., Slave Island, Colombo.
Cossens & Black, Ltd., Crawford-st., Dunedin, N.Z.
Cosser, T., & Co., Karachi, India.
Cunningham & Gearing, Cape Town, S. Africa.
Davies & Kershaw, 252, Collins-st., Melbourne, Victoria; & Grahamstown, N.S.W.
Davies, W. H., & Co., Colombo, Ceylon.
Downs, T., Grand Harbour, Malta.
Dunedin Engineering & Steel Co., Ltd., Dunedin, N.Z.
Evans, Thornton-y Cia., Melbourne, Victoria; & 349, Bartolomé Mitre, Buenos Ayres.
Fisher & Foster, Mount Wallich, Anson-rd., Singapore.
Garnham, B., Blenheim, N.Z.
Glasgow Engineering Co., Launceston, Tasmania.
Hecht, L. van der, Ste. Ane. des Tramways, Cairo, Egypt.
Hodkinson, Thomas, & Co., 634-646, King-st., Newtown, Sydney, N.S.W.
Hogan & Co., Ltd., Mirbau-rd., Singapore, Straits Settlements.
Hooper, R. J., & Co., Broken Hill, N.S.W.
Hoskins, G. & C., Wattle-st., Sydney, N.S.W.
Hunter, E. H., & Co., 29 Kobe; & 1, Honden Nibancho, Nishiku, Osaka, Japan.
Hutson, C. A., & Co., Colombo, Ceylon.
Irrawaddy Flotilla Co., Ltd., Rangoon Foundry, Rangoon, Burmah.
Ishikawajima Shipbuilding & Engineering Co., Tokyo, Japan.
Jaffray, John W., 350, George-st., Sydney, New South Wales.
Jameson, J. K., Yarrow-st., Invercargill, New Zealand.
Jaques Bros., Coppin-st., Richmond, Victoria.
Kershaw, Wm., Grahamstown, N.S.W.
Killey, J. G., calle Alsina 541, Buenos Ayres.
Kirkland, John & Co., Sussex-st., Sydney, N.S.W.
Lysaught, Wm., & Son, 1, 4 & 8, Cross-lane, Hong Kong.
Machar & Sons, 415, Victoria-st., Abbotsford, Victoria.
Mangold Bros., Port Elizabeth, South Africa.
Marjoribanks, James, Riachuelo, Boca, Buenos Ayres.

Engineers—General—*continued.*

Marty, Ernest, C.E., A.M.I.E.E., A.M.I.M.E., consulting, civil, mining & mechanical engineer. Electrical works & machinery, &c., calle Cordoba 1247, Buenos Aires, Argentine Republic. (Telegs.: "Itram, Baires." Teleph. No. 2034, Juncal. A.B.C. Code, 5th edit.) Sole agent in South America for the Dudbridge Iron Works, Ltd., Stroud, Glos. Any technical or machinery representation of first-class firms undertaken. Full conditions, catalogues, prices, discounts, &c., should be sent. References required.
Masefield & Co., Albert Iron Foundry, Auckland, N.Z.
Massey Bros., Customs-st. West, Auckland, New Zealand.
Merriman Bros. & Co., 611A, Little Lonsdale-st., Melbourne, Victoria.
Methven, G., & Co., Crawford-st., Dunedin, N.Z.
Midland Engineering Co., Chareh Nubar Pacha, Cairo, Egypt.
Milne Bros., 166, Sussex-st., Sydney, N.S.W.
Morehouse & Morrill, Apartado 44, Quezaltenango, Guatemala, C.A.
Mort's Dock & Engineering Co., Ltd., Balmain, Sydney.
Mower & Co., Rangoon, Burma.
Murray, D., & Co., Wanganni, N.Z.
Reeves & Bruce, Rockhampton, Queensland.
Ririe Bros., King William's Town, S. Africa.
Rodgers, J. S., Newcastle, N.S.W.
Rutt, Walter, Adelaide, South Australia.
Schlaadt Bros., Cumberland-st., Dunedin, N.Z.
Sherriff, Swingley & Co., Johannesburg, Transvaal.
Shibaura Engineering Works, Shibaura, Shibaku, Tokyo, Japan.
Simpson & Co., Trafalgar-sq., Bridgetown, Barbadoes.
Tate, W. H., & Co., Perak, Straits Settlements.
Thompson, J., c/o Birt & Co., South Brisbane, Brisbane, Queensland.
United Engineering Co., Ltd., Marshall-sq., Johannesburg, Transvaal.
Vila, Manuel A., 240, calle Bolivar, Buenos Ayres.
Williams, S., & Co., Rockhampton, Queensland.
Zammit, N., & Sons, Grand Harbour, Malta.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Wasserkraft.

Baldwin, W. H., c/o Ottawa Electric Railway & Light Cos., Ottawa.
Danks, Thos., 198-200, Lichfield-st., Christchurch, N.Z.
Michell, A. G. M., M.C.E., Commercial Union-bldgs., 413, Collins-st., Melbourne, Victoria.
Tomlinson, S., M.I.C.E., Singapore.

Engineers—Mechanical.

F.—Ingénieurs—Mécaniciens.
G.—Ingenieure—Mechanische.

Bengal Iron & Steel Co., Ltd., Burrakur, Bengal, India.
Binnie & Co., Edward-st., Brisbane, Queensland.
Bown, T. J., & Co., 105–107, Bathurst-st., Sydney, N.S.W.
British Engineering Co. of Egypt, Ltd., rue de la Gare du Caire, Alexandria, & Cairo, Egypt.
Bryan, Landon Co., Manilla, P.I.
Burns, John A., Munderloh & Co., Montreal.
Carosio, J., 433, Suipacha, Buenos Ayres.
Coppola, Hnos., 590, Bustamante (esq. Corrientes), Buenos Ayres.
Danks, John, & Son, Proprietary, Ltd., 391, Bourke-st. West, Melbourne, Victoria; & 324–330, Pitt-st., Sydney, N.S.W.
Darling Bros., 112, Queen-st., Montreal, Canada.
Davies, Hubert, & Spain, Norwich Union-bldgs., Fox-st. (P.O. Box 1386), Johannesburg, S.A.
Deeble, W. R., M.I.MECH.E., Tasmanian Government Railways, Launceston, Tasmania.
Drummond, G. R., A.M.I.E.E. *to* Bikaneer State, Rajputana, India.
Fairfield Iron Works, Slave Island, Colombo, Ceylon.
Fear, F. J. W., 88, Willis-st., Wellington, N.Z.
Fowler, John, & Co. (Leeds), Ltd., Clarence-st., Sydney, N.S.W.
Gahagan, G., & Co., Bellasis-rd., Byculla, Bombay, India.
Hadecke, Albert, Rangiora, N.Z.
Henry & Cia., Necochea 655, Buenos Ayres.
Hyde, G. H. M., M.I.M.E., A.M.I.C.E., Government Factory, P.W.D., Colombo, Ceylon.
Jessop & Co., Ltd., Phœnix Iron Works, Calcutta.
Johnson & Fletcher, Box 224, Bulawayo, Rhodesia.
Johnston, W., & Sons, 247–251, St. Asaph-st., Christchurch, N.Z.
King, John, & Co., Ltd., Victoria Engine Works, Howrah; & 40, Strand-rd., Calcutta.
Lazarus, C. P., & Co., West End Foundry, Kingston, Jamaica, West Indies.
Lewis, W. H., & Son, Kingston, Jamaica.
Mallett & Co., East London, South Africa.
Martin & Co., late Walsh, Lovett & Co., Jackson House, Calcutta.
Nahman, Eug., & Co., Alexandria & Cairo, Egypt.
Parr, Wm., 43, Stafford-st., Timaru, N.Z.
Richardson & Cruddas, Parel-rd., Byculla; & Nesbit-rd., Mazagon, Bombay.
Riley, Hargreaves & Co., Ltd., Read-st. & 13, Battery-rd., Singapore.
Robertson Bros., Macquarie-st., Hobart, Tasmania.
Ross, R. A., M.AM.I.E.E., 78, St. Francis Xavier-st., Montreal, Canada.
Scott Bros., Ltd., Atlas Engineering Co., 55, Manchester-st., Christchurch, New Zealand.
Sorabjee, Thapurgee & Co., Khatwadi, Bombay.

Engineers—Mechanical—*continued.*

Stephenson, E. S., & Co., 17, Nelson-st., St. John, New Brunswick.
Tarry, E. W., & Co., Ltd., Johannesburg, Transvaal; & Kimberley, Cape Colony.
Wallis, Herbert, M.I.C.E., 239, Drummond-st., Montreal, Canada.
Waugh & Josephson, 344, Sussex-st., Sydney, N.S.W.

Engineers—Mining.

F.—Ingénieurs—Mines.
G.—Ingenieure—Gruben.

Bewick, Moreing & Co., Palmerston-bldgs., Queen-st., Auckland, N.Z.
Burt, A. & T., Stuart-st., Dunedin, N.Z.
Denniston, R. B., & Co., Bath-st., Dunedin, N.Z.
Harrison, J. W., 222, Victoria Arcade, Auckland, N.Z.
Knox, Schlapp & Co., 31, Queen-st., Melbourne, Victoria.
McCrady, F. W., 1115, Haro-st., Vancouver, B.C., Canada.
Rance, B., A.I.E.E., Ruby Mines, Ltd., Mogok, Upper Burma.

Engineers—Telegraph.

F.—Ingénieurs—Télégraphes.
G.—Ingenieure—Telegr.

Allin, C. H., Posts & Telegraphs, Federated Malay States.
Anderson, T. E., Eastern Telegraph Co., Port Said, Egypt.
Antunes, Dr. H. S., (Central) Railway Telegraphs, 61, rua Guanabara, Rio Janeiro, Brazil.
Ashton-Pryke, C. F., Sandahan, British North Borneo.
Babington, C. D. de V., Indian Telegraph Department, Rangoon, India.
Bannerjee, A. C., Indian Telegraph Department, Calcutta, India.
Baptista de Oliveira Bello, Dr. J., Government Telegraphs, Para, Brazil.
Barroso, Dr. E., Rio Janeiro, Brazil.
Bent, W., Pacific Cable Board, Suva, Fiji.
Berner, J., M.I.E.E., Great Northern Telegraph Co., Shanghai, China.
Besly, A. J., Eastern Telegraph Co., Rodrigues.
Brayshaw, J., A.AM.I.E.E., A.I.E.E., Great Southern Railway, Buenos Ayres.
Burne, O., A.M.I.E.E., Indian Telegraph Dept., Calcutta.
Burns, P. H., Nassau, Bahamas, West Indies.
Campbell, R. C., Indo-European Telegraph Dept., Persian Gulf.
Cavailler, L., Cie. française des Cables télégraphiques, Maracaibo, Venezuela.
Chambers, C., Eastern & South African Telegraph Co., Mozambique.
Chappel, H. E., Indian Telegraph Department, Umballa.

Engineers—Telegraph—*continued.*

Cheeseman, H. G., Eastern Telegraph Co., Durban, Natal.
Chu Wai, Imperial Chinese Telegraphs, Shameen, Canton, China.
Cole, C. J., Eastern Extension Telegraph Co., Penang.
Cole, G. E., Eastern Extension Telegraph Co., Madras.
Cole, S. Edwin, African Direct Telegraph Co., Brass, Southern Nigeria, W.C.A.
Coode, J. M., Indian Telegraph Department, Rawalpindi, India.
Crawford, J. R., Western Telegraph & Amazon Telegraph Co., Caixa 121, Para, Brazil.
Creighton, J. K., Nairobi, E. Africa Protectorate.
Creighton, T. A. W., Government Telegraphs, Bloemfontein, O.R.C.
Cuthbert, D., Pacific Cable Board, Norfolk Island.
Davis, E. H. J., Eastern & South African & West African Telegraph Co.'s, Loando, South-West Africa.
De Albuquerque-Maranhao, Alfonso de Oliveira, A.M.I.E.E., National Telegraphs, Curytiba, Paraná, Brazil.
Dresing, F. N., M.I.E.E., Imperial Chinese Telegraph Administration, Shanghai.
Duff, C. F., assistant to the Supt. of Telegraphy, Kingston, Jamaica, W.I.
Edwards, E., Hobart, Tasmania.
Edwards, J. E., 138, Little Collins-st., Melbourne, Victoria.
Escala, A., Kingston, Jamaica.
Falck, A., Bloemfontein, O.R.C.
Franklin, James, M.I.E.E., B.B. & C.I. Rly., Bulsar, Bombay.
Fuller, A. G., African Direct Telegraph Co., Bonny, West Africa.
Gell, J., M.I.E.E., Telegraph Department, Cable Bay, Nelson, N.Z.
Gibbs, R. T., Indian Telegraph Department, Karachi, India.
Giles, W. H., Eastern Extension Telegraph Co., Madras.
Goodall, H. C. A., A.I.E.E., Indian Telegraph Dept., Madras.
Gulliver, T. A., Government Telegraphs, Townsville, Queensland.
Gunter, E. E., A.M.I.E.E., Indian Telegraph Department, Quetta, India.
Hall, A., African Direct Telegraph Co., Ltd., Bathurst, West Africa.
Harrison, Norman, Government Telegraphs, Johannesburg, Transvaal.
Hart, Geo. A., assistant to the Superintendent of Telegraphy, Kingston, Jamaica, W.I.
Harvey, H. R., Eastern Telegraph Co., Ascension Island.
Hensley, J. W., Indian Telegraph Dept., Lahore, India.
Higley, W. J., M.I.E.E., C.S.A.R. Telegraphs, Pretoria, Transvaal.
Hill, A. P., Indian Telegraph Dept. (*on furlough*).
Hill, J. L., Pretoria.

Engineers—Telegraph—*continued.*

Holmes, Wm. A., Victorian Railway, Melbourne, Victoria.
Hopkinson, G. W., P.O. Telegraphs, Bloemfontein.
Howard, T., M.I.E.E., Govt. Telegraphs, Melbourne.
Hutchinson, Sir Sydney, M.I.C.E., M.I.E.E., United Service Club, Calcutta; & Simla.
Iinuma, S., Post & Telegraph Office, Sapporo, Japan.
Izard, Justin, Posts & Telegraphs, Alger.
Jamieson, Hugh, African Direct Telegraph Co., Accra, West Coast of Africa.
Judd, T. C., Pacific Cable Board, Southport, Queensland.
Kajuira, J., M.E., Ministry of Communications, Tokyo, Japan.
Kalmberg, C. C., Great Northern Telegraph Co., Peking.
King-Wood, W., Indo-European Telegraph Department, Persia.
Kring, C., Great Northern Telegraph Co., Ltd., Wladiwostock, Siberia.
Kuma, Hiroshi Government Telegraphs, Sendai, Japan.
Leach, E. A., Indian Telegraph Dept., Calcutta.
Lefevre, E. T., Panama, Central America.
Leslie, N. U. K., Indian Telegraph Department, Bombay.
Lloyd, E. I., Western Telegraph Co., Madeira.
Madge, P. M., Indian Government, Calcutta.
Martin, L., Port Louis, Mauritius.
Matthews, G. T., Engineers' Branch, Post & Telegraph Dept., Brisbane, Queensland.
Medina, M. G., Government Telegraphs, Canary Isles.
Mengel, E., Imperial Chinese Telegraphs, Yunnanfoo, China.
Mitchell, C., Compañia Telegrafica Mexicana (Cable Sub-Marino), Vera Cruz, Mexico.
Moraes, Dr. Martinho de, Government Telegraphs, Rio de Janeiro, Brazil.
Morales, A., French Telegraph Cable Co., Cape Hayti, West Indies.
MunGavin, George W., Indo-European Govt. Telegraphs, Persian Gulf.
Mungavin, J. Hyland, Eastern Telegraph Co., Ltd., Alexandria.
Nevill, H., supt. South American Cable Co., Caixa Correio 176, Pernambuco, Brazil.
Nielsen, N. C. H. V. R., Great Northern Telegraph Co., Ltd., Chefoo, China.
Olver, Graham T. W., M.I.E.E., F.R.MET.SOC., Indian Telegraph Dept., Calcutta.
Orchiston, J., M.I.E.E., Telegraph Dept., Dunedin, N.Z.
Oxlade, W., Western Teleg. Co., Bahia, Brazil.
Padbury, P. G., Western Telegraph Co., Ltd., Rio de Janeiro.
Palmer, A. J. B., Indo-European Teleg. Dept., Persian Gulf.
Palmer, A. L. H., M.I.E.E., Indian Telegraph Department, Calcutta.

Engineers—Telegraph—*continued.*

Pattie, J. A., Eastern Extension Telegraph Co., Banjoewangie, Java.
Pedroza, S. R., M.I.E.E., East Indian Railway Telegraphs, Howrah, Bengal.
Petersen, V., Imperial Chinese Telegraphs, Yunnanfu, China.
Pigott, R. E. P., M.I.E.E., Madras Rly., Arkonam, Madras.
Pinhey, H. T., M.I.E.E., Indian Government Telegraphs, Ahmedabad, India.
Power, Jos., Post & Telegraph Department, Brisbane, Queensland.
Preece, J. R., C.M.G., M.I.E.E., Ispahan, Persia.
Price, E., G.P.O., Cape Town.
Prosser, A. W., Eastern Telegraph Co., Aden.
Reeves, E. R., Eastern Extension Telegraph Co., Haiphong, China.
Robinson, H. A., Eastern Telegraph Co., Suakim.
Rocha, A. C., Eastern Extension Telegraph Co., Macao, China.
Ruddock, M. C., Eastern Extension Telegraph Co., Singapore.
Saleh Bey Soubhi, Cairo, Egypt.
Schindler, Dr. H., Para, North Brazil.
Schonau, W., Great Northern Telegraph Co., Ltd., Shanghai, China.
Schroeder, W. E., Great Northern Telegraph Co., Ltd., Shanghai.
Scott, G. U., Eastern Telegraph Co., Lorenço Marques, Delagoa Bay.
Selfe, P. H., Eastern Extension Telegraph Co., Nelson, N.Z.
Sharpe, W. S., M.I.E.E., Indian Telegraph Department, Trichinopoly, India.
Short, E. A., Postal Telegraphs & Telephones, Bloemfontein, O.R.C.
Silva, A. C. da, Lourenço Marques.
Silva, Edesio, Government Telegraphs, Para, Brazil.
Simpson, M. G., Indian Telegraph Department, Calcutta.
Skottowe, A. B., Eastern Extension Telegraph Co., Hong Kong.
Smith, Alfred, Pacific Cable Board, Fanning Island.
Smith, J. R., Eastern & South African Telegraph Co., Zanzibar.
Smith, J. F., Government Telegraphs, East London, Cape Colony.
Soubhy Saleh, bey, Cairo, Egypt.
Sowerby-Coo, C. W., Indian Telegraph Department, Barrackpur.
Stewart, W. B. O., Eastern Extension Telegraph Co., Broome, W. Australia.
Straube, O., M.I.E.E., 1709, calle Cangallo, Buenos Ayres.
Streatfeild, James C., M.I.E.E., Indian Telegraph Department, Calcutta.
Su, C. H., Imperial Chinese Telegraphs, Foochow, China.
Sullivan, R., Direct West India Cable Co., Kingston, Jamaica.

Engineers—Telegraph—*continued.*

Sutherland, W., Indian Telegraph Department, Bombay.
Swan, W., Eastern Extension Telegraph Co., Weihaiwei, China.
Taylor, Thos., Casilla 988, Valparaiso, Chili.
Thomas, I. C., M.I.E.E., Indian Telegraph Department, Calcutta.
Thomson, J. A., Eastern Extension Telegraph Co., Labuan.
Trenaman, L. P., African Direct Telegraph Co., Lagos, West Africa.
Truninger, L., C.I.E., Indian Telegraph Dept., Calcutta.
Urata, Shiurjiro, M.E., Imperial Teleg., Tokyo.
Wadachi, Y., M.E., Post & Telegraph Office, Nagoya, Japan.
Warner, W. W. B., Eastern & South African Telegraph Co., Swakopmund, German S.W. Africa.
Webster, L., Eastern Extension Telegraph Co., King William-st., Adelaide, South Australia.
Wei, Y. K., Imperial Chinese Telegraphs, Mukden, Manchuria.
Weightman, R. W., M.I.E.E., Government Telegraphs, Pietermaritzburg, Natal.
Wilkinson, F., Eastern Telegraph Co., Smyrna, Turkey.
Wolder, J., Imperial Chinese Telegraphs, Tientsin, China.
Wood, S. M., Europe & Azores Telegraph Co., Horta, Fayal.
Woolward, R. S., West African Telegraph Co., Ltd., Sao Thomé, West Africa.

Engineers—Telephone.

F.—Ingénieurs—Téléphones.
G.—Ingenieure—Teleph.

Briggs, J. D., Nova Scotia Telephone Co, Halifax, N.S., Canada.
Cassidy, J., A.A.M.I.E.E., Kalia-ave., Honolulu, Hawaiian Islands.
Ludford, E. H., Apartado 176, Caracas, Venezuela.
Mangado, Andres, 96, Siaguin-st., Tangier.
Nova Scotia Telephone Co., Halifax, N.S., Canada.
Roseneder, Franz, M.I.E.E., Telephone Exchange, Charters Towers, Queensland.
Smith, C. A., Chili Telephone Co., Concepcion, Chili.
Stevenson, G. C. (manager, Telephone Co. of Egypt, Ltd.), Cairo, Egypt.

Exporters & Importers of Electric & Telegraphic Plant.

F.—Exportateurs et importateurs d'outillage electr. et telegr.
G.—Ausführer und Einführer von Elektr. und telegr. Materialen.

Barth, Eugenio, y Ca., calle de Mayo 490, Montevideo.
Bartram & Co., calle Cuyo 1147, Buenos Ayres.
Bordenare, J. R., P.O.B. 33, Matanzas, Cuba.

Exporters & Importers of Electric & Telegraphic Plant—*continued.*

Brittain, A., Auckland, N.Z.
Clare, John, & Co., 22, Durham-st. West, Auckland, N.Z.
Clarke, Padley & Co. (importers), 386, Flinders-lane, Melbourne, Victoria.
ELECTRIC ENGINEERING, IMPORT & EXPORT CO., corner rue de France & rue du Baron Gros, Tientsin, North China. *See advt. facing title page.*
Fitte Hermanos, Moreno 834, Buenos Ayres.
Goodall, T. M., & Co., 129, Hay-st., Sydney, N.S.W.
Gunn, J. & T., Brisbane-st., Launceston, Tasmania.
Harris, R. J., & Co., calle Estado, Santiago, Chili.
Herouard, P., Calle de Villatta 60, Lima, Peru.
Hill, James, & Sons, 63, Grenfell-st., Adelaide, South Australia.
Holsinger, A. E., jun., 2 & 3, Flower-rd., Colombo, Ceylon.
Howarth, D. B., & Son, Newtown, N.S.W.
Hunt, Leuchars & Hepburn, Johannesburg.
Hyslop, H. F., 352–354, Latrobe-st., Melbourne.
Ii Shokai, 10, Hiyshicho., Kyobashi-ku, Tokyo.
Johnson & Sons, Tyne Foundry, Yarra Bank, South Melbourne.
Lawrence & Hanson, 33, York-st., Sydney, N.S.W.; & 161, Queen-st., Melbourne, Victoria.
Le Roy de Bonneville, E., Cangallo 1268, Buenos Ayres.
Ludowieg & Co., Plateros San Pedro, Lima, Peru.
Lycett, A. A., Jamieson-st., Sydney, N.S.W.
MacBrair Bros. & Co., Charters Towers, Queensland.
Menchaca, G., & Co., Calle de Correo 29, Lima, Peru.
Mosquera, J. E., Obispo 88, Havana, Cuba.
Quincke, E., calle Cerro Largo No. 92, Montevideo, Uruguay.
Salisbury Foundry Co., Charles-st., Launceston, Tasmania.
SPLATT, WALL & CO., Perth, West Australia. Electrical engineers, importers, dealers in all kinds of machinery & electrical goods.
Vasena, Pedro, 1732–1740, Calle Belgrano, Buenos Ayres.
Watkins, A. J., & Co., Wyndham-st., Auckland, N.Z.
Watson & Crane, 375, Pitt-st., Sydney, N.S.W.
Weinberger, C., & Co., 1, Ikuta-maye, Kobe, Japan.
Weiss, C., & Co., Calle San Pedro 111, Lima, Peru.

Fittings Makers—Electrical.

F.—Fournitures pour l'éclairage élec.—Fab. de.
G.—Armaturen—Fabrikanten von.

Amos, A., 121, Botany-rd., Waterloo, N.S.W.
Bonthoux, C., & Ca., 956–1000, calle Lima, Buenos Ayres.
Castle, J., & Sons, 32, King-st. North, Newtown, Sydney, N.S.W.
Crescent Electric Co., 2503, St. Catherine-st., Montreal, Canada.

Fittings Makers—Electrical—*continued.*

Dorman & Smith, Ordsal Electrical Works, Salford, England. Selling agent for Australia, Oswald Haes, 56, Margaret-st., Sydney, N.S.W.
Dunn, J. A., & Co., 41 & 43, Duke-st., Halifax, N.S.
Garth Co., 26–28, Craig-st. West, Montreal, Ont., Canada.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London.") *See* SWITCH MANUFACTURERS — ELECTRIC, BRITISH DIVISION.
McDonald & Willson, Toronto, Ont., Canada.
Wilson, Corben & Co., Kavanagh-st., S. Melbourne.

Fuse Manufacturers.

See CUT-OUTS.

General Suppliers of Electrical Requisites.

F.—Fournitures générales pour l'électricité.
G.—Requisitionen—elektr.—Händler von.

Austral Otis Engineering Co., Ltd., South Melbourne.
Chambers, John, & Son, Ltd., Fort-st., Auckland, N.Z.
Guy Owens Electrical Construction Co., Honolulu, Hawaii.
Kemp & Co., Ltd., Sassoon House, Elphinstone Circle, Bombay, India.
Laborde & Co., 368, 374, calle San Martin, Buenos Ayres.
Mamede Ferreira Rodrigues, (P.O. Box 131), Bahia, Brazil.
Marubishi Shokai, 9 Ginza Shickome, Kyobashiku, Tokio, Japan.
Munderloh & Co., Montreal, Canada.
Reefton Electric Co., Reefton, New Zealand.

Heating Apparatus Makers—Electric.

F.—Appareils électriques de chauffage—Fab. de.
G.—Elektrische Heizungs-apparaten—Fab. von.

Lavoie Electric Co., The, 101–103, Bridge-st., Quebec, Canada.

Incandescent Lamp Manufacturers—Electric.

F.—Lampes électriques à incandescence—Fab. de.
G.—Elektr. Glühlampen—Fab. de.

Edison & Swan United Electric Light Co., Ltd., 58, Clarence-st., Wynyard-sq., Sydney, N.S.W.; & Central-bldgs., Edward-st., Brisbane.
Ontario Lantern & Lamp Co., Ltd., Hamilton, Ont., Canada.
Packard Electric Co., Ltd., St. Catharine's, Ontario, Canada.
Sunbeam Incandescent Lamp Co. (of Canada), Ltd., Toronto.

Indiarubber & Gutta-percha Manufacturers & Dealers.

F.—Caoutchouc—Fab. & marchands.
G.—Gummi—Fabr. & Händler.

Gutta-Percha & Rubber Manufacturing Co. of Toronto, Ltd., 47, Yonge-st., Toronto, Ont., Canada.

India Rubber, Gutta Percha & Telegraph Works Co., Ltd., calle Reconquista 140 & 142, Buenos Ayres; Queen's-bldgs., William-st., Perth, Western Australia; 274, Flinders-st., Melbourne, Victoria; 279, George-st., Sydney, N.S.W.; Edward-st., Brisbane, Queensland; 234, Cashel-st., Christchurch, N.Z.; 1–1, Fairlie-pl., Calcutta, India; Agency-chbrs., Bulawayo, Rhodesia; & 213, West-st., Durban, Natal.

Inspectors (Electrical)—Government & Municipal.

F.—Inspecteurs électr. du gouvernement et municipalité.
G.—Elektr. Inspektoren—Regierungs & Städtische.

Arputham Pillaz, A., Ipoh, Perak, F.M.S., Straits Settlements.
Bentley, A., A.M.I.E.E., Electric Supply & Tramways Department, Johannesburg.
Birnie, Wm. J., M.I.E.E., P. & O. Terrace, Mayagon, Bombay.
Bletterman, V. E., Postal & Telegraph Service, Weltevreden, Java.
Bogaardt, W. H., Post & Telegraph Service, Batavia, Java.
Brou, N., Hanoi, Tong King.
Bryan, P., Government Telegraph & Telephone Service, Launceston, Tasmania.
Furby, W. S., M.I.E.E., Wellington, N.Z.
Galloway, W., Government Telegraphs, Port Elizabeth.
Gannaway, J. W., Christchurch, N.Z.
Hollard, L., Hanoi, Tonkin.
Hughes, F. J., F.R.G.S., Government Telegraphs, Southern Nigeria.
Jack, W. T., Government Works, Brisbane.
Jackson, G. E., Postal & Telegraph Service, Melbourne, Victoria.
Jansz, C. A., Posts & Telegraphs, Selangor, Straits Settlements.
Jeator, E., Govt. Railways, Eveleigh, New South Wales.
Johnston, J. M. L., Posts & Telegraphs, Adelaide, South Australia.
Johnstone, J. K., Toronto, Ont., Canada.
Kessler, A. E. H., Sandakan, Brit. N. Borneo.
Khoon, Banharn, Korat, Bangkok, Siam.
Macdonald, J. J., Postal Department, Hobart, Tasmania.
Mascall, F. H., Arsenales de Marina, Valparaiso, Chili.
Meddings, W. G., Auckland, N.Z.
Morey, G. E. D., Hobart, Tasmania.

Inspectors (Electrical)—Government & Municipal—*continued.*

Pedrozo, Antonio N., Cia. Paulista, Campinas, São Paulo, Brazil.
Predari, J. P., State Telegraphs, Montevideo, Uruguay.
Raikes, B., Rangoon, Burma.
Richards, J. B., Government Telegraphs, Adelaide, South Australia.
Robertson, C. C., Govt. Telegraphs, Nelson, N.Z.
Rose, T., Wellington, N.Z.
Russell, R. P., A.M.I.E.E., P.W.D., Allahabad, India.
Stieltjes, J. J., Post & Telegraph Service, Batavia, Java.
Taylor, A. K., A.M.I.E.E., Government of Bengal, Bhowanipur, Calcutta.
Tourier, —, Hanoi, Tonkin.
Tymms, H. J. T., Postal Service, Melbourne, Victoria.
Van Rosi, F., East Africa & Uganda Protectorate Telegraphs, Port Florence, East Africa.
Wallich, J. D., Government Telegraphs, Cairo.
Willot, J., Posts & Telegraphs, Alger, Algeria.
Windridge, I. B., Corporation, Durban, Natal.

Instrument Manufacturers—Electrical.

F.—Instruments électr.—Fab.
G.—Instrumenten Elektr.—Fab.

Barozzi, B., 1056, calle B. Mitre, Buenos Ayres.
Barraclough, H. A., Ltd., 385, George-st., Sydney, N.S.W.
Boghetti, C., 1056, calle Bartolomeo Mitre, Buenos Ayres.
Casa Vannet, Moreno Borlido & Co., R. do Ouvidor 114, Rio.
Cooke, A. M., Port Arthur, Ont., Canada.
Cooke, T., & Sons, Ltd., Castle & Burg-sts., Cape Town.
Kyoikuhin Seizo Kaisha, Asakusa Shichiken Cho, Tokyo, Japan.
Mengin, Max & Co., Santiago, Chili.
Meucci, Tito, & Cia., calle Cuyo 753–759, Buenos Ayres.
Shedrick, C. E., Sherbrooke, Quebec, Canada.
Solomons & Co., 7/1, Wellesley-pl., Calcutta.
Warner & Webster, 240, Swanston-st., Melbourne, Victoria.
Wiesener, T. F., 334, George-st., Sydney, N.S.W.

Insulating Material Manufacturers.

F.—Isolante—Fab. de matière.
G.—Isolations Materialen—Fab. von.

Glass, H. (indiarubber), 299, Little Lonsdale-st. North, Melbourne, Victoria.
Glass, B., & Sons (indiarubber), 16, Queensbury-st. North, Melbourne, Victoria.
Imperial Varnish & Colour Co., Ltd., 8–26, Morse-st., Toronto, Canada.

Iron & Steel Manufacturers.

F.—Fer et acier—Fab.
G.—Eisen u. Stahl—Fab.

Clemenger Bros. & Co., 289 & 291, City-rd., South Melbourne, Victoria.
Duckett, E., & Sons, 374 & 376, Little Lonsdale-st., Melbourne, Victoria.
Lambert & Ralli, Bond-Point, Suarès, Cairo, Egypt.
Vulcan Iron Works Co., Ltd., Winnipeg, Man.

Lifts (Electric)—Makers of.

F.—Ascenseurs électriques—Fabr. d'.
G.—Elektrische Aufzüge—Fab. von.

Otis Fensom Elevator Co., 74, York-st., Toronto.
Standard Electric Elevator Co., George-st., Sydney, N.S.W.
Waygood Elevator Co., Bathurst-st., Sydney, N.S.W.

Light, Power & Traction Companies—Electric.

See ELECTRICITY WORKS.

Lightning Conductors—Makers & Erectors of.

F.—Paratonnerres—Fab. et monteurs de.
G.—Blitzableiter—Fabrikanten.

Machine Tool Makers.

F.—Machine—Outils—Fab. de.
G.—Maschinen—Werkzeug.

Bertram, John, & Sons, Ltd., Dundas, Ontario, Canada.
Booth Bros., Barkers-rd., Hawthorn, Victoria.
Samuel, M. & L., Benjamin & Co., 26–30, Front-st. West, Toronto, Ont., Canada.

Machinery Merchants & Agents.

F.—Machines—March. et représent. de.
G.—Maschinen Händler & Agenten.

Addison, B., & Co., 98, Clarence-st., Sydney, N.S.W.
Agar, Cross & Co., Defensa 124, Buenos Ayres.
Allis-Chalmers-Bullock Co., 115–117, Elizabeth-st., Melbourne, Victoria.
Anderson & Co., 5, Battery-rd., Singapore, Straits Settlements.
Anderson, W., & Sons, 43, Jefcott-st., West Melbourne.
Bartram, J., & Son, 19–23, King-st., Melbourne; & Sydney.
Bearup, T. B., & Co., Charters Towers, Queensland.
Beaver, J. R., Prat 109, Valparaiso, Chili.
Bennie, Teare & Co., à Beckett-st., Melbourne, Victoria.
Berry Bros., Whiteman-st., S. Melbourne, Victoria.
Bornsteen, A. G., Obrapia 24, Havana, Cuba.

Machinery Merchants & Agents—*contd.*

Bradbury, Brady & Co., Bombay.
Breduis, Juan P., 529, calle Cuyo, Buenos Ayres.
Cameron & Sutherland, 20–26, Queen's Bridge-st., Melbourne, Victoria.
Canadian General Electric Co., Ltd., Toronto, Ontario, Canada.
Connolly, J. J., Mosman-st., Charters Towers, Queensland.
Cowan, Alex., & Sons, Ltd., Melbourne, Victoria.
Cowasjee Bros., 9, Hornby-rd., Bombay.
Craig, J. J., Railway Wharf, Auckland, N.Z.
Craven, John H., 21–25, Kavanagh-st., South Melbourne, Victoria.
Dall, J. J., 495, Little Bourke-st., Melbourne, Victoria.
Dalrymple Bros. & Co., 34 & 35, Mutual-bldgs., Commissioner-st. (P.O. Box 1690), Johannesburg, Transvaal.
Davies, J., & Co., 235, Franklin-st., Melbourne, Victoria.
Dermit, Sebassian, Rivadavia 1970, Buenos Ayres.
Drysdale, T., & Co., Moreno 450, Buenos Ayres.
Dunkerley, H., Marine-st., Bombay.
Edwards, W., 521, Collins-st., Melbourne, Vic.
Ferguson, J. C., & Co., 67, Brisbane-st., Launceston, Tasmania.
Frankel, Philip, & Co., 114, Edward-st., Brisbane, Queensland.
Gardner, R., & Son, 50, Nazareth-st., Montreal, Canada.
George, C. C., & Co., 4, Winchester House, Loveday-st., Johannesburg.
Goodwin & Son, Engine-st., Sydney, N.S.W.
Graham, Ritchie & Milne, 5, rue Cléopâtra, Alexandria, Egypt.
Greaves, Cotton & Co., 47, Apollo-st., Bombay.
Grimes, H. R., & Co., 14, Clive-st., Calcutta.
Hardie & Co., Valparaiso; & Santiago, Chili.
Hardie, James, & Co., 582–584, Little Collins-st., Melbourne, Victoria.
Heiremans, A., Comptoir de la Costa del Pacifico, 1681, calle San Antonio; & Casilla 4, Santiago, Chili.
Hockly, D. E., & Co., East London, S. Africa.
Hormann y Cia., Valparaiso, Chili; & Santiago; Talca; Conception; & Valdivia.
Hosken, Wm., & Co., P.O. Box 667, Johannesburg.
Jamasjee & Maneckjee, opposite Prince's Dock, Bombay.
Johnson, F. S. N., Charters Towers, Queensland.
Jones, A., & Sons, Victoria-st., Adelaide, South Australia.
King Bros., Durbanville, Cape Colony.
Lloyds & Co., Cape Town.
McArthur, W. & A., Ltd., 15, Macquarie-pl., Sydney.
McCray, E., & Co., 82A, Pitt-st., Sydney, N.S.W.
Macdonald & Co., Sharia el Maghrabi, Cairo, Egypt.
McLennan & Co., Brisbane, Queensland.
McPherson, Thos., & Son, 582–584, Collins-st., Melbourne, Victoria.

Machinery Merchants & Agents—*contd.*

Mantels & Co., Peru & Belgrano, Buenos Ayres.
Martin, J., & Co., 161, Clarence-st., Sydney.
Middleton & Co., 49, Castle-st., P.O. Box 415, Dunedin, N.Z.
Miller & Co., Prop., Ltd., 33 to 47, Armstrong-st., Ballarat, Victoria.
Nathan & Co., 43, rua S. Beuto, São Paulo, Brazil.
New, David, & Co., 487, Collins-st., Melbourne.
Noceti, Dom., & Cia., 1265, Calle Lima, Buenos Ayres.
Perrott & Co., 42, Waterkant-st., Cape Town, S. Africa.
Reid, William, rua 1° de Março 77, Rio de Janeiro.
Renard, Jules, & Co., 306, Kent-st., Sydney, N.S.W.
Rider Ericsson Engine Co., 22 & 22A, Pitt-st., Sydney, N.S.W.
Robinson, J. J., off 165, Flinders-lane, Melbourne, Victoria.
Saunders & Stuart, Melbourne-rd., Perth, Western Australia.
Savage, W., & Co., Charters Towers, Queensland.
Shorrock, Sam H., & Co., 39, Kiangse-rd., Shanghai, China.
Smellie & Co., Brisbane.
Smith & Cooke, 435, Bourke-st., Melbourne, Vic.
Smuts & Koch, Malmesbury, Cape Colony.
Société Anonyme de Travaux et d'Entreprises au Brésil, 79, rua Primeiro de Março, Rio de Janeiro.
Spiller Bros., Wepener, Orange Free State, South Africa.
SPLATT, WALL & CO., Perth, West Australia. Electrical engineers, importers, dealers in all kinds of machinery & electrical goods.
Steinemann, Mabardi & Co., 12, Place Mohamed Aly, Alexandria, Egypt.
Sutherland, A., & Co., 68, Queen-st., Melbourne, Victoria.
Sykes, S., & Co., P.O. Box 2303, Johannesburg, Transvaal; & P.O. Box 230, Bulawayo, Rhodesia.
Toole, J. E., & Co., Hunter-st., Sydney, N.S.W.
Union Engineering Co., Ltd., North-ter., Adelaide, South Australia.
Van de Putte & Co., Guatemala City, Guatemala.
Watkins, R. G., & Co., 107, Kent-st., Sydney, New South Wales.
Welch, Perrin & Co., Moray-st. North, South Melbourne, Victoria.
Williams, A. R., Machinery Co., Ltd., Soho Machine Works, Toronto, Ontario, & Winnipeg.
Williamson, Balfour & Co., Valparaiso; & Santiago, Chili.

Magnetic Steel Manufacturers.

F.—Acier Magnetique.
G.—Stahl für Magnete.

Allen, Edgar, & Co., Ltd., New Club-bldgs., Loveday & Main-sts., Johannesburg, Transvaal.

Manufacturers' Agents.

F.—Agents de Fabricants.
G.—Fabrik—Agenten.

Ainsworth, H., 37, Exploration-bldgs. (P.O. Box 1555), Johannesburg.
ALCOCK, ALFRED U., M.I.E.E., Russell-st., Melbourne, Victoria.
Bird & Co., 101-1, Clive-st., Calcutta.
Bock & Co., Custom-st. W., Auckland, N.Z.
Burridge & Cooper, 152, Henry-ave., Winnipeg.
Cornes & Co., Yokohama & Kobe, Japan.
Craven, Harry A., 316, George-st., Sydney, N.S.W.
ELECTRO-DYNAMIC CO., 210–212, Russell-st., Melbourne,
Framji Cowasji, 596, Girgaum, Bombay, India.
Hall, John, & Co., Ltd., 104, Manchester-st., Christchurch, N.Z.
Marty, Ernest, C.E., A.M.I.E.E., A.M.I.M.E., calle Cordoba 1247, Buenos Aires.
Mason, Struthers & Co., Ltd., Colombo & Lichfield-sts., Christchurch, N.Z.
Nery da Fonseca, I., P.O. Box 202; & 34, rua Bom Jesus, Pernambuco, Brazil.
Newell & Co., 43 & 45, King-st., Melbourne, Victoria.
Paddle, B. G., 418, George-st., Sydney, N.S.W.
Painchaud, J. R., 1265, 1267, St. Catherine-st., Montreal, Canada.
Pargiter, A., & Co., 7, New Club-bldgs., Johannesburg.
Surtees, H. J., 90, Bay-st., Toronto.
Wadia, Nowrosjee, & Sons. Offices: Cumballa Hill, Bombay, India.
Wills & Co., Ltd., Eastern Exchange, Port Said

Manufacturers' Representatives.

F.—Représentants de Fabricants.
G.—Fabrik Vertreter.

Andrews & George, 242, Yokohama, Japan.
Grob, G., P.O. Box 855, Cairo, Egypt.
Lewis, C. C., 25, Mayo 206, Montevideo.
Maranjo, J. Sanchez, Centro Telefonico, Sancti-Spiritus, Cuba.

Mathematical Instrument Manufacturers.

F.—Instruments mathématiques—Fabr. de.
G.—Mathematische Instrumente—Verfertiger.

Köhler, G. C., Flinders-st., Adelaide.
Yeates, H., 64, Macquarie-st., Hobart, Tasmania.

Measuring Instrument Manufacturers—Electric.

F.—Instr. de mesure—Fab. de.
G.—Mass Instrumente—Fabr.

Metal Manufacturers & Founders—General.

F.—Métal-Fab. et Fonte—en général.
G.—Metall. Fab. & Giesser—im Allgemeinen.

Australian Metal Co., Ltd., 113, William-st., Melbourne.
Brinsley & Co., Cumberland-st., Dunedin, N.Z.
Dowrie & Co., Port Said, Egypt.

Metal Merchants.

F.—Marchands—Métaux.
G.—Händler von Metall.

Fraser, Alex., 39, Queen-st., Melbourne.
Scrutton, R. L., & Co., 97, Clarence-st., Sydney, N.S.W.
Taves, Oscar, & Co., 84, rua S. Pedro, Rio de Janeiro.

Metallurgists—Electro.

F.—Electro-Métallurgistes.
G.—Elektro-Erzkundige.

Vendryes, L. H., 35, John's-lane, Kingston, Jamaica.
Wilks, R. Clarke, 423B, Little Collins-st., Melbourne, Victoria.

Mica Merchants.

F.—Marchands—Mica.
G.—Händler von Glimmer.

Chrestien, F. F., & Co. Offices & Factory: Tisri, *viâ* Giridih, Bengal, India; also at Calcutta & London. Mines in Hazaribagh, Gya & Monghyr.
Hopper, R. T., & Co., 415, Merchants Bank-bldg., Montreal, Can.

Motor Carriages.

F.—Voitures automobiles.
G.—Motor Wagen.

Cousins & Atkin Carriage Factory, Ltd., Auckland, N.Z.
Locomobile Co. of America, Bridgeport, Conn., U.S.A. Agents for Queensland: Trackson Bros., Ltd., 239-241, Elizabeth-st., Brisbane.
Thomson Motor Car Works, 835, High-st., Armadale, Melbourne, Victoria.

Motor Manufacturers—Electric.

F.—Moteurs—électriques—Fab.
G.—Motoren—elektr.—Fabr.

Omnibuses, Cabs, & Parcels Vans—Electrical.

F.—Voitures Omnibus et autres—élec.
G.—Elektr. Omnibusse, Droschken & Packwagen.

Crossen Car Manufacturing Co. of Cobourg, Ltd., Cobourg, Ont., Canada.

Patent Solicitors & Experts.

F.—Avocats de brevets et experts.
G.—Patent Anwalte und Sachsverständige.

Bernays, Charles E., 45, Adelaide-st., Brisbane, Queensland.
Bodycomb, Bedlington, St. James-bldgs., cor. Bourke & William-sts., Melbourne, Victoria.
COLLISON & CO., 483, Collins-st., Melbourne; & Eagle-chbrs., King William-st., Adelaide. (Telegs.: "Collimator, Melbourne." Teleph. Nos.: 3131, Melbourne; & 114, Adelaide.)
Fetherstonhaugh & Co., Canadian Bank of Commerce-bldg., Toronto, Ontario, Canada.
Griffith & Allen, 163, King-st., Sydney; & 9, Queen-st., Melbourne.
Philips, Ormonde, & Co., 533, Collins-st., Melbourne, Victoria.
Remfry, H. H., Hastings-st., Calcutta.
Snow, Francis H., National Mutual-bldgs., King William-st., Adelaide, South Australia.
Turri, G. G., & Co., 364-366, Collins-st., Melbourne. (Telegs.: "Inventions, Melbourne." Teleph. No. 2158.)
Walsh, Fred, George & Wynyard-sts., Sydney, N.S.W.; & Collins-st., Melbourne, Victoria.
Waters, E., & Sons, 414, 416 & 418, Collins-st., Melbourne, Victoria; & 7, Moore-st., Sydney N.S.W.

Patent & Trade Marks Registration Agents.

F.—Brevets et Marques de fabrique—Agents de.
G.—Agenten für Registrirung der Patente Handelsmarken, &c.

Bailly Bros., 77, rua Sete de Setembro, Rio de Janeiro. P.O. Box 814.
Bear, J., 369, Collins-st., Melbourne, Victoria.
Blanco, L. J., Caracas, Venezuela.
Burgess, C. S., National Mutual-bldgs., King William-st., Adelaide.
Buschmann & Cia., 16, rua General Camara, Rio de Janeiro.
Chism, R. E., 1, calle San Juan de Letran, Mexico.
Collison & Co., 483, Collins-st., Melbourne; & Eagle-chbrs., King William-st., Adelaide.
Cooke, J. H., King William-st., Adelaide.
Dalton, W. J., C.E., 266, Queen-st., Auckland, N.Z.
De Penning & De Penning, 32, European Asylum-lane, Calcutta, India.
Evans, Owen N., Merchants Bank-bldg., Montreal, Canada.
Freitas, Dr. B. R. de, 11, Travessa do Ouvidor, Rio Janeiro, Brazil.
Garcia, A. H. C., 4, rua S. Pedro, Rio de Janeiro, Brazil.
Géraud, Jules, Leclerc & Co., 116, rua do Rosario, Rio de Janeiro.
Hershensohn & McGillewie, 254A, Longmarket-st. (Box 56), Pietermaritzburg, Natal.
Kerr, C. Allen, Casilla 490, Santiago, Chili.
Kisch, D. M., & Co., P.O. Box 668, Johannesburg, Transvaal.

Patent & Trade Marks Registration Agents—*continued.*

Langford, F. L., 12, Elizabeth-st., Hobart, Tasmania.
Moura & Wilson, 33, rua Rosario, P.O. Box 596, Rio de Janeiro.
Newman, W., & Co., 4, Dalhousie-sq., Calcutta.
Roberts, C. H., 53, Esk-st., Invercargill, N.Z.
South American General Patent Agency, 116, rua do Rosario, Rio de Janeiro.
Swanson, A., 243, Queen-st., Melbourne, Victoria.
Sykes & Co., 12, Dalhousie-sq., Calcutta.
Turri, G. G., & Co., 364–366, Collins-st., Melbourne. (Telegs.: "Inventions, Melbourne." Teleph. No. 2158.)

Phonograph Makers & Agents.

F.—Phonographes—Fab. et Agents de.
G.—Phonographen—Fabr. und Agenten von.

Lepage & Co. (importers), Calle Bolivar 375, Buenos Ayres.
Stahlberg e hijos, Buen Orden 424, Buenos Ayres.

Portable Electric Lamps—Makers of.

F.—Lampes électr. portables—Fabr. de.
G.—Tragbare Elektrische Lampen—Fabr. von.

Power Companies—Electric.

See ELECTRICITY WORKS.

Professors & Teachers of Science—including Electricity.

F.—Professeurs et Précepteurs de Sciences y compris l'électricité.
G.—Professoren und Lehren der Wissenschaft—Elektricität einschliessend.

Aoyagi, E., M.E., DR.E., Imperial Kyoto University, Kyoto, Japan.
Arakawa, B., Imperial University, Tokyo, Japan.
Bohle, Prof. H., A.M.I.E.E., South African College, Cape Town.
Bose, Prof. J. C., Presidency College, Calcutta.
Chapman, R. W., M.A., B.C.E., University, Adelaide, S. Australia.
Chatterton, A., B.SC., College of Engineering, Madras, India.
Cochrane, J. B., Royal Military College, Kingston, Ontario, Can.
Cockerell, T., Technical College, Colombo, Ceylon.
Cox, John, McGill University, Montreal, Canada.
Dissanaike, E. S., G.P.O., Colombo, Ceylon.
Dobson, J. H., A.M.I.E.E., Transvaal University College, Johannesburg.
Gill, Prof. L. W., A.AM.I.E.E., School of Mining, Kingston, Ont., Canada.
Guarini, E., Escuela de Artes y Oficios, Lima, Peru.

Professors & Teachers of Science—including Electricity—*continued.*

Hancox, S. H., Ipswich Technical College, Ipswich, Queensland.
Henry, John, M.A., B.E., Technical College, Auckland, N.Z.
Herdt, Louis, M.E., E.E., McGill University, 13, St. Louis-sq., Montreal, Canada.
Ho, H., M.E., Imperial University, Tokyo, Japan.
Jaquays, H. M., M.AM.S.M.E., A.M.AM.I.E.E., McGill University, Montreal, Canada.
Kernot, Prof. W. C., M.A., M.C.E., M.I.C.E., F.R.G.S., University of Melbourne, Victoria.
Kumakura, K., M.E., Yokosuka, Japan.
Lyle, Prof. T. R., M.A., The University, Melbourne.
Macdonell, Prof. A., B.A., Presidency College, Calcutta, India.
Nakagawa, T., Kyoto Imperial University, Kyoto, Japan.
Namba, M., M.E., DR.E., M.I.E.E., Imperial Kyoto University, Kyoto, Japan.
Nixon, Wm. F., Railway Technical School, Malta.
Ogura, K., M.E., Kyoto Imperial University, Kyoto, Japan.
Owens, R. B., M.A., D.SC., M.I.E.E., McGill University, Montreal, Canada.
Pollock, J. A., The University, Sydney, N.S.W.
Powell, P. H., Canterbury College, Christchurch, N.Z.
Rosebrugh, T. R., M.D., A.AM.I.E.E., University, Toronto, Canada.
Scott, E. Kilburn, M I.E.E., M.I.M.E., A.M.I.C.E., The University, Sydney, N.S.W.
Smith, Alfred Mica, B.SC. LOND. & VIC., F.I.C., School of Mines, Ballarat, Victoria.
Sutherland, J. M., School of Mines, Ballarat, Victoria.
Tanakadate, Dr. A., Imperial University, Tokyo, Japan.
Tan Cho-liang, Imperial Chinese Telegraph Administration, Peking, China.
Thomson, A. W., D.SC., College of Science, Poona, India.
Waddell, John, D.SC., PH.D., School of Mining, Kingston, Canada.
Warren, Prof. W. H., M.I.C.E., Sydney University, Sydney, N.S.W.
Yamakawa, G., M.E., DR.E., Imperial University, Tokyo, Japan.
Zegers, Luis, The University, Santiago, Chili.

Publications—Electrical & Scientific.

F.—Publications—électr. et scient.
G.—Veröffentlichungen—elekt. und wissenschaftliche.

Australasian Hardware & Machinery (monthly; ann. sub., 5*s.*), Fink's-bldgs., 8, Elizabeth-st., Melbourne, Victoria.
AUSTRALIAN MINING STANDARD, ELECTRICAL RECORD & FINANCIAL REVIEW (weekly; ann. sub., £1 10*s.*), 31, Queen-st., Melbourne, Victoria; & 12, O'Connell-st., Sydney, N.S.W. *See advt., page* 836.

Publications—Electrical & Scientific —*continued.*

Boletin de Minas Industria y Construcciones, Lima, Peru.

Building, Engineering & Mining Journal (weekly), Sun-bldg., Queen-st., Melbourne, Victoria; Post-office-chbrs., Pitt-st., Sydney; & Adelaide, Brisbane & Hobart. (Ann. sub., 26*s.*)

Canadian Contract Record (weekly), Confederation Life-bldgs., Toronto, Ontario, Canada. (Ann. sub., $2.)

Canadian Electrical News & Engineering Journal (monthly; ann. sub., $1.00), Confederation Life-bldg., Toronto, Canada.

Canadian Engineer (monthly; price, single copies, 15 cents; $1 per ann. Can., Gt. Britain & U.S., & 7*s.* per ann. Foreign), 62, Church-st., Toronto, Canada.

Canadian Hardware & Metal (weekly), 10, Front-st., Toronto; & Montreal, Canada.

Canadian Machinery & Manufacturing News, Toronto & Montreal, Canada.

Canadian Manufacturer (1st & 3rd Friday of each month; price, P.U., 10*s.* post paid), McKinnon-bldg., Toronto, Canada.

Denki-No-Tomo (*The Friend of Electricity*), monthly, 6, Minami, Kinrokucho, Kyobashiku, Tokyo.

Indian & Eastern Engineer (monthly; ann. sub., Rs. 10), 14, Clive-st., Calcutta; & 50, Fenchurch-st., London, E.C.

Indian Electrical, Mechanical & Textile News, 16, Parsee Bazaar-st., Fort, Bombay. (Ann. sub., 9 Rs.)

Indian Engineering, 6, Mission-row, Calcutta. (Ann. sub., 31 Rs.)

Indian Textile Journal (monthly; ann. sub., Rs. 9), Medows-st., Bombay; & London.

Ingenieria, La (bi-monthly, ann. sub., 26*s.*), 230, Florida, Buenos Ayres.

Journal of the South African Association of Engineers, 191 & 192, New Stock Exchange (P.O. Box 1818), Johannesburg. (Single copies, 3*s.* 6*d.*)

Revista Industrial e Mercantil, Pernambuco, Brazil.

Revista Maritima Brazileira (monthly), rua do Conselheiro Saraiva 12, Rio de Janeiro.

Victoria Electrical & Telegraphic Journal (price 3*d.* monthly), G.P.O., Melbourne, Victoria.

Publishers of Electrical & Scientific Books.

F.—Librairie et Editeurs de livres élec. et scient.

G.—Verleger von elektr. und wissenschaftliche Büchern.

Darter Bros. & Co., (P.O. Box 174), Cape Town.

Etchepareborda, Agustin, 359, Tacuari, Buenos Ayres.

Miller, T. M., Adderly-st., Cape Town.

Thacker & Co., Ltd., 27, Esplanade, Bombay.

Thacker, Spink & Co., 5 & 6, Government-pl., Calcutta, India.

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Railways & Tramways—Electric.

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For particulars, see ELECTRICITY WORKS.

Adelaide Tramways. *To be converted to electric.*

Alberta Railway Co., Lethbridge, N.W.T., Canada.

Alexandersfontein Tramways.

Alexandria Ramleh Railway Co., Ltd., Alexandria, Egypt.

Alexandria Tramways, Alexandria, Egypt.

American Korean Electric Railway, Seoul, Korea.

Anglo-Argentine Tramway, Victoria 724, Buenos Ayres.

Ascuncion Tramways, Ascuncion, Paraguay. *To be converted to electric.*

Auckland Electric Tramways Co., Auckland, N.Z.

Bahia Tramways. *To be electrified.*

Ballarat Tramways.

Baltimore Railway & Coal Co., Baltimore, Albert Co., N.B.

Bangkok Tramways, Bangkok, Siam.

Batavia Elektrische Tram-Maatschappij, Batavia, Java.

Baturite Railway, Fortaleza, Ceará, Brazil.

Bay of Quinte Electric Railway Co., Deseronto, Ont., Canada.

Beaconsfield Tramways, Beaconsfield, Tasmania.

Beira & Mashonaland & Rhodesia Railways, Buluwayo, Rhodesia. Resident engineer: C. Corner.

Belt Line Railway Co., Montreal, Canada.

Bendigo Tramways, Bendigo, Victoria.

Berlin & Waterloo Street Railway, Berlin, Ont.

Bloemfontein Tramways. *Concession fallen through.*

Bout d'Elle Railway, Montreal, Canada.

Bombay Tramways.

Brantford & Hamilton Railway. *Not yet constructed.*

Brantford Street Railway, Brantford, Ontario.

Brisbane Tramways, Brisbane, Queensland.

British Columbia Electric Railway Co., Ltd., Vancouver, Victoria & New Westminster, British Columbia.

Buckingham Electric Railway Co., Buckingham, Que., Canada.

Buenos Aires Southern Tramway Co., Buenos Aires.

Buenos Ayres & Belgrano Electric Tramways, Santa Fé 4178, Buenos Ayres.

Buenos Ayres Electric Tramways, Rivera 121, Buenos Ayres.

Buenos Ayres Grand National Tramways Co., Ltd., Avenido Mayo 761, Buenos Ayres.

Railways & Tramways—Electric—*contd.*

Burma Electric Tramways & Lighting Co., Ltd., Mandalay, Burma.
Cairo Electric Tramway, Cairo, Egypt.
Cairo Metropolitan Electric Railway & Heliopolis Oasis Co., Cairo, Egypt.
Calais Electric Railway Co., Calais, N.B., Canada.
Calcutta Tramways Co., Ltd., Calcutta, India.
Camaguey Electric Tramway. *Not yet constructed.*
Camp's Bay Electric Tramways, Cape Town.
Canada Central Railway. *To be constructed.*
Canton-San Wu Railway. *Not yet constructed.*
Cape Breton Tramway Co., Sydney, N.S., Canada.
Cape Electric Tramways, Ltd., Cape Town.
Caracas Tramways, Caracas, Venezuela. *To be electrified.*
Cargill Tramways, Cargill, Ont., Canada.
Cawnpore Tramways, Cawnpore, India.
Chambers Electric Light & Power Co., Truro, N.S., Canada.
Chateaugay & Northern Counties Railway Co., Montreal, Canada.
Chatham City & Suburban Railway Co., Chatham, Ont., Canada.
Chatham, Wallaceburg & Lake Erie Railway Co., Chatham, Ont., Canada.
Chatham & Windsor Railway, Ont., Canada. *To be constructed.*
Chilian Electric Tramway & Light Co., Ltd., P.O. Box 1557, Santiago, Chili.
Christchurch Tramway Board, Christchurch, N.Z.
Colombo Electric Tramways, Colombo, Ceylon.
Compañia de Tramways Anglo-Argentina, Ltd., Victoria 724, Buenos Ayres.
Cornwall Electric Railway Co., Cornwall, Ont.
Costa Rica Electric Light & Traction Co., Ltd., San José; & Cartago, Costa Rica.
Damascus Tramways. *Under construction.*
Delagoa Bay Electric Tram Co.
Delhi Tramways. *To be constructed.*
D'Israeli Tramways, D'Israeli, Que., Canada.
Dunedin City Tramways, Dunedin, N.Z.
Durban Municipal Tramways, Durban, Natal.
East Indian Railway Co., Calcutta, India.
East London Municipal Tramways, East London, Cape Colony.
Edmonton Electric Railway Co., Edmonton, N.W.T., Canada.
Edmonton Town Tramways, Edmonton, N.W.T., Canada.
Egerton Tramway Co., Hamilton, Ont., Canada.
Empresa de Tranvia Electrica Lima y Callao, Lima, Peru.
Empresa de Tranvia Electrica Lima y Chorrillos, Lima, Peru.
Esquimault & Nanaimo Railway Co., Nanaimo, B.C., Canada.
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Fort William Electric Railway, Ontario. *To be constructed & leased to Mount McKay & Kakabeka Electric Railway.*

Railways & Tramways—Electric—*contd.*

Fremantle Municipal Tramways, Fremantle, Western Australia.
Galt, Preston & Hespeler Street Railway, Galt, Ontario.
Georgetown Tramways, Georgetown, Demerara.
Georgetown Tramways, Georgetown, Penang. *To be converted to electric.*
Grand Valley Railway Co., Brantford, Ont., Canada. *Lines under construction.*
Guatemala Tramways. *To be electrified.*
Guelph Radial Railway Co., Guelph, Ont., Canada.
Halifax Electric Street Railway Co., Halifax, N.S., Canada.
Halifax Electric Tramway Co., Ltd., Halifax, N.S.
Hamilton & Barton Electric Railway Co., Hamilton, Ont., Canada.
Hamilton Cataract Power, Light & Traction Co., Ltd., Hamilton, Ont., Canada.
Hamilton, Chedoke & Ancaster Railway Co., Hamilton, Ont., Canada.
Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Ontario, Canada.
Hamilton Radial Electric Railway, Hamilton, Ont., Canada.
Hamilton Street Railway, Hamilton, Ont.
Hanshin Electric Railway, Amagasaki; & Mikage, Japan.
Havana Electric Railway Co., Havana, Cuba.
Hobart Electric Tramway Co., Ltd., Hobart, Tasmania.
Hong Kong Tramways (Electric Traction Co. of Hong Kong, Ltd.).
Honolulu Rapid Transit & Land Co., Honolulu, Hawaiian Islands.
Hull Electric Railway Co., Hull, Que., Canada.
Indwe Electric Railway, Indwe, Cape Colony.
Ingersoll Radial Electric Railway Co., Ingersoll, Ont., Canada.
International Railway Co., Niagara Falls, Ont., Canada.
International Transit Co., Sault Ste. Marie, Ont., Canada.
Ipswich, Queensland. Queensland Govt. Rly. Dept., prop. *Under construction.*
Ise Electric Railway, Yamada, Ise, Japan.
Johannesburg Municipal Tramway, Johannesburg, Transvaal.
Kalgoorlie Electric Tramways, Ltd., Maritana-st., Kalgoorlie, Western Australia.
Keihin Electric Traction Co., Ltd., Kawasaki. Kanagawa-ken, Japan.
Kew-St. Kilda Tramways. *To be constructed.*
Kimberley & Beaconsfield Tramways.
Kingston Corporation Tramways, Kingston, Ont., Canada.
Kingston, Portsmouth & Cataraqui Street Railway Co., Kingston, Ontario.
Kingston Tramways, West India Electric Co., Ltd., Kingston, Jamaica.
Kobe & Osaka Railway, Kobe, Japan.
Kyoto Electric Traction Co., Higashikujo, Kyoto, Japan.

Railways & Tramways—Electric—*contd.*

La Capital Electric Tramway Co., Avenida de Mayo 761, Buenos Ayres.
Lacroze Tramway Co., calle Corrientes, Buenos Aires.
Lake Erie & Detroit River Railway Co., Walkerville, Ont., Canada.
La Paz Tramways, La Paz, Bolivia.
La Plata & Ensenada Tramway. *To be electrified.*
La Plata Tramways, La Plata, Buenos Ayres.
Launceston Tramways. *Under consideration.*
Levis County Railway Co., Levis, Que., Canada.
Lima, Peru. *Tramway to be constructed.*
Liverpool Marine Electric Railway Co., Liverpool, N.S., Canada.
London, Aylmer & North Shore Electric Railway Co., Aylmer, Ont., Canada.
London, St. Thomas, Port Stanley Railway, Ont., Canada. *Under construction.*
London Street Railway Co., London, Ontario.
Longueuil-Montreal Railway. *Not yet constructed.*
Lourenço Marques Tramways, Lourenço Marques, Delagoa Bay.
Lourens River Estates, Ltd. *Electric tramway under construction.*
Lundy's Lane Electric Railway Co., St. Catherine's, Ont., Canada.
Madras Electric Tramways (1904), Ltd., Madras, India.
Malta Tramways.
Malvern & Prahran Tramways. *Under consideration.*
Manaos Tramways, Manaos, Brazil.
Mandalay Tramways, Burma Electric Tramways & Lighting Co., Ltd., Mandalay, Burma.
Melbourne (North)-Essendon-Flemington Tramways.
Merriton & Thorold Electric Railway Co., Thorold, Ont., Canada.
Mexico City (Electric) Street Tramway Co., Mexico.
Mexico Electric Tramways, Ltd., Mexico City.
Moncton Street Railway Co., Moncton, N.B., Canada.
Monte Video, Uruguay. United Electric Tramways, props.
Montreal-Orrillia Railway. *Not yet constructed.*
Montreal & Southern Counties Railway Co., 112, St. James-st., Montreal, Que., Canada.
Montreal Street Railway Co., Montreal, Canada.
Montreal Suburban Tramway & Power Co., Street Railway-chbrs., 574, Craig-st., Montreal, Canada. Manager, W. S. Ross. *Under construction.*
Montreal Terminal Railway, Montreal, Canada.
Mount Royal Park Traction Railway Co., Montreal, Canada.
Nagoya Electric Railway, Nagoya, Japan.
Nanaimo Alberni Railway Co., Nanaimo, B.C., Canada.
Nankai Railway (Osaka-Wakayama), Japan. *Under construction.*
Natal Government Railways, Durban, Natal.

Railways & Tramways—Electric—*contd.*

Nelson Electric Tramways Co., Ltd., Nelson, B.C.
New Glasgow Elec. Railway, New Glasgow, N.S., Canada.
New Tramway Co., Avenida de Mayo 761, Buenos Aires.
Niagara Falls Park & River Railway, Niagara Falls, Ont., Canada.
Niagara, St. Catherine's & Toronto Railway Co., St. Catherine's, Ont., Canada.
North Shore Electric Railway Co., Three Rivers, Que., Canada.
North Vancouver & Moodyville Tramway, North Vancouver, Canada.
Odawara Tramways, Odawara, Japan.
Osaka-Nara Railway. *Not yet constructed.*
Osaka Tramways. Osaka Electric Light Co., 60, Gochome, Nakanoshima, Osaka, Japan.
Oshawa Railway, Oshawa, Ontario.
Ottawa Electric Railway, Ottawa, Canada.
Penang Municipal Tramways, Malay States.
Penetang & Midland Electric Street Railway & Power Co., Ltd., Penetang, Ont., Canada.
Penetanguishene & Midland Electric Street Railway, Penetanguishene, Ont., Canada.
Pernambuco Tramways. *To be converted to electric.*
Perth Electric Tramways, Barrack-st., Perth, Western Australia.
Perth Tramways, Perth, Ont., Canada.
Peterborough & Chemong Railway Co., Peterborough, Ont., Canada.
Peterborough Radial Railway Co., Peterborough, Ont.
Peterborough Tramways, Otonabee Power Co., Peterborough, Ont., Canada.
Pietermaritzburg, Natal, Corporation Tramways.
Pilgrim's Rest Tramway, Lydenburg, Transvaal.
Port Arthur Corporation Electric Street Railway, Port Arthur, Ont., Canada.
Port Dalhousie, St. Catherine's & Thorold Electric Street Railway Co., St. Catherine's, Ontario, Canada.
Port Elizabeth Electric Tramways Co., 4, Main-st., Port Elizabeth, South Africa.
Pretoria Corporation. *Tramways under consideration.*
Quebec Railway, Light & Power Co., Que., Canada.
Rangoon Tramways.
Rio de Janeiro Tramways.
Rosario Tramways.
Roslyn Town Council Tramways, Roslyn, N.Z.
Rossland & Sophie Mountain Electric Railway Co.
St. Catherine's Electric Street Railway Co., St. Catherine's, Ont., Canada.
St. Hyacinthe Electric Railway Co., St. Hyacinthe, Que., Canada.
St. John Railway Co., St. John, N.B.
St. John's Street Railway Co., St. John, Newfoundland.
St. John's Tramways. Reid Newfoundland Co., St. John's, Newfoundland.

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St. Kilda-Brighton Tramway.
St. Mary's & London Railroad. *Not yet constructed.*
St. Thomas Street Railway Co., St. Thomas, Ont., Canada.
San Juan Tramways, San Juan, Porto Rico.
Sandwich, Windsor & Amherstberg Railway, Windsor, Ont., Canada.
Santos Tramways, Santos, Brazil.
Sanyo Railway Co., Kobe, Japan.
São Paulo Tramway, Light & Power Co., São Paulo, Brazil.
Sarnia Street Railway Co., Sarnia, Ont.
Sault Ste. Marie Tramway (The Lake Superior Power Co.), Sault Ste. Marie, Ont., Canada.
Schomburg & Aurora Railway Co., Aurora, Ont., Canada.
Shawinigan Water & Power Co.'s Tramway, Montreal, Canada.
Sherbrooke Street Railway Co., Sherbrooke, Que., Canada.
Singapore Municipal Tramways, Singapore, Straits Settlements.
Smith's Falls, Rideau & Southern Railway Co., Smith's Falls, Ont., Canada. *Not yet constructed.*
Sobral Railway, Sobral, Brazil.
Société Anc. des Tramways d'Alexandrie, Alexandria, Egypt.
Société Anonyme des Tramways Electriques de Teneriffe (Iles Canaries) & Extensions, Teneriffe, Canary Isles.
South Essex Electric Railway Co., Amherstburg, Ont., Canada.
South Western Traction Co., London, Ont., Canada.
Strand Electric Lighting Co., Sydney, N.S.W.
Sudbury Mineral & Timber Electric Railway Co., Sudbury, Ont., Canada.
Sydney & Glace Bay Railway Co., Sydney, N.S., Canada.
Sydney Government Tramways, Sydney, N.S.W.
Sydney Tramways (Cape Breton Electric Co.), Sydney, N.S., Canada.
Tokyo Electric Tramway Co., Tokyo, Japan.
Tokyo Metropolitan Street Railway Co., 3, Yurakucho, Sanchome, Kojimachi, Tokyo, Japan.
Toronto Railway Co., Toronto, Ont.
Toronto Suburban Street Railway Co., Toronto Junction, Ont.
Toronto & York Radial Railway, Toronto, Can.
Toyohashi Tramways (Toyohashi Electric Light Co., Ltd.), Toyohashi, Japan.
Trinidad Electric Co., Ltd., Port of Spain, Trinidad.
Valparaiso-Santiago Electric Railway. *Not yet constructed.*
Vancouver & Lulu Island Railway.
Victoria & Esquimault Electric Railway Co.
Weedon Tramways (St. Francis Hydraulic Co.), Weedon, Que., Canada.
Wellington Municipal Electric Tramways, Wellington, N.Z.

Railways & Tramways—Electric—*contd.*

Whitley Park Electric Railway Co., Whitley, Ont., Canada.
Windsor, Essex & Lake Shore Railway Co. *Not yet constructed.*
Windsor & Tecumseh Elec. Railway Co., Walkerville, Ont., Canada. *To be commenced shortly.*
Winnipeg Electric Street Railway Co., Winnipeg, Manitoba.
Winnipeg, Selkirk & Lake Winnipeg Railway, Winnipeg, Man., Canada.
Woodstock Street Railway Co. *Controlled by Grand Valley Railway Co.*
Woodstock, Thames Valley & Ingersoll Electric Railway Co., Woodstock, Ont., Canada.
Yarmouth Street Railway Co., Ltd., Yarmouth, N.S., Canada.
Yokohama Electric Tramway Co., Ltd., Yokohama, Japan.

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Lindenberg, Nellen & Co., 434, calle Alsina, Buenos Ayres.
Montreal Car Wheel Co., Montreal, Quebec.
Orenstein & Koppel (P.O. Box 1716), Grusonwerk-bldgs., Marshall-sq., East Johannesburg, Transvaal.

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Auckland Technical School, Auckland, N.Z. G. George, principal.

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Calcutta University, Calcutta, India. The Hon. Mr. W. A. Inglis, president Faculty of Eng.

Civil Engineering College, Seebpore, Howrah, Bengal. B. Heaton, principal; W. H. Everett, prof. of electrical & mechanical engineering.

College of Engineering, Madras, India. Col. H. D. Love, R.E., principal; W. H. James, B.SC., M.I.M.E., A.M.I.C.E., prof. of Eng.

College of Science (A. W. Thomson, D.SC., acting principal), Poona, India.

College of Science & Engineering, Kyoto Imperial University, Kyoto, Japan. Director, Prof. Mitsuru Kuhara, PH.D., D.SC.

Gordon Technical College, Geelong, Victoria.

Ipswich Technical College, Ipswich, Queensland. Principal, R. A. Wearne, B.A.

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McGill University, Montreal, Canada. Prof. of Electrical Engineering, R. B. Owens, M.A., D.SC., M.AM.I.E.E.

Melbourne Electrical Engineering School, Mercantile-chbrs., Collins-st., Melbourne, Victoria. Principal, Prof. A. H. Jackson, B.SC.

Otago University, Dunedin, New Zealand.

Presidency College, 1, College-sq., Calcutta, India (Prof. J. C. Bose, Phys. Science).

School of Mines & Industries, North-ter., Adelaide, South Australia.

School of Practical Science (professor of Electrical Engineering, T. R. Rosebrugh, M.A.), Toronto.

Science & Engineering College, Imperial University, Kyoto, Japan.

South African College, Cape Town. Prof. H. Bohle, A.M.I.E.E., professor of electrotechnics.

Stawell School of Mines, Art, Industry & Science, Stawell, Victoria.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Sydney Technical College, Harris-st., Ultimo, Sydney, N.S.W. Lecturer on Electrical Engineering, R. C. Simpson, A.K.C., A.M.I.E.E.

Sydney University, Sydney, N.S.W. Professor of Engineering, W. H. Warren, WH.SC., M.I.C.E.; professor of Chemistry, Archibald Liversidge, M.A., LL.D., F.R.S.

Thomason College, Roorkee, India. Major E. H. de V. Atkinson, R.E., principal; F. W. Sedgwick, M.A., A.M.I.E.E., professor of Experimental Science.

Tokyo Higher Technical School, Kuramaye, Tokyo.

Tokyo Imperial University, Hongo, Tokyo, Japan. O. Asano, DR.E., M.E., M.I.E.E., professor of Electrical Engineering.

Toronto Technical High School, Toronto. J. W. McBean, B.A., director of Department of Physics including Electricity.

Trinity College (Thomas Parnell, B.A., instructor in Electricity & Magnetism), Melbourne, Victoria.

University of Adelaide, Adelaide, S. Australia. Professor of Chemistry, E. H. Rennie, D.SC., F.C.C.; lecturer in Engineering, R. W. Chapman, M.A., B.C.E., Melb.

University of Melbourne, Melbourne, Victoria. W. C. Kernot, M.A., C.E., F.R.G.S., prof. of Eng.

Victoria Jubilee Technical Institute, Byculla, Bombay.

Working Men's College, Latrobe-st., Melbourne, Victoria. Instructor in Electricity & Electrical Engineering, Wilfrid N. Kernot, B.C.E.

Scientific Apparatus—Makers of.

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G.—Wissenschaftliche Instrumente—Fab. von.

Tornaghi, R., Minerva Chambers, 126, Pitt-st., Sydney, N.S.W.

Wood, W., & Co., 240, Little Collins-st. East, Melbourne, Victoria.

Societies—Learned & Scientific.

F.—Sociétés—savantes et scientifiques.
G.—Vereine—Gelehrte, Wissenschaftlich, u. Tech.

Australasian Association for the Advancement of Science, The University, Melbourne, Victoria.

Canadian Association of Stationary Engineers, Brockville, Ont., Canada. C. C. Mooring, pres.

Canadian Electrical Association, Toronto, Ont.

Canadian Society of Civil Engineers, Montreal, Canada. Secretary, C. H. McLeod.

Centro Nacional de Ingenieros, Florida 230, Buenos Ayres.

Chemical, Metallurgical & Mining Society of S.A., P.O. Box 4375, Johannesburg, Transvaal.

Electrical Association of New South Wales, 5, Elizabeth-st., Sydney, N.S.W.

Societies—Learned & Scientific—*continued.*

Electrical Association of Queensland, Courier-bldg., Brisbane.
Electrical Association of Victoria, Melbourne.
Electrical Contractors' Association of Province of Quebec, Montreal.
Engineers' Association, Marine Club-bldgs., Singapore, Straits Settlements.
Engineers' Institute, Leith-st., Penang, Straits Settlements.
Institute for Advancement of Australian Invention & Manufacture, 150, Queen-st., Melbourne, Victoria.
Institution of Brazilian Engineers (Club de Engenharia), 22, rua Nova do Ouvidor, Rio Janeiro, Brazil.
Institution of Engineers of the River Plate. Secretary, Ernesto Danvers, M.I.E.E., F.R.G.S., Bartolome Mitre 475, Buenos Ayres.
Instituto de Injenieros, 1072, Huerfanos, Casilla 487, Santiago, Chili.
Japan Electric Assoc. (Nippon Denki Kyokai), 1, Yariyacho Kiobashiku, Tokyo, Japan.
Model Engineers' & Electricians' Society, Queen's Hall, Pitt-st., Sydney, N.S.W.
New South Wales Postal & Electric Telegraph Society, G.P.O., Sydney, N.S.W.
New Zealand Institute, Wellington, N.Z.
Nova Scotian Institute of Science, Halifax, Nova Scotia. H. S. Poole, D.Sc., F.G.S., F.R.S.C., president; A. H. MacKay, LL.D., cor. secretary; H. Piers, rec. secretary & librarian.
Ontario Association of Stationary Engineers, Toronto, Ont.
Queensland Electrical Association, Courier-bldg., Brisbane.
Queensland Post & Telegraph Association, G.P.O., Brisbane, Queensland.
Royal Asiatic Society, Ceylon Branch (H. C. P. Bell, C.C.S., J. Harward, M.A., & G. A. Jeckell, hon. secretaries), Colombo, Ceylon.
Royal Institution of Engineers, Netherlands Indian Section, Batavia.
Royal Society of Canada, 60, Lisgar-st., Ottawa, Canada.
Royal Society of New South Wales, Elizabeth-st., Sydney.
Royal Society of Queensland, Brisbane.
Royal Society of South Australia, Adelaide, S. Australia. G. G. Mayo, C.E., hon. sec.
Royal Society of Tasmania, Hobart.
Royal Society of Victoria, Victoria-st., Melbourne.
Society of Electrical Engineers, Sanjukkenbori Kyobashiku, Tokio, Japan.
South African Association of Engineers, 18, National Bank-bldgs., Johannesburg.
South African Society for the Advancement of Science, Cape Town.
South Australian Electric Telegraph Association, Adelaide, South Australia.
South Australian Institute of Surveyors (Incorporated), 9 & 10, Howard Smith-chbrs., King William-st., Adelaide, South Australia.

Societies—Learned & Scientific—*continued.*

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Victorian Institute of Engineers, 176, Collins-st., Melbourne, Victoria.

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Buchanan, Forsyth & Co., Johannesburg.
Cairncross & Zillen, 155, Church-st., Pretoria.
Canovas y Moglia, 929-931, calle Cuyo, Buenos Ayres.
Cave, H. W., & Co., Colombo, Ceylon.
Central Electric & School Supply Co., Ltd., 36, Adelaide West, Toronto, Ont., Canada.
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Clarke & Macdonald, Metropole-bldg., Halifax, N.S., Canada.
Colombo Apothecaries Co., Ltd., Colombo, Ceylon.
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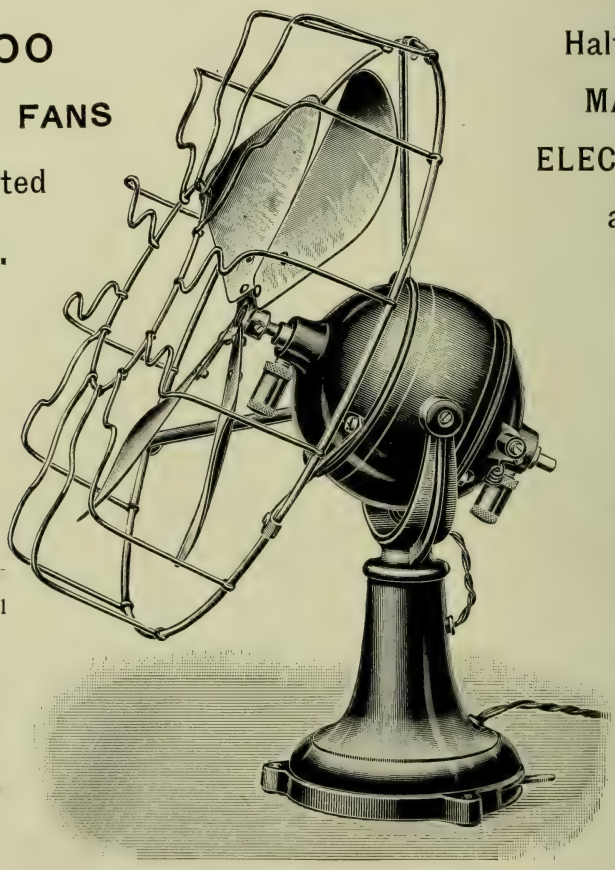

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Electrical Supply Co., Hamilton, Canada.
Ellwood Bros., Maryborough, Queensland.
Escalante, E., e Hijo, Merida, Yucatan, Mexico.
Farquhar Bros., 16, Barrington-st., Halifax, N.S., Canada.
Finchtwanger, S., 9, Pritchard-st., Johannesburg.
Fisher, Fredk., Maryborough, Victoria.
Flower, Jas., & Son, 22 & 47, Castle-st., Cape Town.
Forman, John, 708 & 710, Craig-st., Montreal.
Forrest, J., & Co., 21, Eloff-st. & Madison-st., Japes, Johannesburg, Transvaal.
Francis & Sons, 100, Market-st., Pretoria.
Friedrich, Brandum & Co., 33, Main-st., Fordsburg, Johannesburg, Transvaal.
Ganzo & Co., calle 25 de Mayo 431, Montevideo.
Garrioch, Godard & Co., Ottawa, Ont., Canada.
Gioffi, Regusci & Voulminot, 161B, Zabala, Montevideo.
Greenleaf & Son, Belleville, Ontario, Canada.
Grove, Carlos, 130, calle Ituzaingo, Montevideo.
Gutta, Ciscone F., 157, Sarandi, Montevideo.
Haarhoff, I., 177, Church-st., Pretoria.
Hammond & Co., Kruis-st., Johannesburg.
Hart, F. W., & Co., Burnie, Tasmania.
Hart, W., & Sons, 132, Charles-st., Launceston, Tasmania.
Haupt, Biehn & Co., rua da Alfandega 53, Rio de Janeiro, Brazil.
Hawkins, H. C., & Co, Loveday-st., Johannesburg, Transvaal.
Hicks, T. L., 139, Church-st., Toronto, Ont., Canada.
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Hirsch Bros., Melbourne, Victoria.
Hockley & Co., Ltd., Adelaide-st., Maryborough, Queensland.
Hogg, David, & Co., 236, Bolivar, Buenos Ayres.
Horishōten, 32, Ichōme, Motomachi, Kobe, Japan.
Huber, A., & Co., 49, Strada Vescovo, Valetta, Malta.
Hubido, Dargon & Cie., 6, rue Tewfik 1er, Alexandria, Egypt.
Jack, John, Ltd., 90 & 204, Church-st., Pretoria, Transvaal.
Jones & Moore Electric Co., 22, Adelaide-st. West, Toronto, Canada.
Koppel, Arthur, Chareh Cherifein, Cairo, Egypt.
Lassetter, F., & Co., Ltd., George-st., Sydney.
Lazarus, J. S., & Co., 45, Market-st., Johannesburg, Transvaal.
Lee, H. S., 94-96, Skipton-st., Ballarat, Victoria.
Loriaux, L., Batavia.

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Macintosh, John, & Sons, 307 & 276, Pitt-st., Sydney, N.S.W.
Marsh, H. J., & Co., Murray & Collins-sts., Hobart, Tasmania.
Mather, S. A., Flinders-st., Townsville, Queensland.
Mechanics Supply Co., Quebec, Canada.
Meyers, Ed., 156, Church-st., Pretoria, Transvaal.
Millen, John, & Sons, Montreal & Toronto.
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Moreira, Barbosa, & Co., rua do Ouvidor 51, Rio de Janeiro, Brazil.
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Ogston & Co., Marshall-st., Jeppes, Johannesburg.
Paul & Gray, Ltd., Eagle-st., Brisbane; & Sydney, N.S.W.
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Rice Lewis & Son, Ltd., Toronto, Canada.
Rogers Electric Co., 114, Bay-st., Toronto; & 425, Richmond-st., London, Ont.
Schelp & Schelp, 375, Balcarce, Buenos Ayres.
Sievers, J. H., High-st., Golden-sq., Bendigo, Victoria.
Silberberg, E., & Co., 18, Barrack-st., Sydney, N.S.W.
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Tamin, J., place Ataba el Khadra, Cairo, Egypt.
Tiffin, H., & Son, Cathcart-rd., Queenstown, Cape Colony.
Vail, L. A., 284, Post Office-pl., Melbourne.
Vandam, A. & C., Hoskens-bldgs., Government-sq., Johannesburg, Transvaal.
Wagner, Emilio, calle Coca 76, Lima, Peru.
Walker, Jas., 378-380, Little Collins-st., Melbourne, Victoria.
Walker, V. E., 94, Little Collins-st., Melbourne, Victoria.
Warren, J. F., Hargreaves-st., Bendigo, Victoria.
Williams, W. C., 3 & 5, Victoria-ave., S. Melbourne, Victoria.
Wright, G. A., Henry-st., Fremantle, West Australia.
Zarrabeitia, J. M., 11, Mercaderes-st., Havana, Cuba.

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F.—Fournitures électriques—Fab. de.
G.—Bedarfsartikel—Electrische.—Fabr.

Allgemeine Elektricitäts Ges. of Berlin, O'Reilly 67, Havana, Cuba.
Nichiden Co., 23, Yamashitacho, Kyobashiku, Tokyo, Japan.

Switch Manufacturers—Electric.

F.—Commutateurs elec.—Fab. de.
G.—Schalter—Elektrische.

Dorman & Smith, Ordsal Electrical Works, Salford, England. Selling agent for Australia, Oswald Haes, 56, Margaret-st., Sydney, N.S.W.
Foss, Geo. F., Sherbrooke, Que.
Hill Electric Switch Co., Ltd., 426, St. Paul-st., Montreal, Canada.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London.") *See* SWITCH MANUFACTURERS—ELECTRIC, BRITISH DIVISION.

Telegraph Agents.

F.—Agents pour télégraphie.
G.—Agenten—Telegraphen.

Grevilles Telegram Co., Pitt-st., Sydney, N.S.W.
Havas Agency, San Martin 326, Buenos Ayres.
Havas Telegraphic Agency, 97, rua Ouvidor, Rio de Janeiro.
Manders, Albert S., & Co., 137, Swanston-st., Melbourne, Victoria.

Telegraph Apparatus Makers.

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King, F. G., 85, Eveleigh-st., Redfern, N.S.W.
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Telegraph & Cable Companies.

F.—Télégraphes et Cables—Compagnies de.
G.—Telegr. & Kabel Gesellschaften.

African Direct Telegraph Co., Ltd., G. R. Scovell, supt., Sierra Leone, West Africa.
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Canadian Pacific Railway Company's Telegraph, Montreal, Canada. J. F. Richardson, superintendent, Toronto.
Central & S. American Telegraph Co., Guayaquil, Ecuador.
Compañia Telegrafica del Rio de la Plata, Calle San Martin, 287–91, Buenos Ayres.
Dominion Telegraph Co., 2, Toronto-st., Toronto, Canada.
Eastern Extension Australasia & China Telegraph Co., Broome, Roebuck Bay, Western Australia.

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Eastern Extension Australasia & China Telegraph Co., Ltd., King William-st., Adelaide, S. Australia. Supt., L. Webster.
Eastern Extension, Australasia & China Telegraph Co., Moirs-chbrs., St. George's-ter., Perth, Western Australia.
Eastern Extension, Australasia, & China Telegraph Co., William Warren, manager in Australasia, Equitable-bldgs., corner Elizabeth & Collins-sts., Melbourne, Victoria.
Eastern Extension Telegraph Co., A. Y. Gahagan, manager, Singapore.
Eastern Extension Telegraph Co., Ltd., Wm. Segrave, J.P., superintendent, Flinders, Victoria, Australia.
Eastern & South African Telegraph Co., Ltd. P. Tait, supt., Cape Town, South Africa.
Great North Western Telegraph Co. of Canada, Toronto, Canada.
Halifax & Bermudas Cable Co., Ltd., Halifax, Nova Scotia; & Hamilton, Bermuda.
Imperial Chinese Telegraphs, Shanghai. F. N. Dresing, chief supt. & foreign adviser.
Indian Government Telegraph Department. Director-general, F. G. Maclean, C.I.E.; deputy director-general, A. B. Larkins.
Montreal Telegraph Co., Montreal, Canada.
North-American Telegraph Co., Deseronto, Canada.
Oriental Telegraph Co., Calle Sarandi 171A, Montevideo.
Pacific & European Telegraph Co., San Martin 287–291, Buenos Ayres.
River Plate Telegraph Co., Ltd. (John Oldham, manager, Buenos Ayres), Montevideo & Buenos Ayres, S. America.
West Coast America Telegraph Co., L. M. Gilbert, agent, Lima.
Western & Pacific & European Telegraph Cos., H. B. Greenwood, Mendoza, Buenos Ayres.
Western Telegraph Co., W. B. Chaplin, Desterro, Santa Catharina, Brazil.
Western Telegraph Co., 146, Cerrito, Montevideo.
Western Telegraph Co., C. I. Davidson, superintendent, Rio Grande do Sul, Brazil.

Telegraph & Telephone Supplies.

F.—Télégraphes et Téléphones—Fournitures pour.
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Callender Telephone Exchange Co., Ltd., Brantford, Ont.

Telephone Companies.

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Bell Telephone Co. of Canada, Ltd., 1760, Notre Dame-st., Montreal, Canada.
Bengal Telephone Co., Ltd., Calcutta, India.
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Centro Telephonico da Bahia, 1, rua do Arcebispo, Bahia, Brazil.
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Compañia de Telefonos de Santa Fé, Santa Fé, Argentine Rep.
Curaçao Telephone Co., Curaçao, Dutch West Indies.
Empreza Telefonica de Michoacan, Morelia, Mexico.
Empreza Telephonica Paraense, Para, Brazil.
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Mutual Telephone Co., Ltd., Honolulu, H.I.
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Oriental Telephone & Electric Co., Ltd., 7, Pollock-st., Calcutta; Bombay; Madras; Rangoon; Singapore; Moulmain; & Port Louis, Mauritius.
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Yokohama Electric Wire Co., Ltd., 19, Takashimacho Kuchome, Yokoahma, Japan.

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A. E. G. Societate Generala Româna de Electricitate Pe Actiuni, Fundatiunea Universitară "Carol 1," Bucharest, Roumania. (Telegs.: "Algem, Bucharest.")

A. E. G. Thomson-Houston Iberica, Ronda Universidad 22, Barcelona (Telegrams: "Elektron, Barcelona." Telephone No. 348); & Carrera de San Jerónimo 42, Madrid. (Telegrams: "Gea, Madrid.")

A. E. G. Thomson-Houston Società Italiana di Elettricità. Head office: Piazza Borghese 3, Rome, Italy (Telegrams: "Allgetom," to all branches. Teleph. No. 177); piazza Castello 5, Milan (Teleph. No. 2026); also at piazza Corvetto 1–5, Genoa (Teleph. No. 2190); via S. Vicenzino 16, Milan (Teleph. No. 1609); corso Re Umberto 12, Turin, Italy (Teleph. No. 763); piazza del Borsa 29–30, Naples (Teleph. No. 737); via del Clementino 101, Rome (Teleph. No. 3921); San Marco 1493, Venice (Teleph. No. 795); & via Argentieri 34, Messina. (Teleph. No. 275.)

A. E. G. Union Electrique (Soc. Anon.), electric light & power contractors, 156, rue Royale, Brussels.

A. E. G. Union Elektricitäts-Gesellschaft, Gumpendorferstr. "Rahlhof," Vienna VI/I. (Teleph. Nos. 4235 & 9631.)

Aachener Hütten-Actien-Verein, telegraph wire manufacturers, Rothe Erde, nr. Aix-la-Chapelle, Prussia.

Aarhus Electricitetsverk, light, power & tramway. Manager, E. Gunst, Aarhus, Denmark.

Aarstad, T. I., superintendent Norwegian Telegraphs, Egersund, Norway.

Abatschin & Orloff, electrical agents, Miasnitzkaya, Moscow, Russia.

Abegg, Prof. Dr. R., editor of *Zeitschrift für Elektrochemie & Angew. Physikal. Chemie*, 4, Landsbergstr., Breslau, XVIII. (Teleph. No. 9096.)

Abild, S., engineer in chief, Norwegian Telegraphs, Christiania.

Aboilard, G., & Cie., manufacturers of telephone apparatus, 46, ave. de Breteuil, Paris. (Telephone No. 707–14.)

Abraham, J., all requisites for electrical engineers, phonographs, &c., Gleditschstr. 35, Berlin, W. 30.

Abrahamsohn, Robert, electrical measuring instrument maker, Kantstr. 24, Charlottenburg, Berlin. (Telegs.: "Abrahamsohn, Charlottenburg." Teleph. No. 2115.)

Abrahamson, M. A., A.M.I.E.E., 11, Nordvestrej, Copenhagen N., Denmark.

Académie des Sciences, Institut de France (G. Darboux & M. Berthelot, secs.), 23, quai Conti, Paris.

Académie des Sciences (Comptes Rendus des Séances), 55, quai des Grands Augustins, Paris.

Académie royale des Sciences des Lettres et des Beaux-Arts, Palais des Academies, rue Ducale 1, Brussels.

Accumulateur Aigle (Soc. Anon.), 14, rue Felicien David, Paris.

Accumulateur Heinz (Soc. Anon.), 16, rue Rivay, Levallois (Seine), France.

Accumulateur Max, 33–35, rue Perrier, Levallois (Seine), France. (Teleph. No. 585–78.)

Accumulateur Phenix (Soc. Anon.), accumulator makers, 27, rue Cavé, Levallois-Perret (Seine), France. (Telegrams: "Rondel, Levallois.")

Accumulateur Sec (L.), Soc. Anon., battery makers, rue Bonneels 13, Brussels.

Accumulateurs Tudor, 81, rue St. Lazare, Paris.

Accumulatoren Fabrik Act.-Ges., Kaiserstr. 57, Frankfurt-am-Main.

Accumulatorenfabrik Act.-Ges. Pflügerwerk, Wilhelminenhofstr. 66/69, Oberschöneweide, bei Berlin.

Accumulatoren Fabrik Aktiengesellschaft, Berlin-Hagen i. W., Ingenieur Bureau, Keizersgracht 304, Amsterdam. (Telephone No. 1908.)

Accumulatoren Fabrik A.-G., 31A, Luisenstr., Berlin, N.W. (Telegrams: "Tudorwerk, Berlin." Telephone Nos.: Amt. III., 2945, 2946, 2947.)

Accumulatorenfabrik Aktiengesellschaft (General repräsentanz Wien), makers of the Tudor accumulator, Wipplingerstr. 23, Vienna I. Works: Hirschwang, N.Ö. (Telegrams: "Accumulator, Vienna." Telephone No. 16,522, Vienna; & No. 2, Hirschwang.)

Accumulatorenfabrik Oerlikon, manufacturers of storage batteries, Oerlikon, bei Zürich, Switzerland.

Accumulatoren und Electricitäts Werke Act.-Ges. (vorm. W. A. Boese & Co.), accumulator manufacturers, 154, Koepenickerstr., Berlin, S.O. (Telegs.: "Chronika, Berlin.")

Accumulatorenwerke Oberspree A.-G., Luisenstr. 31A I., Berlin, N.W. 6.

Accumulatoren Werke "Progress," G. m. b. H., Chausseestr. 67, Berlin, N.

Accumulatoren Werke Witten G. m. b. H., Niddastr. 56, Frankfort-a.-M. (Teleph. No. 6917.)

Accumulatorenwerke Zinnemann & Co., makers of accumulators & insulating tape, Stendalerstr. 4, Berlin, N.W. (Telephone, Amt. II., No. 1300.)

Acerboni, C., electrical engineer, S. Marco 96, Venice (Telegrams: "Acerboni, Venezia"); & corso Venezia 37, Milan.

Achilles, E., electrical supplies, 22, Königin Augustastr., Berlin, W.

Acker, Ph., & Cie., reflectors, quai Jemmappes 56, Paris.

Ackere, G. van, electrical engineer, 13, rue Esquermoise, Lille (Nord), France.

Acquedotto De Ferrari Galliera, electrical water power transmissions, via Balbi 2, Genoa, Italy. (Teleph. No. 358.)

Acquedotto & Impianto Elettrico Baragiola, Como, Italy.

Acrocca, Ing. Domenico, electrician, via Viminale 8, Rome.

Actien-Gesellschaft Dynamit Nobel, electric fuses & blasting apparatus, 2, Schauflergasse, Vienna I. (Teleph. Nos. 15674 & 15675.)

Actien-Gesellschaft Emaillierwerke und Metallwaren-Fabriken Austria, metal manufacturers, Spitalwiese 23, Brünn, Austria.

Actien-Gesellschaft für Automatischen Verkauf, electrical engineers & contractors, Neu-Kölln am Wasser 24, Berlin, S.

Actiengesellschaft für Gas & Electricität, vorm. E. von Koeppen & Co., arc lamp pillars, &c., Goebenstr. 16, Cologne. Factories: Cologne, Ehrenfeld.

Act.-Ges. für Gas, Wasser & Elektricitäts Anlagen, Altonaerstr. 7, Berlin, N.W.

Actien-Gesellschaft vormals Joh. Jacob Rieter & Cie., hydraulic engineers, Winterthur, Switzerland.

Adagio, Angelo, electric light contractor, Tolentino (Prov. di Macerata), Italy.

Adams, H. F., electrotechnical engineer, Municipal Works, Stephensonstraat 19, The Hague, Holland.

Adan, J. A., consulting electrical engineer, 33, rue de Flandre, Ghent.

Adaro y Marin, electrical apparatus, Moros 28, Gijon, Spain.

Adler, W., jun., electrical engineer, 90, Buchengasse, Vienna, X.

Adler & Eisenschitz, tool machines, via Principe Umberto 30, Milan, Italy.

Adler, W. H., et Cie., telegraph & telephone apparatus, electric light, Rothenhofgasse 34 & 36, Vienna X., Austria. (Telegrams: "Adlerkomp, Vienna." Telephone Nos. 2423 & 12717.)

Administration Centrale des Télégraphes et des Téléphones, Hôtel des Postes et Télégraphes, Place de la Monnaie, Brussels.

Administration des Eaux et Forêts, light & power supply, Fribourg, Suisse.

Administration Grand-Ducale des Postes, Télégraphes et Téléphones à Luxembourg, Luxembourg.

Adt, Gebr., A. G., insulating material for electrical purposes, Ensheim i.d. Pfalz, Germany.

Aé, Otto, installation contractor, Ammonstr. 18, Dresden, A. (Teleph. No. 1676.)

Aebli, Jacques, agent, Western Union Telegraph Co., Seidengasse 5, Zurich, Switzerland.

Aerens, Ch., electric light installations, rue de Bruges 89, Ghent, Belgium.

Agémian, Mighirditch, chief of the engineer's office, Turkish Posts & Telegraphs, Constantinople.

Agémian, V., contracting electrician, 14 & 16, Ziver bey Han, Galata, Constantinople. Works: 14, Passage du Tunnel, Pera, Constantinople, Turkey.

Agence de Brevets A. Wunderlich & Co., Ltd., engineers & patent agents, ave. rue des Arts 3, Brussels.

Agence Fournier Co., Ltd., telegraph agents, 1, rue de la Bourse, Paris.

Agence Havas, telegraph agents, 13, place de la Bourse, Paris.

Agence Havas et Reuter, telegraph & telephone agents, 8, place des Martyrs, Brussels.

Agence Quiquet, Eug. Quiquet Director, telegraph & telephone information, 27, rue Traversière, Brussels. (Telegrams: "Quiquet, Brussels." Telephone No. 1992.)

Agence Scientifique & Industrielle, electrical apparatus, &c., 53, rue de la Caserne, Brussels.

Agnus, —, electrical engineer, 4, rue Alboni, Paris. (Telephone No. 682-49.)

Agostini, Francesco, agent for electrical apparatus, via Roma 20, Turin. (Telephone No. 207.)

Agotz, Zehnpfund & Co., electric light contractors, Brandenburgstr. 25, Berlin, S.

Agthe, —, electrical engineer, manager of Schlesische Elektricitäts & Gas. Akt.-Ges., Gleiwitz o/Schl, Germany.

Agthe, Ad., general manager of the Riga Electric Tramways Act. Ges. & of Rigaer Häuserbau Act. Ges., 31, Alexanderstr., Riga. (Telegrams: "Tramway, Riga." Telephone No. 876.)

Agüeras, Miguel, electrician, Independencia 17, Zaragoza, Spain.
Aguirre, D. Manuel, engineer, director of the Compa. de Luz Electrica, Granada, Spain.
Ahlberndt, O., electrical apparatus, Heidelbergerstr. 76, Berlin, S.O.
"Ahlemeyer" Compania Anónima de Construcciones é Instalaciones Electro-Mecánicas, Gran Via 50, Bilbao, Spain.
Ahles, K., electrical & consulting engineer, Herdweg 76, Stuttgart.
Ahlsell, Ad., manager, Stockholms Stads Electricitets-verk, Stockholm.
Ahrend, Wed. J., & Zoon, electrical agents, Prins Hendrikkade 20–21, Amsterdam. (Telephone No. 97.)
Ahrendt & Co., electroliers, Alexandrinenstr. 118, Berlin, S.W.
Aichele, A., electrical engineer, Brown, Boveri & Co., Ltd., Baden, Switzerland.
Aicher, A. D., electrical apparatus maker, 87, Schwabstr., Stuttgart, Germany.
Aigner, W., works manager Siemens & Halske Act.-Ges., Erdbergerlände 10, Vienna III.
Akkumulatoren Fabrik Akt. Ges., Berlin, Hohenzollernstr. 63, Breslau, Germany.
Akkumulatoren Fabrik A. G., accumulators of any description, Hagen, Westphalia; & Louisenstr. 31A, Berlin, N.W. 6.
Aktie-Bolag Electron, manufacturers of electrical apparatus, Gothenburg, Sweden.
Aktiebolag Svensk Normaltid, electrical apparatus manufacturers, Klarabergsgatan 58, Stockholm, Sweden.
Aktiebolaget de Lavals Ångturbin, manufacturers of turbine motors, dynamos & pumps, Stockholm. (Telegrams: "Ångturbin, Stockholm.")
Aktiengesellschaft Butzke, makers of telephones, bells, &c., Ritterstr. 12, Berlin, S. (Telephone No. 3901–3906, Amt. IV.)
Aktiengesellschaft der Maschinenfabrik von Escher, Wyss & Co., engineers, Zürich, Switzerland. (Telegs.: "Neumuehle, Zurich." Teleph. No. 3920); & Ravensburg, Germany.
Aktien-Gesellschaft für Apparate und Kesselbau, Stolberg, Rheinland, Germany.
Aktiengesellschaft für Electricitäts-Anlagen, Kanonierstr. 17/20, Berlin, W.
Aktiengesellschaft für Elektricitäts-Anlagen, Cologne, Germany. (Telegrams: "Elektroanlagen, Cologne." Telephone No. 3819.)
Aktien Gesellschaft für elektrischen Bedarf, Neubaugasse 15, Vienna VII. (Teleph. No. 6446.)
Aktiengesellschaft für Elektrotechnik, vorm. Graetzer & Ipsen, 20, Cuvrystr., Berlin, S.O. 33.
Aktien-Gesellschaft für Glasindustrie, vorm. Friedrich Siemens, makers of glass globes for electrical purposes, &c., Freibergerstr. 91, Dresden. (Telegrams: "Glasfabrik, Dresden." Telephone No. 18.)
Aktiengesellschaft für Maschinenbau, vorm. Brand & Lhuiller, Brünn, Austria.
Aktiengesellschaft Mix & Genest, telephone & telegraph works, 67, Bülowstr., Berlin, W. (Telephone Nos. 2752 & 2753, Amt. VI.); London; Hamburg; Cologne; Amsterdam; St. Petersburg; & Moscow. (Telegrams: "Genest, Berlin;" "Genest, London;" "Genest, Hamburg;" "Genest, Cologne.")
Aktien-Gesellschaft Schaeffer & Walcker, makers of lustres for electric light, 18, Lindenstr., Berlin, S.W. (Telegrams: "Gaskronen, Berlin." Telephone No. 1614, Amt. IV.)
Aktiengesellschaft vorm. J. C. Spinn & Sohn, manufacturers of electroliers, Wassertorstr. 9, Berlin, S. (Telegrams: "Spinnbronze, Berlin." Telephone Amt. IV., Nos. 9017 & 2164.)
Aktien Maschinenbau Anstalt, vorm. Venuleth & Ellenberger, mechanical & electrical engineers, Landwizustr. 75, Darmstadt, Germany. (Teleph. No. 15.)
Aktieselskabet Barbu, Arendal, Norway.
Aktieselskabet Bergens Elektriske Sporvei, electric tramway, Bergen, Norway. (Director, A. Falkenberg.)
Aktieselskabet Elektrisk Bureau, electric light & telephone apparatus makers (B. Kolbenstoedt, general manager), Middelthunsgade, 17, Christiania. (Telegrams: "Elektriken, Christiania." Telephone No. 1153.)
Aktieselsk. Kjöbenhavns Patent Bureau (manager, H. Fleischer), Frederiksbergg. 23, Copenhagen K., Denmark.
Albacetense de Electricidad, Postas 4, Albacete, Spain.
Albert, J. W., dealer in electrical toys, 22, Neue Mainzerstr., Frankfort-on-the-Main.
Alberti, O., telegraph contractor, Markt 7, Nordhausen, Germany.
Albertoni, Ing. F. W., officina per Idraulica-Gas-Elettricita, via Aurelio Saffi, 4B, Bologna, Italy.
Albertus, C. V. G., assistant-engineer, Great Northern Telegraph Co., Ltd., Copenhagen, Denmark.
Albini, C., electrical contractor, 4, rue d'Amérique, Nice.
Albors Raduán, Francisco, gas & electrical engineer, Alcoy (Alicante), Spain. (Telegrams: "Albors Raduán, Alcoy.")
Alby Carbidfabriks alteb. Electrochemical Works, Slussplau 63 B., Stockholm. (Telegrams: "Albycarbid, Stockholm.")
Alcañiz, Aquilino, electrical apparatus, Acera de San Francisco 18, Valladolid, Spain.
Alcaz, E., electrical engineer, 61, Faub. St. Denis, Paris.
Alcina y Rainé, Benito, electrical engineer & contractor, 67, Sacramento, Cádiz, Spain.
Aldea, Feliciano, electrical apparatus, Ataulfo 12, Barcelona.

Alder, Victor, chemical products for electrical purposes, 42, Humboldtgasse, Vienna X. (Telegrams: "Alder, Humboldtgasse, Vienna." A.B.C. Code, 5th Edition. Teleph. Nos. 1306, 588, 429 & 9991.)
Aldighieri, Arthur, electrical engineer, Sebenico (Dalmazia), Austria.
Aldrovandi, C., & Co., iron & brass fitters & electric bells installers, via Romei, Ferrara, Italy.
Alewijnse, C., electrical engineer, Waalkade 64, Nijmegen, Holland. (Telephone No. 107.)
Alexander & Cie., dealers in electrical apparatus, 28, rue d'Hauteville, Paris.
Alexeeff, A., electrician, Polotz-Siedletz Railways, Wilna, Russia.
Alexeeff, John G., & Co., engineers & electrical agents, Moscow. (Telegs.: "Dix, Moscow." Teleph. No. 14-26.)
"Alfonso XIII.," Real compania de Electricidad, Segovia, Spain. Marins A. Franc, director.
Algemeene Telephoon-Maatschappij, voorheen Ribbink, Van Bork & Co., manufacturers of electrical apparatus, Keizersgracht 85, Amsterdam. (Teleg.: "Ribbink van Bork, Amsterdam." Teleph. No. 4.)
Alimonda & Burgo, electrical agents, via XX. Settembre 16, Genoa, Italy. (Telegrams: "Burgo, Genoa." Telephone No. 712.)
Alioth, R., electric light engineer, director Société d'Electricité Alioth, Basle, Switzerland.
Alker, C., electrical engineer, 23, rue du Gouvernement Provisire, Brussels.
Allain, F. J. Ch., agent for electricity meters, 235 bis, rue de Vaugirard, Paris.
Allaire, —, electric bells, rue St. Martin 227, Paris.
Allaire, Octave, engineer, 64, rue Gide, Levallois Perret (Seine), France.
Allard et Cie., asbestos manufacturers, 11, rue de la Cérisaie, Paris.
Allemano, Angelo, electrical apparatus, via Riberi 6, Turin, Italy.
Allemano, G., scientific & electrical apparatus maker, Galleria Subalpina, Turin, Italy. (Telegrams: "Allemano, Turin.")
Allez Frères, electrical apparatus, 1, rue St. Martin, Paris.
Allgäuer, Joseph, inspector of telegraphs, Berne, Switzerland.
Allgemeine Beleuchtungs & Heiz Industrie Act. Ges., Dorotheenstr. 42, Berlin, N.W. (Telegrams: "Lucaslicht, Berlin." Telephone I. No. 4914.)
Allgemeine Betriebs-Actiengesellschaft für Motorfahrzeuge, makers of motor carriages, Poststr. 26, Cologne. (Telegrams: "Motor, Cologne." Telephone No. 4535.)
Allgemeine Carbid und Acetylen Gesellschaft, Niederlagstr. 6, Berlin, W. 56.
Allgemeine Electricitäts Ges., turbine manufacturers, Hutten-str., 12/16, Berlin. Manager, O. Lasche.
Allgemeine Electricitäts Gesellschaft, Artilleristr. 29, Hanover.
Allgemeine Electricitäts Gesellschaft, Galernaya 10, St. Petersburg (Telegrams: "Algem, St. Petersburg"); Loubiansky Proïesde 5, Moscow (Telegrams: "Algem, Moscow." Telephone No. 997); Kiew, Charkow, Riga, Wilno, Ekaterinbourg, Odessa, Varsovie, Rostow-on-Don & Sosnowiczi.
Allgemeine Electricitäts-Gesellschaft, Gartenstr. 9, Breslau V; Cologne; & Neugarten 20, 21 Danzig.
Allgemeine Electricitäts-Gesellschaft, electrical engineers, Bismarckstr. 1, Posen, Germany. (Telephone No. 148.)
Allgemeine Electricitäts Gesellschaft, Kageneckerstr. 2, Strasburg, Germany. (Telephone No. 427.)
Allgemeine Elektricitäts Gesellschaft Kabelwerk Oberspree, Oberschöneweide, Berlin. (Telegrams: "Elektronkabel, Oberschöneweide." Telephone Nos. 18, 70, 87, 94, 130 & 147.)
Allgemeine Elektricitäts-Gesellschaft. Consulting office: Waisenhausstr. 4, Dresden. (Teleph. No. 1936.)
Allgemeine Elektricitäts-Gesellschaft, Schiffbauerdamm 22, Berlin, N.W. (Telegrams: "Elektron, Berlin." Telephone Nos.: I., 8511; & III., 2537.)
Allgemeine Elektricitäts-Gesellschaft Installationsbureau Hamburg, electrical engineers & contractors, Dammthorstr. 30, Hamburg. (Telegrams: "Gea, Hamburg." Telephone No. 44.)
Allgemeine Elektricitäts-Gesellschaft (Ges. m. beschr. Haftung), Am Kostthor 2, Munich & Nürnberg.
Allgemeine Elektricitäts-Gesellschaft (Ingeniör Bureau). Engineer, C. Krebs, 22, Tordenskjoldsg, Copenhagen K. (Telegrams: "Gea, Copenhagen." Telephone No. 4999.)
Allgemeine Elektricitäts Gesellschaft Basel, electrical engineers & contractors, 44, Gerbergasse, Basle, Switzerland.
Allgemeine Elektricitätsgesellschaft Berlin, Schomburgstr. 3, Cassel.
Allgemeine Elektricitäts Gesellschaft Installations Bureau, Frankfort-a.-M.
Allgemeine Gas & Elektr. Ges., Langenstr. 145, Bremen.
Allgemeine Lokal und Strassenbahn Gesellschaft, Luisenstr. 29, Berlin, N.W. (Telephone No. 3267, Amt. III.)
Allgemeine Oesterreichische Electricitäts Ges., electrical stations, Wallnerstr. 2, Vienna, I, Austria. (Teleph. No. 17976); & Obere Donanstr. 23, Vienna II/3. (Teleph. No. 14582.)
Allgemeine Telephon-Gesellschaft m. b. H., manufacturers of telephones, &c., 83, Brusselerstr., Cologne, Germany. (Teleph. No. 3176.)
Allgemeine Thermit Gesellschaft m. b. H., Essen a.-d.-Ruhr, Germany. (Telegrams: "Thermo, Essenruhr." Telephone No. 237.)

Alliot, R., & Rol, cable & insulated wire manufacturers, 38, rue de Reuilly, Paris. Works: Bohain (Aisne), France.

Allmänna Svenska Elektriska Aktiebolaget (General Electric Co. of Sweden), manufacturing electrical engineers, Westerås, Sweden (Telegrams: "Elektriska"); & Stockholm, Gothenburg, Malmö, &c.

Allouard & Cie., flexible tubes, 72, rue du Chemin Vert, Paris.

Allut, Noodt & Meyer, electrical agents & dealers in electrical supplies, Dovenhof 93, Hamburg 17; & Nollendorfstr. 13, Berlin, W. 30.

Almano, —, electrician, Le Puy (Haute-Loire), France.

Almeida & Soares, electrical instruments, 20, rua Nova do Almada 28, Lisbon.

Alst, Heinrich, G. m. b. H., Friedrichstr. 131B, Berlin, N. (Telephone No. 1516, Amt. III.)

Alström, Alb., manager Royal Telegraph Works & Telephone Bureau, Gothenburg, Sweden.

Alt, Eberhardt & Jäger, makers of chemical & physical apparatus, glass tubes, &c, for electrical purposes, Ilmenau, Germany.

Alta, L. N., & Co., heating & ventilating apparatus, Prins Hendrikkade 131, Amsterdam, Holland. (Teleph. No. 3214.)

Altenburg Strassenbahn und Elektricitätswerk, electric light contractors, Altenburg, Germany.

Alterocca Virgilio, telephone contractor to the town of Terni, Italy.

Altes, A. J. Korthals, electrical engineer, Vondelstraat 93, Amsterdam. (Telephone No. 4186.)

Altschul, H., consulting electrical engineer, IX., Hörlgasse 10, Vienna. (Telephone No. 13553.)

Alumbrado Electrico de Cuenca, Spain.

Aluminium-Magnesium-Fabrik, metal magnesium manufacturer, Hemelingen bei Bremen, Germany. (Telephone No. 3.)

Alvieri, Marco, electric bell dealer & fitter, annunciators, &c., via Frattina 28, Rome, Italy.

Amayon, H., managing director, Société d'éclairage par le gaz et l'électricité, Oloron Sainte Marie, Basses Pyrénnées, France.

Amberg, Carl, telephone maker, Pfalzburgerstr. 4, Berlin, W.

Ambroin-Werke Ges. m. b. H., manufacturers of insulating material, Berlin-Pankow, Wollankstr. 41. (Telephone Nos. 97 & 150, Pankow.)

Ambrosius & Co., electric bells, Oberweg 20, Frankfort-a.-M. (Telephone No. 6065.)

Amelin et Renaud, electrical engineers & contractors, 39, rue Jean Jacques Rousseau, Paris. (Telegrams: "Nilema, Paris." Telephone No. 10727.)

Amelin & Renaud, electrical instruments, rua da Magdalena No. 1, Lisbon.

American Electrical Novelty & Manufacturing Co., 71, Ritterstr., Berlin, S.W.

Amiard, R., managing director Sté. ane. d'éclairage élec. de St. Hilaire du Harcouet, Manche, France.

Amici, Ing. Venceslao, electrical engineer, director of the Società Generale Italiana dei Telefoni, via Crociferi 23, Rome. (Telephone No. 1053.)

Ammann, —, electrical apparatus dealer, 35, Rorschacherstrasse, St. Gall, Switzerland.

Ammon, Walter, electrical & mechanical engineer, Siemens-Schuckert Werke (G. m. b. H.), 3, Askanischer-platz, Berlin, S.W. 11.

Amoudruz, L., manufacturing electrician, 236, cours Lafayette, Lyon (Rhône), France.

Amtage, Hermann, incandescent lamps, carbons, lamp bulbs, installation material, &c., Maternistr. 16, Dresden A 4. (Telegs.: "Amtage, Dresden." Teleph. No. 7959.)

Anastassiades, Anastasse, engineer & sub-inspector of posts & telegraphs, Vilayet d'Aïdin, Smyrna.

Anastassiades, Eustrate, chief of the Telegraph Station, Smyrna.

Anastassiu, J. Ch., electrical & mechanical engineer, Strada Matei-Vosvod 31, Bucharest, Roumania.

Ancel, Louis, accumulator maker, 13, rue Brochant, Paris.

Anciens Établissements Cail, 21, rue de Londres, Paris. (Telegrams: "Anciens Cail, Paris." Telephone No. 238.17.)

Anderheggen, F., engineer, rue du Progrès 241, Brussels.

Andersen & Juhler, electricians, Nedergade 10, Odense, Denmark.

Anderson, James, A.I.E.E., telegraph engineer & divisional manager to the Eastern Telegraph Co., Athens, Greece.

Andouche, C., electrical engineer, director Soc. Anon., Electricité & Mécanique, Charleroi, Belgium. (Telegrams: "Erg, Charleroi." Telephone No. 737.)

André, Ch., electric light & power contractor, rue du Pont Neuf, Charleroi, Belgium.

Andreeff, B., director of telegraphs, Ekatherinen Railway, Ekaterinoslaw, Russia.

Andren, Edwin, & Co., electric light engineers & accumulator makers, 8, N. Hamng., Gothenburg, Sweden. (Telegrams: "Andren, Gothenburg.")

Andreu, José, electrical engineer & manager of the Cia. de Pamplona de la Sociedad Electricista, Pamplona, Spain.

Andreu, Francisco E., & Co., electrical engineers, the Central Electric Lighting Station, Mahon, Balearic Islands, Spain. (Telegrams: "Eléctrica, Mahon.")

Andreucci, Carlo, electric light contractor, Ancona.

Andrews, George Leonard, electrical engineer & traffic manager, Lisbon Electric Tramways, Ltd., Lisbon.

Andrews, Thomas, M.I.E.E., superintendent, Anglo-American Telegraph Co., 18, boul. de Strasbourg, Havre, France.

Andriessen, Edmund, electrical engineer, 511, Neefestrasse, Chemnitz, Saxony, Germany.

Angelini, Giuseppe, director Ufficio Telegrafico Centrale, Rome.

Anger, Paul, electrical engineer, 45, Holtenauerstr., Kiel, Germany.

Anglo-American Chamber of Commerce (in Belgium), boul. de la Senne, Brussels.

Anglo-American Telegraph Co., 37, rue Caumartin, Paris. (Telegrams: "Anglorient, Paris." Telephone No. 249–74.)

Anglo-Portuguese Telephone Co., Ltd., engineers & contractors, 14, rua de Ferreira Borges, Oporto. (Telegrams: "Edison, Oporto.")

Annalen der Elektrotechnik, Fritz Hoppe, editor; A. Barth, publisher, Rossplatz 17, Leipzig, Germany. (In 12 parts. Price 15 M. per annum; abroad 18 M.)

Annalen der Physik (editor, P. Drude; publisher, J. A. Barth), Leipzig, Germany. (15 parts, 45 M. per ann.)

Annales Technique, Les (semi-monthly; ann. sub., P.U., £1 3*s*. 6*d*.), 52, rue St. Georges, Paris. (L. Perreau, editor.

Annali Istituto Tecnico e Nautico, G.B. Della Porta, Naples.

Année Électrique, L' (*électrothérapique et radiographique*). Editorial offices: Dr. Foveau de Courmelles, 26, rue de Châteaudun, Paris (9e). Publishing offices: Ch. Béranger, 15, rue des Saints-Pères, Paris; & 15, rue de la Régence, Liége.

Annibal, F., electric light installations, 8, rue Bonne Carrière, Salon (Bouches du Rhône).

Annuaire de l'Électricité, 114, rue et Place Lafayette, Paris. (Camille Rousset, publisher.)

Annuario della R. Scuola d'applicazione degli Ingegneri, Naples.

Anohin, L. E., telegraph engineer, Leontievsky pereoulok, h. Romanovsky, Moscow, Russia.

Ansaldo Gio., Armstrong & Co., electrical engineers, Cornigliano, Ligure, Italy.

Anthierens, Aimé, electrician, rue Seigneur 19, Borgerhout, Antwerp.

Antipin, Nic., electrical engineer, 34, Nylandsgatan, Helsingfors, Russia.

Antoniotti, Riccardo, electrical engineer, 10, corso Vinzaglio, Turin.

Antraigues, E. L., electrical contractor, 189–191, rue St. Jacques, Paris. (Teleph. No. 804–35.)

Antrick, Dr. O., electro-chemist, director of the Chemische Fabrik auf Aktien, vorm. E. Schering, 127, Schillerstr., Charlottenburg. (Telegrams: "Satrap, Berlin." Telephone No. 1055, Charlottenburg.

"Antrocofós," electrical fitters, Mar 50, Valencia, Spain.

Antwerp Engineering Co. (Société Anonyme), boilermakers, ship repairers, brass founders, electrical engineers, rue des Indes, Antwerp.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Rod. B. Bumiller, manager, manufacturers and contractors, Antwerp, Belgium. (Telegrams: "Electrical, Anvers." Telephone No. 82.) London agents: W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., E.C.

Anuario de la Mineria, Metalurgia y Electricidad de España (annually, about March), 3, Villalar, Madrid, Spain.

ANZEIGER FÜR ELEKTROTECHNIK UND DAS GESAMMTE BELEUCHTUNGSWESEN (UNGARISCHER METALLARBEITER), V. Perczel Mor-utcza 4½, Budapest, Hungary.

Apel, Wilhelm, telegraph contractor & lightning conductor erector, Göttingen.

Apolloni, Giulio, electrical engineer, 37, via del Lavatore, Rome.

Appareillage Electrique Grivolas, electrical apparatus manufacturers, 16, rue Montgolfier, Paris.

Appel, Richard, Jacob Meister's Nachfolger, dynamo belting, Jordanstrasse, 60, Bockenheim-Frankfurt-am-Main. (Telegrams: "Riemfabrik Appel, Frankfurtmain." Teleph. No. 1406.)

Appelius, C., chief engineer of the Officine Elettriche Genovesi, Genoa, Italy.

Appert Frères, scientific glass manufacturers, 30, rue Notre-Dame-de-Nazareth, Paris. Works: Clichy la Garenne. (Teleph. No. 145–17.)

Aramburo, Viuda de (antigua casa de Aramburo Hermanos), electrical apparatus, Príncipe 12, Madrid, Spain.

Aramburu, Azpiazu & Co., electric light & power contractors, Azpeitia (Guipuzcoa), Spain.

Arapides, L., officer-in-charge, Eastern Telegraph Co., Patras, Greece.

Arbeloa, Luis de, y Cia, wholesale dealers in electrical material, Mercado del Eusanche, Bilbao, Spain.

Arboga Electric Light Co. (manager, Axel Johansson), Arboga, Sweden.

Arbrå Electricitetsverk., Arbrå, Sweden.

Arcelin, Alfred, electrical supplies, Lons-le-Saulnier, Jura, France.

Archat, P., electrician, 14, rue St. Victor, Paris.

"Archimedes" Actien-Gesellschaft für Stahl-und Eisen-Industrie, Alexandrinenstr. 2–3, Berlin, S.W. (Telegrams: "Eisenarchimed, Berlin." Telephone Nos.: 442 & 2946, Amt. IV.); & Märkischestr. 72-82, Breslau. (Telegrams: "Archimedes, Breslau." Telephone No. 326.)

Archives d'Électricité Médicale (bi-monthly, 22 frs. per ann.), Dr. J. Bergonié, chief editor, 6 bis, rue du Temple, Bordeaux. (Telephone No. 760.)

Arcis, Long & Cie., driving bands, 188, cours Vitton, Lyon, Villeurbanne; & 194, rue Lafayette, Paris. (Telephone Nos.: 12–41, Lyon; & 428–17, Paris.)

Arco, Count, wireless telegraph expert, Ges. für Drahtlose Telegraphie System Telefunken, Am. Karlsbad 1*b*, Berlin, W. 35.

Arco Eléctrico, El, electrical material, Silva 12, Madrid.

Arendals Telefonselsk, Arendal, Norway.

Arendt, Rich., electrical engineer, "Electrica Bukarest," str. Sărinvar, No. 22, Bucharest.

Argnani, Ing. Vittorio, & Co., electric light & power contractors, Ancona.

"Ariadne" Fabrik Isolierter Drähte (G. m. b. H.), 39, Wilmersdorferstr., Charlottenburg, Berlin.

Arldt, Dr. C., electrical engineer, 8, Habsburgerstr., Berlin, W. 30.

"Armatura" Electrical Society, manufactory of electrical fittings, &c., Obwodnii Kanal 157, St. Petersburg. (Teleph. No. 1740.)

Armaturen und Maschinenfabrik Aktien Gesellschaft, engineers & electric pump makers, 6, Glockenhofstr., Nürnberg, Germany. (Telegrams: "Armaturenactien, Nürnberg." Telephone No. 360.)

Armbrüster Gebrüder, art metal workers, Gutleutstr. 296, Frankfort-on-the-Main. (Telegrams: "Kunsteisen, Frankfort-on-the-Main." Telephone No. 1246.)

Armengaud, Ainé, patents & trade marks registration agent, 21, boul. Poissonnière, Paris. (Telegrams: "Armengaîné, Paris." Telephone No. 111-94.)

Armengaud, Jeune, consulting engineer & patents & trade marks registration agent, 23, boul. de Strasbourg, Paris. (Telegrams: "Armengaud, jeune, Paris." Telephone No. 259-97.)

Arnales, Saturnino, electrician, Coso 27, Zaragoza, Spain.

Arnaud, E., electrician, rue Victor Hugo, Bayonne (Basses-Pyrénées), France.

Arndt Geb., steam engine & boiler makers, Fennstr. 21, Berlin, N. (Telephone No. 1526, Amt. II.)

Arnò, Prof. Riccardo, M.I.E.E., Instituto Tecnico Superiore, Milan, Italy.

Arnold, E., Dr. Ing., professor of electrical engineering, Technische Hochschule, Karlsruhe, Germany. (Teleph. No. 1133.)

Arnold, Emil, telephone maker, Luisenstr. 5, Berlin, N.W.

Arnold, Oscar, & Co., installation contractors, Annabergerstr. 40, Chemnitz, Saxony.

Arnould, Ch., electrician, 55, rue de Rome, Paris.

Arnoult, Gabriel, electrician, 7, rue Eupatoria, Tours (Indre-et-Loire).

Aron, Prof. Dr. H., electrical engineer, Kaiser Allee 219 & 220, Berlin, W.

Aron, H., Elektrizitätszählerfabrik, G. m. b. H., "Aron's electric meter," Wilmersdorferstr. 39, Charlottenburg. (Telegrams: "Aronmeter, Charlottenburg." Telephone Amt. Charlottenburg No. 80.)

Aronstein, A., electric light installations, ave. Louise 14, Brussels.

Arrasa, Valentin, electrician, calle de Estruch 9, Barcelona.

Arrhenius, Svante August, director, Nobel Institute, Academy of Sciences, Stockholm, Sweden.

Arrojo, Hipólito, electrician, Fonda de Simon, Córdoba, Spain.

Arroquia, Andres, director of telegraphs, Granada, Spain.

Arroyo, Dr. José Diogo, professor of the Polytechnic Academy, rua Central 985, Foz, Oporto, Portugal.

Arsenescu, A., engineer of posts & telegraphs, Palatul Postelor, Bucharest, Roumania.

Arsonval, Dr. A. d', professor at the Collége de France, 12, rue Claude Bernard, Paris.

Arsumanoff, M. A., electrical engineer, Moskow-Koursk Railways, Moskow, Russia.

Artemieff, N., engineer, professor at Polytechnic Institute, Kiew, Russia.

Artiz, Justo, y Co., Co. de Electricidad, Zumarraga (Guipuzcoa), Spain.

Artom, Alessandro, electrical engineer, via Venti Settembre 3, Turin.

Asbest & Gummiwerke Alfred Calmon, A. G., asbestos & indiarubber manufacturers, Hamburg. (Telegrams: "Calmon, Hamburg." Telephone Amt. III., No. 211.)

Asbóth, Emil de, general manager Ganz & Co., II. Marczibauyi ter 14, Budapest, Hungary.

Ascher, Jul., electric light contractor, Waldstr. 33, Berlin, N.W.

Ascher, Dr. Max, & Co., makers of lacquers & insulating materials, Linkstr. 29, Berlin, W. (Telephone No. 744, Amt. VI.)

Aschner, Lipót, electrician, Arpád út 32, Ujpest, Hungary.

Ascoli, Prof. Dr. Moise, president of the Associazione Elettrotecnica Italiana, director of physical cabinet Scuola d'Applicazione degli Ingegneri, R. University, Rome.

Ashcroft, Edgar A., M.I.E.E., Vadheim, Sogne, Norway.

Ashelm, M., Techn. Bureau, Waisenhausstr. 16, Dresden-A. (Teleph. No. 1753.)

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Association Amicale des Ingénieurs-Electriciens, 11, rue St. Lazare, Paris. (Telephone No. 238-60.)

Association des Communes du Val de Travers (M. Dubied, Président à Couvet), Eclairage électrique et force motrice, Couvet (Neuchatel), Switzerland.

Association des Ingénieurs Electriciens sortis de l'Institut Electrotechnique Montefiore (Union professionnelle reconnue), rue Saint Gilles 31, Liége, Belgium.

Association des Ouvriers en Instruments de Précision, 6, Impasse Sainte Leonie, rue Pernety, Paris. (M. Viardot, director.)

Association Française pour l'Avancement des Sciences (Dr. H. Henrot, president; C. M. Gariel, secretary), Hôtel des Sociétés Savantes, 28, rue Serpente, Paris. (Telegrams: "Afas, Paris." Telephone No. 817.13.)

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Association Philotechnique: Section des Electriciens (Directeur, M. Boudouard), 42, rue Lhomond, Paris.

Association Suisse des Electriciens, Hardturmstr. 20, Zurich III., Switzerland.

Associazione dei Concessionari Telefonici Italiani, via Nazionale 96, Rome (president, Comm. Ing. Oleste Lattes). (Teleph. No. 39-60.)

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Ateliers de Construction Electriques de Charleroi (Soc. Anon.), electrical engineers, Charleroi, Belgium. (Telegrams: "Electricite, Charleroi." Telephone Nos. 76 & 573).

Ateliers de Constructions Electriques et Mécaniques Egide Cornet (director, L. Bouckert), electrical engineers, 56, rue de Birmingham, Brussels.

Ateliers de Constructions Mécaniques, electrical engineers, Mulhouse (Alsace). (Telegrams: "Ducommun, Mulhouse"); & 18, boul. Magenta, Paris.

Ateliers de Constructions Mécaniques, turbines & water wheels, Vevey, Switzerland. (Telegrams: "Fonderie, Vevey.")

Ateliers de Télégraphes G. Hasler, telegraph & telephone apparatus, Berne, Switzerland.

ATELIERS, H., CUENOD, S.A., manufacturers of arc lamps, small motors & "Thury" automatic regulators, 2, rue du Rhône, Geneva. (Telegrams: "Ateliercuénod, Geneva." Telephone No. 2861.)

Ateliers Jaspar (Sté. Anon.), manufacturing electricians, dynamos, &c., 2 & 20, rue Jonfosse, Liége, Belgium. (Telegrams: "Jaspar, Liége." Telephone No. 18.)

Ateliers Victor De Cunsel, wood pulleys, rue de l'Independance 66-68, Brussels.

Ateliers Walschaerts, engine makers, 62, place de Constantinople, St. Gilles, Brussels. (Telegrams: "Ateliers Walschaerts, Brussels." Telephone No. 2864.)

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Aubry & Benjamin, balance (induction) makers, 71, rue de Turbigo, Paris.

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B.-G.-S. Electrical Horseless Carriage & B.-G.-S. Special Auto-Car Cell Co., 12 bis, avenue de Madrid, Neuilly-sur-Seine, France.
Babcock & Wilcox, Ltd., multitubular inexplosive boiler makers, 6, rue Laferrière, Paris. (Telegrams: "Babcock, Paris." Telephone Nos. 147–58 & 148–00.)
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Baeuerle, T., & Söhne, clockwork for electrical purposes, St. Georgen-i.-Schwarzwald, Germany. London representative: L. F. Brunner, 279, Romford-rd., Forest Gate, E.
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Barbier, Bénard & Turenne, searchlights & lightning conductors, 82, rue Curial, Paris.
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Bardot, Charles, chemical manufacturer, 19, passage Duranton, Paris, France. (Telegrams: "Liquidair, Paris." Telephone No. 709–25.)
Bardou, Clerc & Cie., iron, steel & copper cables, 12, boul. Sebastopol, Paris. (Telegrams: "Corderie Centrale, Paris." Telephone No. 128–52.)
Barducci, G., electric light contractor, Caserta, Italy.
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Bartelmus, Donát & Co., electrical engineers, dynamos, motors & arc lamps, 63, Neugasse, Brünn, Austria. (Telegrams: "Dynamo, Brunn." Telephone No. 68); & Kettenbrückengasse 21, Vienna V. (Telegrams: "Dynamo, Vienna." Telephone No. 4784.)
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Bartels, Franz & Co., electric light contractors, Breitgasse 64, Danzig. (Telegrams: "Franz Bartels, Danzig." Telephone No. 102.)
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Bartoli, Gioachino, electrical engineer, Sebenico (Dalmazia), Austria.
Baruch, Hugo, & Co., electrical outfits for stage purposes, 24, alte Jacobstr., Berlin, S.W.; & 32, Shaftesbury-ave., London.
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Bauer & Frey, dealers in wholesale electrical sundries, Holbeinstr. 31, Basle, Switzerland. (Telegrams: "Spannung, Basle." Telephone No. 2205.)
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Baugesellschaft für Elektrische Anlagen, Aachen (Telegrams: "Bea, Aachen"); Charlottenstr. 69, Düsseldorf (Telegrams: "Bea, Düsseldorf." Telephone No. 629); Wiesbaden; & Bäckergasse A341, Augsburg, Germany. (Telegrams: "Bea, Augsburg." Telephone No. 305.)
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Beer Maison (Soc. Anon. Ateliers de Constructions Mecaniques et Fonderies), electrical & general engineers, Jemeppe, pres Liége. (Telegrams: "Beer, Jemeppe, Liége." Telephone No. 1206. Universal Mining, A1, 5th edition A.B.C., Moreing & Neal's Codes used.)
Beer, Sondheimer & Co., metals, Frankfort-on-Main. (Telegrams & Cables: "Beersond, Frankfurt-main." Telephone Nos. 97 & 4978.)
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Beiblätter zu den Annalen der Physik (Walter Koenig, editor; J. A. Barth, publisher), Leipzig, Germany. (In 24 parts. Price 24 marks per annum.)
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Beleuchtungskörper Gesellschaft m. b. H., Luisenstr. 29, Berlin. (Telegrams: "Leuchtkörper, Berlin." Telephone Amt. 3, No. 8560.)
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Belin, J., electrical supplies, rue Gérard-Champs 232, Verviers, Belgium.

Bell Telephone Manufacturing Co., manufrs. of telephone apparatus, 18, rue Boudewijns, Antwerp.

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Bellens, Fr., electric light installations, rue St. Thomas, 22, Antwerp, Belgium.

Bellens-Peeters, A., electric light fixtures & installations, Chaussée de Malines, 45, Antwerp.

Belli, Silvio, electrical instrument dealer, via de Lardarel 9, Leghorn, Italy. (Telephone No. 116.)

Bellieni, H., scientific instrument maker, 17, place de l'Académie, Nancy, France. (Telegrams: "Bellieni, Nancy." Telephone No. 2.47.)

Belliol, E. J., & Reiss, J., electrical engineers, 30, rue des Bons Enfants, Paris. (TELEGS.: "EUBELIO, PARIS.") PATENTED ELECTRICAL SUPPLIES. GOLD MEDAL, ST. LOUIS UNIVERSAL EXHIBITION, 1904; SILVER MEDAL, LIÉGE UNIVERSAL EXHIBITION, 1905. ILLUSTRATED CATALOGUE FREE ON APPLICATION.

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Belpéche, A., & Cie. (L. Robert, suc.), galvanized iron wire manufacturer, 4, ave. Richerand, Paris. (Telegrams: "Aubelpeche, Paris." Telephone No. 421.95.)

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Bendix, K., works manager, Elektricitätszähler Fabrik H. Aron, 75, Elisabethpromenade, Vienna IX.

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Benoit, Dr. René, director of the Bureau International des Poids et Mesures, Pavillon de Breteuil, Sèvres, France.

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Bentheim, Wm., electrical engineer, Landsbergerstr. 82, Berlin, C.

Benz & Co., gas engine makers, Mannheim, Germany. (Telephone No. 346.)

Benzoni, J., electric bell manufacturer & contractor, 53, rue du Stand, Geneva, Switzerland.

Béranger, Ch., publishers of electrical & scientific books, 15, rue des Saints-Pères, Paris. (Telephone No. 727–24.)

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Bergmann & Westphal, electrical engineers, Mühlenstr. 73, Berlin, O.

Bergner & Weiser, wrought iron goods for electric lighting, Pössneck-i.-Thür., Germany. (Telegrams: "Oswin Weiser, Possneck." Telephone No. 2.)

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Berliner Electro-Plated Waarenfabrik G. m. b. H., Ritterstr. 90, Berlin, S.

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Blanchard & Cie., crystals & glass for lighting apparatus, 99, faub. St. Martin (cour. du Commerce), Paris. (Telephone No. 229-14.)

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Bondy, Carl, director of the Elektrizitäts Actien Gesellschaft vorm. Kolben & Co., 11, Marxergasse, Vienna III. (Telegrams: "Elektrobondy, Vienna." Telephone No. 29.)
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Bordoni, A., e Figli, glassware manufacturers for electrical purposes, 29-31, via Savona, Milan, Italy.
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Borg, Carl, manufacturer of materials for electrical installations, 19-27, Gerberstr., Leipzig. (Telephone No. 3804.)
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Borgen, Axel, manufacturer of electrical instruments, Gothersgade 37, Copenhagen K., Denmark.

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Bosshard, Henri, & Co., dynamo & electric machine makers, à Charleville (Ardennes). (Telegrams: "Bosshard, Charleville, Ardennes.")

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Boulanger, J., chef de Bataillon du Génie, chef du Dépôt Central de la Telégraphie Militaire, 25, boul. du Montparnasse, Paris.

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Boulenger, Hte., & Cie., porous cells & jars, 18, rue de Paradis, Paris.
Bouley, Georges, administrateur délégué de la compagnie internationale d'éclairage électrique de Tours, 187, rue la Pompe, Paris.
Boulte, Larbodière & Cie., high-speed steam engines, 6, rue de Laborde, Paris. Works: Aubervilliers. (Telephone No. 213–86.)
Boulvin, R., electric railway & tramway engineer, 57, rue Dantzenberg, Brussels.
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Bourquin, Jules, electrical engineer, 15, rue Huguerie, Bordeaux, France.
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BOURSEAUX, PET., SÖHNE, wire & cable makers, Eupen, bei Aachen, Germany. (Teleph. No. 81.)
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Brandenburg, Edwin, electrical engineer, 8, quai des Usines, Laeken-Bruxelles.
Brandenburger, C. A. O., battery jar & insulator maker, 88, Kastanien-allee, Berlin; & at Gokra.
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Brasch, Hack & Co., electrical apparatus, Währingerstr. 58, Vienna IX.
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Braun & Bockmann (G. m. b. H), electrical apparatus manufacturers, Mannheim.
Braune, Georg, maker of electrical fittings, Chausseestr. 68, Britz-Berlin. (Telegrams: "Georg Braune, Britz-Berlin." Telephone No. 1019.)
Braune, Gustav, dry cells, Belle Alliancestr. 83, Berlin.
Brauner, A., & Co., electric light & power, Spilalg. 1, Vienna IX. (Teleph. Nos. 16798 & 17664.)
Brauner & Elben, electrical engineers & contractors for electrical lighting, Wasiliewsky Ostrow 3 ligne 26, St. Petersburg.
Braunschweigische Maschinenbauanstalt, electrical & mechanical engineers, Brunswick. (Telegrams: "Maschinbau, Brunswick.")
Bray, De, maker of electric water level apparatus, Fosses, Namur, Belgium.
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Brézol, Ch., manufacturing electrician, Charleville (Ardennes).
Brianne, Lucien, maker of the Brianne arc lamp, 35, quai Valmy, Paris. (Telegrams: "Brianne, Valmy, Paris.")
Bricard Frères, manufacturing electricians, 39, rue Richelieu, Paris.
Briegleb, Hansen & Co., machine & turbine makers, Gotha, Germany. (Telegrams: "Eisengiesserei." Telephone No. 22.)
Brienne, L., electrical contractor, 43, ave. de Saint-Cloud, Versailles (Seine-et-Oise), France.
Brigittenauer Elektrotechnische Fabrik, E. & L. Hirsch, dynamo & electric machine manufacturers, XX. Wintergasse 18, Vienna. (Teleph. No. 14594.)
Brigonnet père & fils & Gaubert, manufacturing chemists, 15, rue de Landy, La Plaine St. Denis (Seine), France.
Brillié, L., insulating acid-proof enamel, 11, rue Planchat, Paris. (Teleph. No. 910-93.)
Brillié, L. V., electrical engineer, 64, boul. Bineau, Neuilly, Seine, France.
Brillouin, André, electrical engineer, 92, boul. Haussmann, Paris. (Telegrams: "Bucentric, Paris.")
Brinchmann & Co., agents for manufacturers of insulated cables, copper wire, glow lamps, metal, &c., Toldbodgd. 19, Christiania, Norway. (Telegrams: "Pluto, Christiania.")
British Chamber of Commerce, 25, boul. des Italiens, Paris. H. Millington Drake, president; J. T. Meadows Smith, secretary; H. F. Fletcher, treasurer. (Telephone No. 149-21.)
British Continental Electricity Co., Ltd. Offices: 3, via Umberto, San Remo, Italy, & 82, Victoria-st., Westminster. Electricity Works: via Peirogallo, San Remo. Registered April 26, 1898. Nominal capital: £20,000 in 1000 5½ per cent. cumulative preference shares, & 1000 ordinary shares of £10 each. Subscribed capital: £19,060. Directors: R. Alioth, Esq.; E. E. Berry, Esq.; H. W. Buddicom, Esq.; C. H. C. Woodhouse, Esq.; W. A. Brodie, Esq., A.M.I.E.E. (managing).
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Bröderna Haglind, electrical engineers, 7, Teknologgatan, Stockholm.

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Brown, Boveri & Co., Ltd., manufacturing electrical engineers, licencees of the Parsons steam turbines, Baden, Switzerland (Telegrams: "Dynamo, Baden-Schweiz"); Mannheim, Germany (Telegrams: "Dynamo, Mannheim"); & Norsk Elektricitets Aktieselskab, Christiania. (Telegrams: "Courant, Christiania.") Technical offices: rue de l'Écuyer 45, Brussels; Compagnie Electro-Mécanique, Le Bourget, nr. Paris (Telegrams: "Electranic, Le Bourget"); Tecnomasio Italiano Brown Boveri, Milan (Telegrams: "Brown, Milan"); 53, via del Tritone, Rome; rue d'Altkirch 34, Mülhausen; Barenstr. 4, Metz; Hettnerstr. 3, Dresden; & Kaiser Wilhelmring 4, Cologne.
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Brunet-Loiseau Frères, electro-medical apparatus makers, 13, rue des Francs Bourgeois, Paris.
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Bulletin de l'Association des Ingénieurs Electriciens sortis de l'Institut Electrotechnique Montefiore, rue Saint-Gilles 31, Liége. (M. G. L'Hoest, general secretary.) (Price 25 frs. per ann.)
Bulletin de la Société belge des Electriciens (monthly), Ramlot Frères, 25, rue Grétry, Brussels.
Bulletin de la Société Internationale des Electriciens (monthly), 55, quai des Grands Augustins, et 12, rue de Staël, Paris. (Paris, 25 frs.; P.U., 27 frs.; single copies, 2.50 frs.)
Bulletin des Usines Electriques (monthly, ann. sub., 30 frs.; P.U. 34 frs.), 27, rue Tronchet, Paris. (Telephone No. 225-92.)
Bulletin International de l'Electricité, 20, rue Turgot, Paris.
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Bureau International des Administrations Télégraphiques (director, Col. E. Frey; vice-director, A. Crescitz), Berne, Switzerland. (Telegrams: "Burinterna, Berne." Telephone No. 1308.)
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Centralblatt für Accumulatoren Technik und verwandte Gebiete (twice a month). Dr. Franz Peters, Gross Lichterfelde West, nr. Berlin, editor & publisher. (Ann. sub., 14s.)
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Chemische Fabrik auf Aktien (vorm. E. Schering), chemical manufacturers, Müllerstr. 170 & 171, Berlin, N. (Telegs.: "Satrap, Berlin." Teleph. Amt. II., Nos. 1561 & 1563.)
Chemische Fabrik Brugg, A. G. Brugg.
Chemische Fabrik Buckau A. G., electro-chemical manufacturers, Magdeburg. (Telegs.: "Chemische, Magdeburg. Teleph. No. 59.) Works: Stassfurt & Ammendorf, nr. Halle-a.-S., Germany.
Chemische Fabrik Griesheim-Elektron, chemical works, Frankfort-on-the-Main. Works: Griesheim, Bitterfeld, Küppersteg, Spandau, Rheinfelden, Offenbach a. M. (Telegrams: "Sulfur, Frankfurt-main." Telephone No. 207.)
Chemisches Institut, Dr. Caro, Meinekestr. 20, Berlin, W. 15.
Chenal, Douilhet & Co., electro-chemists, 22, rue de la Sorbonne, Paris. (Telegrams: "Pyridine, Paris." Telephone Nos. 807.28 & 29.)
Chercholy, E., manufacturer of bronze fittings, 16, faub. St. Denis, Paris.
Chesnay, Edm., electrical engineer, 7, rue Saint Pierre les Dames, Reims, France.
Cheval, Victor, author of *Electricité Médicale*, rue du Trône 28, Brussels.
Chevallier, —, electrical contractor, 25, rue Bellefond, Paris.

Chevrier, Louis Georges, engineer, Secteur de la rive Gauche, 39, quai d'Issy, Issy les Moulineaux, Seine.
Chewki, Effendi, engineer to the committee of posts & telegraphs, Constantinople.
Chibout, Daniel, electrical & general engineer, 36, rue Notre Dame des Champs, Paris.
Chiesa, Romualdo, optical & electrical instrument dealer, via Nationale 218, Rome, Italy.
Chilesotti, Ing. P., e C., Officina Centrale Luce Elettrica, Thiene, Italy.
Chisholm, John W., M.I.E.E., manufacturing engineer, Galdo 3, Entlo, Madrid. (Telegrams: "Ohm, Madrid." A.B.C. Code, 5th edition. Telephone No. 977.)
Chistoni, Prof. Ciro, electrician, teacher of terrestrial physics, R. Università, Naples, Italy.
Chitaroff, A. M., electrical engineer, Tiflis, Russia.
Chojnacki, —, manager of the Electricity Works, Geringswalde-i.-S., Germany.
Chollet, —, electrician, 28, rue des Fossés St. Bernard, Paris.
Chollet, Ainé, electrician, 23, ave. du Maine, Paris. (Telephone No. 705-40.)
Chomeau, E., optician & electrician, 33, passage du Havre, Paris.
Choquet, Goddier, mica, 41, rue Meslay, Paris.
Chrétien, B., electrician, 2, rue du Marché-au-Felet, Arras (Pas-de-Calais), France.
Chrétien, P. C., municipal electrical inspector, 15, rue de Boulainvilliers, Paris.
Chrétien, J., & Cie., electricians, 42, rue de la Bienfaisance, Paris.
Christ, Max, telegraph & lightning conductor installer, Merseburg, Germany.
Christiaens, Emile, electrical engineer & agent for electrical appliances, Box No. 24, Malines Station.
Christiania Electric Tramway. Manager, J. F. S. Barth, Valkyriegade 21, Christiania.
Christiania Elektricitetsverk, electric light & power works, Tordenstej-gd. 7, Christiania.
Christiania Elektriske Sporvei, Valkyrieg 21, Christiania.
Christians, F., agent electrical supplies, Apostel Paulusstr. 13, Schöneberg, bei Berlin. (Telephone Amt. 9, No. 6348.)
Christianssand's Elektricitetsverk, Christianssand, Norway. H. Wilskov, managing director & engineer.
Christofle et Cie., electro-platers, 56, rue de Bondy, Paris.
Ciampi, T., optical & scientific instrument dealer, via Vitt. Em. 27, Leghorn.
Cicogna, Ch., electrical engineer, ave. Louise 532, Brussels.
Cipollina, Natale, installer of electric bells, annunciators, &c., via S. Giuseppe 29, Genoa, Italy.
Cirla, Ernesto, electrical engineer, 18, Andegari, Milan, Italy.
Ciurnelli & Bariletti, electric light contractors, Ponte Valleceppi (Perugia), Italy.
Clages, A., Nachf., maker of bell pushes & electroliers, Skalitzerstr. 25, Berlin, S.O.
Clamond, C., electrical engineer, 15, rue Picot, Paris.
"Clára" Losonczi villamossági részvény társaság, Losoncz, Hungary.
Clarenc, E., Fils, battery manufacturers, 81, rue Vincingetorix, Paris. (Telephone No. 717-98.)
Claret, M., owner of the Tramways Electriques de Clermont-Ferrand (Puy-de-Dôme), France.
Clasen, G., electro-medical apparatus manufacturer, 38, rue de l'Hôpital, Brussels.
Classen, Dr. J., professor & inspector of the Elektrische Prüfamt, Hamburg.
Claude, G., electrician, 4, rue Francois Rolland, Nogent sur Marne (Seine).
Clausen, A. H., electrical bureau, Keysersgade 7B, Christiania.
Clausonne, Alfred de, engineer, 5, ave. Alphand, Paris. (Telephone No. 573-54.)
Clavel, A., electrician, 74 & 76, rue Amelot, Paris. (Telephone No. 931-08.)
Clémang, J., hydraulic presses, 77, boul. d'Italie, Paris. (Telephone No. 805-02.)
Clémenceau, Paul, electrical engineer, 84, rue de Longchamps, Paris.
Clement & Jacqmain, high speed engines, 1, rue des Orchidées, Brussels.
Clerc, —, electrical engineer, 10, boul. République, Chalon-sur-Saône, France.
Clerc, Ed., electrical inspector, Association Suisse des Electriciens, 20, Hardturmstr., Zurich II.
Clerici, M., electrical engineer, 13, via Marco Minghetti, Rome.
Clerici, M. Carlo, electrical engineer & electrician, via Monforte 48, Milan, Italy.
Clerici & Co., Società Edison per la fabbricazione delle Lampade elettriche, via Broggi 6, Milan, Italy.
Clérisse, Alb. Lefèvre & Cie., electrical engineers, 7 bis, rue du Debarcadère, Paris. (Teleph. No. 512-71.)
Cliche-Madelenat, E., electrician, light & telephone installations, 22, rue de Paris, Valenciennes (Nord), France.
Clisson, A., electrician, 6 bis, rue St. Pierre, Versailles (Seine-et-Oise), France.
Closset, Emile, electrician & contractor, 26, rue St. Jean, Brussels.
Closset, Maurice, electrical installations, 91 & 93, boul. de Hainaut, Brussels. (Telegrams: "Closset, Hainaut, Brussels." Telephone No. 4941.)
Closson, S., electrician, rue Bouxhate 1, Verviers.
Clota, Francisco, electrician, Jordana 9, Valencia.
Clouth, Franz, Rhenish Rubber Manufactory, Ltd., Cologne-Nippes, Germany.
Clouth, Fr., hard rubber goods & insulating material, rue des Riches-Claires 35, Brussels.
Cobianchi, Vittorio, electric light, Omegna (Prov. di Novara), Italy.
Cobos Varona, Tomás, electrician, Jaen, Spain.
Coca, José, constructing electrician, machinery & apparatus, Tolosa (Guipuzcoa), Spain. (Telegrams: "Coca, Tolosa.")

Cochet, —, dealer in electrical supplies, 34, boul. Henri IV., Paris.
Cochius, Max, wires for electric purposes, Alexandrinenstr. 35, Berlin. (Telegrams: "Messingröhren, Berlin.")
Cochot, G., electrical instrument manufacturer, 45, rue de Tanger, Paris. (Telephone No. 411–55.)
Cohen, Dr. E., professor of chemistry, University of Utrecht, Catharijnesingel 18, Utrecht, Holland. (Teleph. No. 1017.)
Cohen, Dr. Rudolph, director of the Cont. Gesellschaft für elektr. Unternehmungen, Nürnberg. (Telephone No. 340.)
Cohendet & Cie., electrical engineers, 166, quai Jemmapes, Paris. (Telephone No. 417–79.)
Cohn, Dr. E., professor of mathematical physics, in the University of Strasburg, Strasburg, Germany.
Cohn, O. N., electrical engineer, St. Kongensgade 44, Copenhagen K.
Cohn, Holger & Otto, electrical engineers & agents, 44, St. Kongensgade, Copenhagen K.
Coissac, P. A., electrician, 4, rue du Général Cérez, Limoges (Haute-Vienne), France.
Colin & Cie., manufacturers of electrical apparatus, Guise (Aisne), France. (Telegrams: "Colin, Fonderies, Guise.")
Colin, M., & Co., electric light apparatus makers, 17, rue des Tournelles, Paris. (Telephone No. 143–68.)
Collet, C., manufacturing electrician, Aigle, Switzerland.
Collet & Engelhard, makers of electric cranes & machine tools, Offenbach-on-the-Main, Germany.
Collette, A. E. R., M.I.R.E., M.I.E.E., engineer-in-chief & director of the technical service of the Netherlands telegraphs & telephones, The Hague, Holland. (Telegrams: "Higr, The Hague." Telephone Nos. 1794 & 3116.) Local hon. secretary & treasurer of the Institution of Electrical Engineers.
Colley, Prof. R., electrician, Mojaisk Station, Moscow-Brest Railway, Russia.
Collinet, —, electric light engineer & contractor, rue St. Martin, Auxerre (Yonne), France.
Colnet d'Huart, François De, consulting electrician, Luxembourg.
Colombo, Cav. Pietro, electrical engineer, via Sicilia 42, Rome, Italy. (Telephone No. 10020.)
Colombo, Comm. Prof. Giuseppe, consulting electrician, via Monte Napoleone 22, Milan, Italy.
Colombo, Ing. R., & Co., arc lamp manufacturers, via Mercede 37, Rome. (Telegrams: "Lamparco, Rome." Telephone No. 22–57.)
Colonial Rubber (Société Anonyme), manufacturers of indiarubber, gutta percha & electrical goods, Quai du Strop 9, Ghent, Belgium. (Telegrams: "Rubber, Ghent." Telephone No. 475.) London agents: Hessberg Bros., 102, Fenchurch-st., E.C.
Columbus Elektrizitäts Gesellschaft, battery & galvanized iron manufacturers, Ludwigshafen-a-Rh., Germany. (Telegrams: "Columbus, Ludwigshafenrhein." Telephone No. 264.)
Comboni, J., electrical engineer, Technical Institute, Piazza Cavour, Milan.
Comerma, General Andre A., M.I.E.E., electrician, Ferrol, Spain.
Comi, Felice, & Cia., electrical engineers, via Gaetana Agnesi 10, Milan.
Commandit Gesellschaft für Electrische Anlagen, vormals Albert Jordan, Magdalenenstr. 40, Vienna VI. (Telegrams: "Jordana, Wien." Telephone No. 3345.)
Commandit Gesellschaft für Pumpen-und Maschinenfabrikation W. Garvens, Wülfel vor Hanover, Germany. (Telephone No. 27.)
Commercial Cable Co. (Mackay-Bennett cables), 49, avenue de l'Opéra, Paris; & le Havre. (Telegrams: "Yakcam, Paris." Telephone No. 242–87.)
Comotti & Gignous, manufacturers of impervious insulating paper & linen, via S. Orsola 3, Milan. (Telephone No. 1597.)
Compagnia Anonima Continentale, electric light engineers & contractors, via Quadronno 41–43, Milan. (Telegrams: "Brunt, Milan.")
Compagnia Generale delle Acque, electric light installation, Venice.
Compagnie Anglaise, manfrs. of accessories in English pottery for electricity, 76, faub. St. Denis, Paris.
Compagnie Anonyme Continentale, Vulcan Watt Hour Meters, 9, rue Pétrelle, Paris. London agents: Geipel & Lange, Vulcan Works, St. Thomas-st., S.E.
Compagnie Anonyme Continentale pour la Fabrication des Compteurs à Gaz et Autres appareils, Chaussée de Mons 93, Brussels.
Compagnie Anonyme d'Eclairage Electrique de la Chartre, sur le Loir (Sarthe), France.
Compagnie Auxiliaire d'Electricité (Soc. Anon.), electric light & power contractors, 75, rue Potagère, Brussels. (Telegrams: "Auxelectric, Brussels." Telephone No. 3747.)
Compagnie Belge d'Electricité Siemens-Schuckert, rue du Congres 15, Brussels.
Compagnie Belge pour la Fabrication des Compteurs et Materiel Gaz, Eau, Electricité (Soc. Anon.), 127–129, rue des Palais, Brussels.
Compagnie Centrale d'Eclairage et de Transport de Force par l'Electricité, 22, rue Rossini, Paris. (Telephone No. 228.13.)
Compagnie Centrale d'Electricite de Moscow, central station at Ekaterinoslav. (Telegs.: "Magnet, Ekaterinoslav.")
Compagnie Centrale d'Electricité de Moscou (Société Anonyme). Chief offices: 30, quai de Coronmeuse, Liége, Belgium. Offices & works: Moscow, Russia. (Telegrams: "Magnet, Liége;" & "Magnet, Moscou.")

Compagnie Continentale Edison, 28, rue de Châteaudun, Paris.
Compagnie de Chemins de fer de l'Est, faub. St. Denis, Paris.
Compagnie de Chemins de fer de l'Etat, 50, rue de Châteaudun, Paris.
Compagnie de Chemins de fer de l'Ouest, rue de Rome, Paris.
Compagnie de Chemins de fer d'Orléans, 1, place Walhubert, Paris.
Compagnie de Chemins de fer du Nord, Services Electriques, 18, rue de Dunkerque, Paris.
Compagnie de Constructions Electriques (Soc. Anon.), 33 bis, quai d'Issy, Issy-les-Moulineaux, Paris.
Compagnie d'Eclairage Electrique du Secteur des Champs-Elysées, 2, avenue des Ternes, Paris.
Compagnie d'Eclairage par le Gaz et l'Electricité de la Ville de Montluçon, electrical engineers, Montluçon (Allier), France.
Compagnie d'Electricité d'Angers et Extensions, quai Félix Faure, Angers, France.
Compagnie d'Electricité de Hasparren (Soc. Anon.), Hasparren, France. Director, J. de Heriz.
Compagnie d'Electricité d'Ixelles et Extensions Société Anonyme, 101, Chaussée de Wavre, Ixelles, Brussels.
Compagnie d'Electricité de l'Ouest Parisien (Ouest Lumiere), 3, quai National, Puteaux (Seine), France. (Telephone No. 539-21.)
Compagnie d'Electricité de l'Ouest-Parisien, 73, boul. Haussmann, Paris.
Compagnie d'Electricité de Montpellier (Hérault), France. Capital: 1,500,000 frs. (Felix de Montravel, manager.) (Telegs.: "Electricité, Montpellier." Teleph. No. 2-15.)
Compagnie d'Electricité de Moulins, Usine de la Croix Duret, Yzeure, près Moulins (Allier), France.
Compagnie d'Electricité de Seraing et extension (Société Anonyme), Seraing-sur-Meuse.
Compagnie d'Electricité de Spa, central station, Spa, Belgium.
Compagnie d'Exploitation de Tramways et de Chemins de Fer, railway & tramway contractors, 19, rue Louis le Grand, Paris.
Compagnie de Fives-Lille pour Constructions Mécaniques et Entreprises (soc. anon.), electrical & general engineers, 64, rue Caumartin, Paris; & at Fives (Nord) & Givors (Rhône).
Compagnie de Gaz et Electricité, Angoulême (Charente), France.
Compagnie de l'Industrie Electrique et Mecanique, brevets Thury, continuous & alternating current dynamo machines (Thury system), Geneva, Switzerland. (Telegrams: "Electricité, Genève.")
Compagnie de l'Ouest Électrique, "Le Mans Rennes," 26, rue de la République, Lyon, France.
Compagnie de Signàux Electriques pour Chemins de Fer, electric signal makers, 20, rue Lafayette, Paris.
Compagnie de Telegraphie sans Fil (Soc. Anon.), 48, rue de Namur, Brussels. (Telegrams: "Wireless, Brussels.")
Compagnie de Traction par Trolley Automoteur (Procédés Lombard-Gerin), 5, rue Boudreau, Paris. (Telegrams: "Troloteur, Paris." Telephone No. 225-84.)
Compagnie de Tramways Electriques d'Angers, 26, rue de la République, Lyon, France.
Compagnie de Tramways Electriques de Dijon, 26, rue de la République, Lyon, France.
Compagnie de Travaux d'Eclairage et de Force (anc. Etablissements Clemançon), 23, rue Lamartine, Paris.
Compagnie des Accumulateurs Electriques Blot, Société Anonyme, capital 1,600,000 frs. Offices: 39 *bis*, rue de Chateaudun, Paris. Factory: Boves (Somme). (Telegrams: "Accumulat, Paris." Telephone No. 148.62.)
Compagnie des Bronzes, electrolier manufacturers & fitters, 28, rue d'Assaut, Brussels.
Compagnie des Chemins de Fer de Paris à Lyon & à la Méditerranée, 20, boul. Diderot, Paris.
Compagnie des Eaux & d'Electricité de l'Indo-Chine, 58, rue de Londres, Paris. (Teleph. No. 277-13.)
Compagnie des Fils & Cables Electriques, 1, quai National, Puteaux, France.
Compagnie des Forges de Chatillon, Commentry & Neuves-Maisons, steel moulding pieces, telegraph-poles & wires, 19, rue de La Rochefoucauld, Paris.
Compagnie des Lampes à Arc Jandus, 35, rue de Bagnolet, Paris. (Telegs.: "Clutch, Paris." Teleph. No. 912-65.) (A. Lecomte, manager.)
Compagnie des Magnetos Simms-Bosch, Ltd., 22, 24, rue Violet (15me Arr.), Paris. (Telegrams: "Magneto, Paris." Telephone No. 716-03.)
Compagnie des Moteurs a Grande Vitesse (System Carels), L. Pitot, agent, 44, rue Lafayette, Paris.
Compagnie des Moteurs Duplex, gas & petroleum engine makers, 130, rue Lafayette, Paris. (Telephone No. 405-17.)
Compagnie des Moteurs Niel, makers of the Niel gas engine, 22, rue Lafayette, Paris.
Compagnie des Moteurs Universels "Grob," motor manufacturers, 208 bis, rue Lafayette, Paris. (Telegrams: "Petrogrob, Paris." Telephone No. 419-76.)
Compagnie des Tramways Électriques, Neuchatel, Switzerland. (Director, Philippe Tripet.)
Compagnie des Tramways Mécaniques des Environs de Paris (Soc. Anon.), 40, boul. Haussmann, Paris.
Compagnie des Trefileries du Hâvre (anciens Etablissements Lazare Weiller), telephonic & telegraphic engineers, 29, rue de Londres, Paris. Works: Angoulême (Charente).
Compagnie du Chemin de Fer Electrique du Val de Ruz, Cernier, Switzerland.
Compagnie du Gaz de Saint-Quentin, electric light engineers & contractors, Saint-Quentin, France.
Compagnie du Gaz (Eclairage des Théâtres par Moteurs à Gaz), Toulouse (Haute-Garonne), France.
Compagnie du Gaz et d'Electricité de Rennes, Rennes, France.

Compagnie du Genève-Veyrier, electric tramway, Geneva, Switzerland.
Compagnie du Secteur Electrique de la Rive Gauche de Paris, 124, boul. St. Germain, Paris. (Telephone Nos. 824–17 & 824–18.)
Compagnie du Théâtrophone (Société Anonyme d'Auditions Téléphoniques), 23, rue Louis-le-Grand, Paris.
Compagnie Electrique Anversoise, distribution of electricity, 8, quai Cockerill, Antwerp, Belgium. (Telegrams: "Electrique, Anvers." Telephone No. 1605.)
Compagnie Electrique de la Loire, electrical engineers and contractors, St. Etienne, France.
Compagnie Electrique des Tramways de la Rive Gauche de Paris, 20, rue de l'Arcade, Paris.
Compagnie Electrique du Bassin de Charleroi, electric light & power station, Roux, nr. Charleroi.
Compagnie Electrique Edison de St. Etienne, 14, rue du Treuil, St. Etienne, France.
Compagnie Electrique Parisienne, arc lamp makers, 23, avenue Parmentier, & 44, rue du Louvre, Paris.
Compagnie Electro Mécanique, electrical engineers & contractors, Le Bourget (Seine), France. (Telegrams: "Electranic, Le Bourget." Telephone No. 24.)
Compagnie Electro-Thermique Keller Leleux & Cie., 3, rue Vignon, Paris.
Compagnie Européenne d'Eclairage et de Chauffage par le Gaz, Rouen, France. (Telephone No. 387.)
COMPAGNIE, F. A. C., electrical measuring apparatus, voltmeters & ammeters, industrial & of precision, 81, rue St. Maur, Paris. (Telegs.: "Compafac, Paris.") *See advt., under* MEASURING INSTRUMENTS.
Compagnie Française d'Éclairage Electrique, 1 *bis*, cité Bergère, Paris.
Compagnie Française de Charbons pour l'Electricité, carbon makers, 53, rue de Châteaudun, Paris. Works: Nanterre (Seine). (Telegrams: "Charbelec, Paris.")
Compagnie Française d'Energie Electrique, 47, rue St. André des Arts, Paris.
Compagnie Française de l'Accumulateur Aigle, 14, rue Felicien David, Paris.
Compagnie Française de Voitures Electromobiles, 49–51, rue Cardinet, Paris. (Telephone Nos. 542–68 & 581–97.)
Compagnie Française des Accumulateurs Electriques "Union" (Soc. Anon.), 27, rue de Londres, Paris.
Compagnie Française des Câbles Télégraphiques, 38, ave. de l'Opéra, Paris. (Telegrams: "Câbles, Paris." Telephone No. 235–56.)
Compagnie Française des Carbures de Calcium, Séchilienne (Isère), France. H. Cuinat, managing director. (Telegrams: "Carbures, Séchilienne.")
Compagnie Française des Compteurs, "Système Aron" B^te^ S. C. D. G., electricity meter manufacturers, 200, quai de Jemmapes, Paris. (Telegrams: "Aronmètre, Paris." Telephone No. 427–45.)
Compagnie Française des Métaux (soc. anon.), metallurgists, 10, rue Volney, Paris. Works: St. Denis (Seine); Deville-les-Rouen (Seine-Inf.); Givet (Ardennes); Terifontaine (Oise); Castelsarrasin (Tarn-et-Garonne).
Compagnie Française des Moteurs à Gaz et des Constructions Mécaniques, 135, rue de la Convention, Paris.
Compagnie Française des Tramways Electriques et Omnibus de Bordeaux, rue du Commandant Marchand, Bordeaux.
Compagnie Française des Transmissions flexibles, 46, boul. Haussmann, Paris. (Telegrams: "Transflex, Paris." Telephone No. 295–44.)
Compagnie Française du Bi-Metal, makers of the Martin Bi-Metallic Wire, 5, rue d'Athénes, Paris; & Joinville-le-Pont, France.
Compagnie Française du Celluloid, makers of accumulator boxes, &c., 11, rue Bailly, & 98, rue Beaubourg, Paris. (Telegrams: "Celluloid, Paris." Telephone No. 13746.)
Compagnie Francaise Maritime et Coloniale de Telegraphie sans Fil, 59, rue de Provence, Paris. (Telegrams: "Sanfil, Paris.")
Compagnie Française pour l'Exploitation des Procédés Thomson-Houston, electrical engineers, 10, rue de Londres, Paris. (Telegrams: "Elihu, Paris." Telephone Nos. 158–11 & 158–81.)
Compagnie Française pour la Fabrication des Lampes Electriques à Incandescence, 34, rue Godot de Mauroi, Paris. A. Larnaude, managing director. (Telegs.: "Pulp, Paris." Teleph. No. 227–56.)
Compagnie Générale d'Accumulateurs et de Traction, 81, rue St. Lazare, Paris.
Compagnie Générale d'Appareillage, anciens Etablissements Delafollie, Bastide, Castoul aîné et Cie., electric light apparatus makers, 7, rue Jules Cesar, Paris XIIe. (Telegs.: "Castoulem, Paris." Teleph. No. 930–80.)
Compagnie Générale d'Eclairage de Bordeaux (Soc. Anon.), electric light contractors, 46, Allées de Tourny, Bordeaux (Gironde), France.
Compagnie Générale d'Electricité, incandescent lamp manufacturers, Apartado 150, Barrio del Pacifico, Madrid. (Telegrams: "Incand, Madrid." Telephone No. 326.)
Compagnie Générale d'Electricité, 5, rue Boudreau, Paris. (Telegrams: "Electricité, Paris." Telephone No. 218–52.)
Compagnie Générale d'Electricité de Creil, Procédés Siemens-Schuckert, 74, rue Saint Lazare, Paris, France. (Telegrams: "Crelectric, Paris." Telephone Nos. 270–75 & 212–37.)
Compagnie Générale d'Electro-Chimie de Bozel, 18, rue de la Pépinière, Paris. (Telegrams: "Ferrosil, Paris." Telephone No. 211–87.)
Compagnie Générale de Constructions Electriques, Argenteuil (Seine-et-Oise), France.

Compagnie Générale de Constructions Electriques (Anciens Etablissements Houry & Cie. et Vedovelli & Priestlay), cable manufacturers, 60, rue de Provence, Paris. (Telephone No. 130-06.) Works: Argenteuil (Seine-et-Oise).

Compagnie Générale de Traction, electric traction engineers, 62, rue Taitbout, Paris.

Compagnie Générale de Travaux d'Eclairage et de Force (anciens établissements Clémançon), electric light & power engineers, 23, rue Lamartine, Paris. (Telegrams: "Giorno." Telephone No. 117.40.

Compagnie Générale des Conduites d'Eau (Soc. Anon.), cast-iron pipe manufacturers, 430, rue des Vennes, Liége, Belgium. (Telegrams: "Doat, Liége.")

Compagnie Générale des Lampes à Incandescence, 5, rue Boudreau, Paris; & Ivry-sur-Seine, France.

Compagnie Générale des Tramways d'Anvers (Soc. Anon.), Antwerp, Belgium. (Telephone No. 2506.)

Compagnie Générale Electrique, accumulators, dynamos & arc lamps, rue Oberlin, Nancy, France.

Compagnie Générale Electrique de Nancy (Société Anonyme). Edgard Modesse, director Belgium branch, 105–107, ave. Van Volxem, Brussels.

Compagnie Générale Française de Tramways, electric tramway engineers, 29, rue de Londres, Paris. (Telegs.: "Francotram, Paris.")

Compagnie Générale Franco-Russe d'Accumulateurs, rue Fossé-aux-Loups 37, Brussels; & 1, sq. Labruyère, Paris.

Compagnie Générale pour la Fabrication des Appareils d'Eclairage, &c., 7, rue Jules César, Paris XIIe.

Compagnie Genevoise des Tramways Electriques, La Jonction, Geneva.

Compagnie Industrielle de Traction pour la France & l'Etranger, 15, rue d'Argenteuil, Paris. (Telephone No. 310–28.)

Compagnie Internationale d'Eclairage Electrique, electric light contractors, 19 bis, place du Palais de Justice, Tours, France.

Compagnie Internationale d'Électricité (Société Anonyme), manufacturing electrical engineers, 30, quai de Coronmeuse, Liége, Belgium. Managing director, H. Pieper. (Telegrams: "Electron, Liége." Telephone Nos. 801 & 896.)

Compagnie Internationale d'Électricité (Société Anonyme), 141, rue Lafayette, Paris. (Telegrams: "Legia, Paris." Telephone No. 418.44.)

Compagnie Luchonnaise d'Eclairage par le Gaz et par l'Electricité à Bagnères-de-Luchon (Soc. Anon.), Bagnères de Luchon, France.

Compagnie Meridionale d'Eclairage & de Force, 67, rue de Paradis, Marseille (Bouches-du-Rhône), France.

Compagnie Mutuelle (Société Anonyme), gas, water, & electricity, rue Fossé-aux-Loups 44, Brussels.

Compagnie Mutuelle de Tramways (Société Anonyme), 31, rue du Marais, Brussels.

Compagnie Nationale d'Electricité (système Ferranti), 29, rue de la Victoire, Paris. (Telephone No. 124–31.)

Compagnie Parisienne de Force Motrice, electrical engineers, 30, rue Beaubourg, Paris.

Compagnie Parisienne d'Installations Electriques, 21, rue Davioud, Paris.

Compagnie Parisienne de l'Air Comprimé (Soc. Anon.), electric light engineers & contractors, 54, rue Etienne-Marcel, Paris. (Telegrams: "Parélécair, Paris.") Works: quai de Jemmapes, rue St. Fargeau; & boul. Richard-Lenoir.

Compagnie Parisienne des Voitures Electriques (Procédés Kriéger), 48, rue de la Boetie, Paris; & rue Volta, Puteaux, France.

Compagnie pour la Fabrication des Compteurs d'Usines à Gaz, 29, rue Claude Vellefaux, Paris.

Compagnie pour la Fabrication des Compteurs & Matériel d'Usines à Gaz, compteur d'Electricité, rue des Palais 129, Brussels.

Compagnie pour l'eclairage des villes et la fabrication des compteurs et appareils divers, rue Lafayette 174, Paris.

Compagnie Suisse d'Appareillage Electrique, dealers in electrical supplies, rue Verdi 17, Nice. (Teleph. No. 8–93.)

Compagnie Thermo-Electrique (Systéme Hermite), 27, rue des Cloys, Paris.

Compagnie Universelle d'Eclairage, de Chauffage & de Force Motrice, Auxerre (Yonne), France.

Compagnie Vaudoise des Forces Motrices des Lacs de Joux et de l'Orbe, place St. Francois 15, Lausanne, Switzerland.

Compagnie Watt, electrical contractors, 74, rue de Paradis, Marseille (Bouches-du-Rhône), France.

Companhia do Gaz do Porto, electric light supply company, rua da Cancella Velha, Oporto, Portugal. (Telegrams: "Gaz, Porto." Telephone No. 418.)

Companhia Portugueza de Electricidade (Siemens-Schuckert Werke), rua Augusta No. 27, Lisbon.

Companhias Reunidas Gaz e Electricidade, electric light contractors, Lisbon, Portugal.

Compañia Baezana de Electricidad, Baeza (Jaen), Spain.

Compañia Barcelonesa de Electricidad, electric light & power contractors, Rambla Canaletas 5 & calle Tallers 4, Barcelona, Spain.

Compañia Central de Alumbrado, Granada, Spain.

Compañia de Electricidad, electrical engineers & importers of electrical appliances, Tafalla, Navarra, Spain.

Compañia de Electricidad, Gijon. Meliton Romero, manager.
Compañia de Luz Electrica, Infiesto (Oviedo), Spain.
Compañia de Luz Electrica, Leon, Spain.
Compañia de Luz Electrica, Lerida, Spain.
Compañia de Luz Electrica, Ponferrada, Spain.
Compañia de Teléfonos, dealers in telephone apparatus, 52, Albareda, Seville, Spain.
Compañia del Tramvia Electrico de Cadiz à San Fernando y la Carraca, Cadiz.
Compañia Electrica de Bedia, Jardines 5, Bilbao, Spain.
Compañia Electrica de San Sebastian, San Sebastian.
Compañia Excelsior, electrical apparatus, San Martin 28, San Sebastian, Spain.
Compañia Fabril de Carbones Eléctricas (Soc. Anon.), 27, rambla Cataluna, Barcelona; & (works). Castellgali, Spain.
Compañia General Abulense Fabrica de Luz Electrica (president, ramon Oller; secretary, Jorge Navarro), Avila, Spain.
Compañia General Electrica, Granada, Spain.
Compañia General Madrileña de Electricidad, calle Espoz y Mina 6, Madrid. (Telegrams: "Elektron, Madrid.")
Compañia General Sevillana de Electricidad, manufacturers of electrical apparatus, San Pablo 38, Seville, Spain.
Compañia Inglesa de Alumbrado, Marquis de Larios 12, Malaga, Spain.
Compañia Jerezana de Electricidad, Jerez de la Frontera (Cadiz), Spain.
Compañia Lyonesa de Alumbrado & Calefaccion, Coruña, Spain.
Compañia Popular de Gas y de Electricidad, Gijon, Spain. (Telegrams: "Gas, Gijon." Telephone No. 36.)
Compañia Toresana de Electricidad (chief engineer, John W. Chisholm), Toro, Zamora, Spain.
Comptes Rendus hebdomadaires des séances de l'Académie des Sciences (subscriptions, Postal Union, 44 frcs.), 55, quai des Grands-Augustins, Paris. *See* Academie des Sciences.
Compteurs d'Energie Electrique (système Aron), 200, quai de Jemmapes, Paris. (Telegrams: "Aronmètre, Paris." Téléphone No. 427–45.)
Comptoir de publicité (Van Godtsenhoven et Thibesard), electric advertising signs, place de Brouckère 14, Brussels.
Comptoir Général d'Electricité, electrical engineers & agents, 56, rue de la Victoire, Paris. (Telegrams: "Voltamper, Paris.")
Comptoir Industriel et technique (Ancienne Maison Emile Picard), patent agents, 14, rue du Trône, Brussels, Belgium.
Comptoir Lyon-Alemand, silver & gold wire manufacturers, 13, rue Montmorency, Paris.
Conovaloff, D. P., professor of chemistry in University of St. Petersburg.
Conovaloff, M. A., electrical engineer, Helsingfors, Russia.
Conquet, H., electric light fittings maker, 27, boul. des Italiens, Paris.
Conrad, Franz R., manufacturer of electric light fittings, 19, Glogauerstr., Berlin, S.O. 36.
Conrad, H., telegraph & telephone contractor, Nicolaistr. 21, Weissenfels a. d. S., Germany.
Conradty, C., maker of carbons for ordinary and coloured electric arc lighting, battery plates & microphones, Nuremberg, Germany. (Telegrams: "Ceconradty, Nürnberg." Telephone No. 1776.)
Conrard, A., electrical engineer, Vignot, près Commercy, France.
Conservatoire National des Arts et Métiers (G. Chandèze, director; Marcel Deprez, professor of industrial electricity; J. Violle, professor of applied physics), 292, rue St. Martin, Paris. (Telephone No. 129–19.)
Consortium für elektrische Beleuchtung, St. Moritzbad, Switzerland.
Constantia Electric Works, incandescent lamp manufacturers, Venlo, Holland (Telegrams: "Constantia Venlo." Telephone No. 16); 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester: Suffolk Works, Cozells-st., Birmingham; & 62, Robertson-st., Glasgow.
Constantinis, A., telegraph, telephone, electric light & mining engineer, Athens, Greece. (Telegrams: "Constantinis, Athens.")
Constantinovitch, Apollo, electrical engineer, Apothecary Island, 8, Lopouchinskaia, St. Petersburg. (Telephone No. 20294.)
Constructions Générales pour l'Eléctricité, makers of the Buchet Arc Lamp, 20, rue Greffülhe, Levallois-Perret (Seine), France.
Contal, Requillart & Chalas, accumulator manufacturers, 5, rue Voltaire, Levallois (Seine), France.
Contempré, François, electrician, 62, rue des Capucins, Brussels.
Contenau et Godard Fils, platinum manufacturers & refiners, 7, rue du Bouloi, Paris.
Conti, Bruno & Biraghi, electrical & mechanical engineers. Speciality: small & medium-sized electric motors, dynamos & ventilators, 4, via Sant' Ugo, Genoa, Italy. Office: Via Seurreria 23–25, Genoa. (Telegrams: "Brunobi, Genoa." Telephone No. 20–65.)
Continental Caoutchouc & Gutta Percha Co., Vahrenwalderstr. 100, Hanover, Germany. (Telephone No. 19.)

Continental Telegraphen Co., A. G., Charlottenstr. 15B, Berlin, S.W.
Continentale Gesellschaft für Elektrische Unternehmungen, Nürnberg. (Telegrams: "Continentale, Nürnberg." Telephone No. 340.)
Contreras, Adriano, mining & consulting engineer, editor of the *Revista Minera Metalurgica y de Ingenieria*, Argensola 19, Madrid.
Conz, G. m. b. H., makers of dynamos & electric machines, Hamburg, Germany. (Telegs.: "Conzdynamo, Hamburg." Teleph. Nos. 522 & 923.)
Cooke, H. A., British Government Commercial Agent for Russia, 7, Malaia Dmitrovka, Moscow.
Co-operativa Electrica Coruñesa, Coruña, Spain.
Co-operativa Gaditana, electric works, Cadiz, Spain.
Cop, E., dealer in electrical supplies, 52, rue des Archives, Paris.
Copenhagen Telephone Co. *See* Kjöbenhavns Telefon Aktieselskab.
Corbeau, L., & G. Gust, accumulator & electrical apparatus manufacturers, rue des Chanteurs 45, Brussels.
Corbeaux, —, electrical apparatus maker, place du Marché-aux-Vaches, Maubeuge (Nord), France.
Corbin, A., electrician, 20, rue Descarte, Angers, France.
Corcho Hijos, electrical apparatus manufacturers, Santander.
Cordes & Co., electrical fittings, shades, reflectors & casings for arc lamps, Köpenickerstr. 55, Berlin, S.O. (Telephone IV. No. 2266.)
Corella, Santiago, managing director Sociedades Electricas Reunidades, Blancas 7, Zaragoza.
Cornagliotti, Giuseppe, electrical engineer, Piazza Cariguano 2, Turin, Italy.
Cornet, J., electrical instrument maker, 66, rue de Rennes, Paris.
Cornet, L., telephone engineer, 33, rue Rudolphe, Antwerp, Belgium.
Cornetet, —, electrical contractor, 40, rue de Courcelles, Levallois-Perret (Seine), France.
Cornette, H. (maison Gouamier), electric bell manufacturer, 24, rue Michel-le-Comte, Paris.
Cornides & Co., wire manufacturers, I. Akademiestrasse 2, Vienna. (Telephone No. 2507.)
Corrons, José, optician & electrician, 4, rambla de Canaletas, Barcelona, Spain.
Corsepius, Dr. M., consulting electrical engineer, Cöln, Germany.
Corsini, Ing. Eurico, dynamos & motors, Borgo Leondoro 10, Parma, Italy.
Cosijn, M. C. F. J., engineer, Witte Singel 73, Leiden, Holland.
Cosmos (weekly; annual subscription, 20 frs.; foreign countries, 25 frs.), 5, rue Bayard, Paris, VIII.
Cosmovici, Alexandre, electrician, Str. Bonaparte 6, Bucharest, Roumania.
Cosson, —, electrician, 4, rue Bosio, Paris.
Costa, Cav. Emilio, electrical engineer, director of the Società Anglo-Romana per l'illuminazione di Roma, via Poli 14, Rome.
Costa y Ponces, manufacturers of electric light apparatus, Fernando VII. 42, Barcelona, Spain.
Coster, Maurice, M.E., M.AM.I.E.E., Sté. Industrielle d'Electricité, Procédés Westinghouse, 45, rue de l'Arcade, Paris.
Costil, E., electrician, 7, rue Solferino, Paris.
Cotonificio, Veneziano, St. Marta, electric light installation, Venice.
Cotrel-Decaux, —, electrician, 1, rue des Bouchers, Péronne, Somme, France.
Cottancin Construction, The, makers of conduits for electric wires, 47, boul. Diderot, Paris (Telegrams: "Cotcinossa, Paris." Telephone No. 909–00); & London.
Cottard, J. B., electrical engineer, 30, rue de la Chaise, Creusot (Saône-et-Loire), France.
Cotte, —, electrician, 75, Grand Rue, Tarare (Rhône), France.
Cottin, R., electric light fittings manufacturer, 26, rue Amelot, & 3 & 5, rue du Chemin-Vert, Paris. (Telephone No. 931–17.)
Cottrell, W. H., A.I.E.E., superintendent, Eastern Telegraph Co., Syra, Greece; & H. B. M.'s Consul.
Coudray, J., electric light engineer & contractor, 2, rue du Petit Change, Chartres (Eure-et-Loiro), France.
Couffinhal & fils, manufacturing electrical engineers, 1, rue du Lycée, St. Etienne (Loire).
Coupard, A., superintendent Anglo-American Telegraph Co., 118, boul. de Strasbourg, Havre, France.
Coupier & Cie., electric light fittings, 100, rue Amelot, Paris.
Courbebaisse, E., electrical apparatus maker, 10, rue Luflade, Bordeaux. (Teleph. No. 20–66.)
Cours d'électricité industrielle à l'Ecole des apprentis Ch. Mildé. M. J. Laffargue, professeur, 60, rue Desrenaude, Paris.
Cours d'électricité industrielle à la Fédération générale professionnelle des chauffeurs-mécainciens-électriciens de France. M. J. Laffargue, professeur, Mairie du 4e Arrondissement, Paris.
Court Luc & Co., manufacturing electricians, 88, 90, & 92, rue Robert, Lyon, France. (Telegrams: "Courlas, Lyon." Telephone No. 7–17.)
Courtant, Auguste, engineer, directeur à la maison Ch. Mildé et Cie., 51, 58 & 60, rue Desrenaudes, Paris.
Courtet, Jean Baptiste, electrician & electrical contractor, à Romans (Drôme), France.
Courtier, A. A., director of Société d'Eclairage Electrique, 250, rue Lecourbe, Paris.
Courtois, Gabriel, engineer & assistant manager, Ste. Industrielle des Téléphones, 3, rue Leconte de Lisle, Paris.
Courtois de Langlade, electrician, Arles, Bouches du Rhône, France.

Courtois, Louis Marie René, engineer, Ste. de matériel téléphonique, 219, rue de l'Université, Paris, France.
Courtoy, Prof. R., electrician & professor of physics at the Ecole Véterinaire, Brussels.
Cousin, Emile Felix, engineer, Secteur des Champs Elysées, 75, avenue Wagram, Paris.
Cousin, Prof. E., electrical engineer, 33, ave. de la Patte d'Oie, Toulouse, France.
Cousyns, L., electric light & telephone installations, rue de l'Empereur 82, Antwerp.
Couteux, L., chemical manufacturer, 57, rue des Archives, Paris. (Telephone No. 131-99.)
Couturier, L., electrical apparatus maker, 39, rue de la Paroisse, Versailles, France. (Telephone No. 164.)
Couvreur, A., electrical engineer, place Verte 19, Verviers. (Telephone No. 243.)
Couvreux, Abel, electrical engineer, 78, rue d'Anjou, Paris.
Couvreux, P., electric light engineer & contractor, 60, cours Vitton, Lyon; & 68, rue du Sablonat, Bordeaux, France.
Cox, H., electrical engineer, Director of the Maschinenfabrik Esslingen, Cannstatt, Germany. (Telephone No. 148.)
Cracchi, —, electrician, 5, rue de la Pomme, Toulouse (Haute Garonne), France.
Crahay, J., electrician, 96, rue de Mérode, Brussels.
Cramer, Ferd., electrical manufacturer, Naumburgerstr. 27, Leipzig-Plagwitz.
Cramer, Hans, telegraph & telephone engineer & constructor, Blankenburg-Harz.
Crampon, G. (successor to Lefèvre, engineer E.C.P.), electrician, rue de la Pompe 8, Paris 16e. (Telephone No. 697-32.)
Craven, Robert H., mining, electrical & mechanical engineer, Miniera de Libiola, Sestri Levante, Italy. (Telegs.: "Craven, Sestri Levante.")
Cravero, Seb., & Figlio, electrical apparatus, via Cavour 17, Turin, Italy.
Crawshaw, E., resident engineer, Malaga Electricity Co., Malaga, Spain.
Crette, E., electrical engineer, 120, boul. de Clichy, Paris.
Cristalleries de Choisy-le-Roi, Houdaille & Triquet, beads for incandescent lamps, 40, rue de Paradis, Paris. Works: Choisy-le-Roi (Seine).
Cristoforis, Ing. G., contractor, via S. Brigida 51, Naples.
Crocco, Ing. Giosué, electrical engineer, Solita Famagosta 4/4, Genoa, Italy.
Croci, Alfredo, electrical engineer, agent of the Vereinigte El. Ges., vis Leopardi 8, Milan, Italy.
Croizat, Vittorio, electrical apparatus, via Gioberti 11, Turin, Italy. (Telephone No. 77.)
Croizier, A. H., engineer, 9, rue de Mogador, Paris. (Telegs.: "Calcobrik, Paris." Teleph. No. 295-65.)
Croon & Co., electrical engineers & importers of electrical appliances, Electro-technisch Bureau, Rokin 154, Amsterdam. (Telephone No. 13.)
Crosio, Rag. Luigi, B. G., electrical engineer, 48, Foro Bonaparte, Milan
Crosogino, Dr. F., electro-chemist, Hohenfels bei Sehnde, Hannover.
Crosse, V., & Cie., electric bell manufacturers, 47, ave. Parmentier, Paris.
Crotogino, H., branch manager, Allgemeine Elektr. Ges., Augustastr. 69, Breslau XIII., Germany.
Crous, C. W., electrical apparatus, En Blanch 5, Valencia.
Crouzatier, —, electrician, Capestang (Hérault), France.
Crova, André, professor, faculté des sciences de Montpellier, 14, rue du Carré-du-Roi, Montpellier (Hérault).
Cruto, Alessandro, electrical engineer, corso Vittorio Emanuele 32, Turin.
Cserháti, Jenö, consulting engineer, Ganz & Co., 1, Szilágyi Dezsötér II., Budapest, Hungary.
Cuadra, Emilio de la, manager Sociedad Electrica, Lerida, Spain.
Cuau, Charles, electrical engineer, 137, boul. Magenta, Paris.
Cuau Ainé & Cie., pulsometers, automatic injectors, &c., 234, rue Championnet, Paris.
Cuénod, Julien, directeur de la Sté. Française pour l'Industrie et les Mines, 45, boul. Haussmann, Paris.
Cuénod, H., et Ch. Fournier, engineers, electrolytic apparatus for the manufacture of soda & chloride & electric bleaching, 2, rue du Rhone, Geneva. (Telegrams: "Ateliercuénod, Geneva.")
Cuinières, —, engineer, 49, boul. Piepus, Paris.
Culerrier, —, electric bells, rue Perdonnet 4, Paris.
Culmsee, V., controller & electrician, Great Northern Telegraph Co., Mariehamn, Finland.
Cunin, —, electrical engineer, 15, Tronchet, Paris.
Curman, N. R., director of State Telegraphs, Stockholm, Sweden.
Custer, Willy, insulating material manufacturer, Zurich, V.
Cutogno, O., assistant superintendent, Eastern Telegraph Co., Rettimo.
Cuypers, W., & Stalling, machine oil manufacturers, Grossenhainerstr. 34, Dresden, Saxony. (Telephone No. 3823.)
Czeija, Nissl & Co., telephone & telegraph engineers, 89, Kaiserstr., Vienna VII/3. (Teleph. No. 9285.)
Czepek, Rudolf, electrical engineer, 13 & 15, Neustift, Brunn, Austria.
Czermak, K., electrical engineer & agent, 3, Fruchtgasse, Vienna, II/2.

Dachsel, Edmund, electrician, Gustav Adolfstr. 12, Weissensee, Berlin.
Dahan, E., telegraph engineer, Chinon, Indre et Loire, France.

Dahl, C., & Co., general agents for electrical stores, 14, Kannikestrade, Copenhagen K., Denmark.
Dahlander, Robt., electrical engineer, Royal Administration of Swedish State Railways, Stockholm, Sweden.
Dahlgren, A., electrical stores, 25, Lachtinskaya, St. Petersburg.
Daimler-Motoren-Gesellschaft, Marienfelde, Berlin.
Daisy Haus, Behrendts & Basta, electric toy makers, Friedrich Wilhelm Pl. 15, Berlin Friedenau. Germany.
Daix, V., electrical engineer, 72, rue Louis Blanc, Paris.
Dalianis, C., officer-in-charge, Eastern Telegraph Co., Pyrgos, Greece.
Dall' Eco, A., electrical measuring instrument maker & dealer, 10, via Giotto, Florence, Italy.
Dalle Molle & Co., electrical agents, via due Macelli 10-11, Rome.
Dalloz & Gauthier, electricians, 1, cours Lafayette, Lyon (Rhône), France.
Dalmau, Manuel, electric light & telephone contractor, Doctor Don 8, Barcelona, Spain. (Telephone No. 1507.)
Dal-Re, Carlos, electrical supplies, Barquillo 5, Madrid. (Telegrams: "Dalré, Madrid." Telephone No. 501.)
Damade, E. J., & Cie., dynamo brushes, 19, rue Faidherbe, Douai, Nord, France.
Damoiseau, Gaston, engineer, Société Anon. de Locomotion Electrique, 23, rue du Conseil, Asnières (Seine), France.
Damseaux, R., electrician, 16, rue des Ménapiens, Brussels.
Danbé, fils, electrician, avenue de Villiers, 47, Paris.
Dángers, Carl, agent for Bergmann Elektricitäts Act. Ges., Gartenstr. 8, Breslau V.
Daniel, Sack & Co., electrical engineers, 55, rue Legendre, Paris.
Danielson, Ernst, M.I.E.E., electrician, Stöpsjön, Fogdhyttan, Sweden.
Danière, Frères, electrical engineers & contractors, 20, rue Jules Janin, Roanne (Loire), France. (Telegrams: "Danière, Electriciens, Roanne." Telephone No. 6.)
Danioni, Cav. Filippo, consulting electrical engineer, San Marco 386, Venice. (Telegrams: "Ingegnere Danioni, Venezia." Telephone No. 413.)
Danneels (Société Anonyme des Ateliers), makers of gas & petroleum engines; electric light installations, rue des Remouleurs 69, Gand, Belgium.
Dansk Aktieselskab Siemens-Schuckert, Palaisgade 6, Copenhagen.
Dansk Forsölvnings-Anstalt, electroplaters, Kjöbmagergade 50, Copenhagen K.
Dansk Ingeniörforening, Amaliegade 38, Copenhagen K., Denmark.
Danubia Act. Ges. für Gaswerks, Beleuchtungs und Messapparate, manufacturers of electroliers, 49, Porzellangasse, Vienna IX. (Telephone No. 14177.)
Danziger Elektrische Strassenbahn Aktiengesellschaft, Mirchauerweg 6/10, Danzig.
Dapples et Papaduca, electrical engineers, rue du Rhone 3, Geneva.
Dar-Sanaï-Osmanié, M. Raïf, & Cie., wood & metal workers, director Ahmed Ihsan, Akhour-Capou, Constantinople.
Daraignez, Alp., electrician, Dax (Landes), France.
Dard, L., maker of engineers' tools, 34, rue Pérignon, Paris. (Telephone No. 707-62.)
Dareste de la Chavanne, E. C. C., electrical engineer, 84, boul. de Courcelles, Paris.
Daries, Aristide, electrician, 32, rue Montpensier, Pau (Basses-Pyrénées), France.
Darras, A., manufacturing engineer, 123, boul. St. Michel, Paris.
Dary, Georges, electrician & secretary of *l'Electricien*, 7, rue de l'Union, Clamart (Seine), France.
Dary, accumulator makers, 33 & 35, rue Chevallier, Levallois-Perret (Seine), France. Telephone No. 551-78.)
Dasse, Gérard, constructing electrician, 49, rue David, Verviers, Belgium. (Telegrams: "Gerard Dasse, Verviers." Telephone No. 533.)
Dassel, Otto, electric light contractor, Barmen. (Telephone No. 1000.)
Datterer, L., manager of the Berliner Elektricitäts Werke, Mauerstr. 78, Berlin, W.
Daube Co., G. m. b. H., Annoncen-Expedition, Berlin, S.W. 68. (Telephone Amt I. Nos. 9001-9027.)
Dauphin, Eugène, telegraph engineer, Troyes, Aube, France.
David, Ch. N., engineer, Chef de Travaux au Laboratoire Central d'Electricité, 14, rue de Staël, Paris.
David, L., electric fuse manufacturer, 9, rue de Madrid, Paris.
David, L. A., electrical engineer, via Diagonal 182, Barcelona.
David, L. E. F., chief engineer, Soc. Anon. des Etablissements Weyher & Richmond, 85, rue Manin, Paris.
David, Henri, & Cie., electricians, 4, 6 & 8, rue de la Fontaine, Arcueil (Seine), France
Davidsen, L. D., & Co., electrical engineers, 4, Nydg, Christiania.
Davignon, Guillaume, contracting electrician, rue des Bas-Arts 39, Val St. Lambert, lez Liége, Belgium
Davin, —, electric bell manufacturer & contractor, 12, rue Moustier, Marseilles, France. (Telephone No. 9-99.)
Davis, F., electrical engineer, Galleria Natta, Turin, Italy. (Telegrams: "Davis, Turin." Telephone No. 238.)

Dax, Armand de, consulting engineer, Secrétaire Administratif de la Société des Ingénieurs Civils de France, 19, rue Blanche, Paris.
Debachy, Ch., electrical & civil engineer, professor at l'École des Mines, 83, boul. Dalez, Mons, Belgium.
De Bar, —, maker of lightning conductors, 110, rue Rishan, Marcq-en-Barœul, Lille, France.
De Bavay, V., electric bells & accessories, rue Pachéco 35, Brussels.
De Benedetti, A., electrical engineer, 2, via Berchet, Milan.
Debenedetti, Tedeschi & Co., accumulator manufacturers, Strada di Pianezza 19, Turin, Italy. (Telephone No. 834.)
Deberghe, A. G., & Lafaye, screws & detached accessories for electrical purposes, 14, rue Pelleport, Paris. (Telephone No. 924-01.)
Debièrre, H., cotton wire for electric cables, 98, rue de Lannoy, Lille, France.
Debierre, Louis, electric organ maker, rue St. André 35, Nantes (Loire-Inférieure), France. (Telegrams: "Debierre orgues, Nantes.")
Debièrre, M., wires & cables, 43, rue Bernos, Lille, France. (Teleph. No. 773.)
Debièvre, A. L. J., electrician, 98, rue de Lannoy, Lille (Nord), France.
Debionne, Emile, engineer, electrical inspector to the Cie du chemin de fer du Nord, Lille, France.
De Blacker, O., electrician, 20, rue de Vallée, Ghent, Belgium.
Deboeck, P., electric light installations, rue de l'Arbre-Bénit, Brussels.
De Bonnier et Cie., chemical manufacturers, 14, rue de la Blanchisserie, Brussels.
Decauville aîné Société Anonyme des Etablissements, dynamos, Evry-Petit-Bourg (Seine-et-Oise), France.
De Cazenave, —, administrateur délégué of the Antwerp Telephone & Electrical Works, Berchem, Antwerp.
De Ceuninck, E. & R., electrical engineers, rue de la Pacification 28, Brussels.
Dechelette, —, electrician, 59, rue de Brest, Rennes (Ille-et-Vilaine), France.
Dechesne, Ch., successeur Armand Polis, electric light apparatus, rue du Chêne 11, Verviers, Belgium (Telephone No. 813.)
Decker, Aug., engineer, Stockholms Elektricitetsverk, Regeringsgatan 38, Stockholm.
Deckert & Homolka, manufacturing electricians & electric light contractors, IV. Favoriten-Strasse 42, Vienna; V. Dorottya-u. 8; & VI. Izabella-u. 88, Budapest.
Decleir, H., electrician, rue Alexiens 3, Brussels.
De Cock, E., engineer, 11, rue de la Blanchisserie, Brussels.
De Cock, P., manufacturing electrician, quai au Bois 8, Ghent, Belgium.
De Cordova, Pablo M., manufacturers' agent, 2, Gándara, Santander, Spain.
Decoulange, —, electrician, 83, Gde. Rue, Roubaix (Nord), France.
Decq Belting Factory, driving-belt makers, 36, rue d'Artois, Brussels. (Telegrams: "Decq, Courroies, Brussels." Telephone No. 707.)
De Cunsel, Victor, wood pulleys and wood casings, rue de l'Independance 68, Brussels.
Dedecker, Ed., electrician, rue des Sœurs Blanches, Ostend.
De Dion et Bouton, electrical engineers, 36, quai National, Puteaux, près Paris.
Dedreux, G., patent agent, Brunnstr. 8 & 9, München, Germany. (Telephone No. 6788.)
Defays Frères, electrical engineers, Val Benoit, Liége, Belgium.
Deffez, L., & fils, dynamo & electric machine manufacturers, 34, rue St.-Séverin, Paris.
Defontaine, J., managing director of l'Ecole Professionelle de Mécanique de Précision d'Horlogerie et d'Electricité, Palais du Midi, Brussels.
Défossez, electricians, 5, rue de Valenciennes, Caudry (Nord), France.
De Fuisseaux, F., porous cell manufacturer, Baudour, nr. Mons, Belgium.
Degen, K., globes for electric light, Curvenstr. 49, Zurich, Switzerland.
Degner, J. E., iron works & electrical supplies, Friedrichsgracht 46, Berlin, C.
Degorceix, electricians, 15, rue Pierre Raymond, Limoges, France.
Degraeve frères, electrical installations, chaussée de Haecht 44, Brussels.
De Grelle, Ch., & Co., electrical agents, 69, rue de l'Association, Brussels.
Degryse, electrician, 17, rue du Bois, Roubaix (Nord), France.
De Gryse, T., electrician, 5, rue Longue Marais, Ghent, Belgium.
Degryse, fils, electrical contractors, 16, rue du Chateau, Tourcoing (Nord), France.
Dehionne, E., electrical inspector, Cie. du Chemin de Fer du Nord, Lille (Nord), France.
Dehl, Gebr., electrical apparatus manufacturers, Neuenburgerstr. 24, Berlin, S.W. 13. (Telegrams: "Dehl, Berlin 13." Telephone Amt. IV. No. 1219.)
Dehne, Ferd., electrical & scientific apparatus maker, Gr. Steinstr. 15, Halle a. S.
De Housse, H., electric light & power installations, 18, rue de la Princesse, Brussels, West.
De Jonge, Jhr. W. A. C., district engineer of the Signal & Electrical Department, State Railway Co., s'Gravenhof 14, Zutfen, Holland. (Telephone No. 166.)
Delachaux, C., tramway requisites, 67, rue de Provence, Paris. (Telegrams: "Matelec, Paris." Telephone No. 300-78.)
Delacroix, G. E., superintendent, Great Northern Telegraph Co., Vasiliewsky Ostr. 4 ligne 17, St. Petersburg.

Delafon, P., primary or secondary batteries with non-spilling liquids, 128, rue de la Convention, Paris XVe. (Telephone No. 720-01.)
Delafond & Barudio, electrical works, Belleville sur Saône (Rhône), France.
Delagoutte Frères, electrical installations, 12, rue des quatre Fils, Paris. (Telephone No. 121-03.)
Delahaye, Ph., electrical engineer, 105, rue St. Lazare, Paris.
Delaite, Emile & Fils, chemical & battery manufacturers, 50, rue Hors Chateau, Liége.
De la Mathe, G. & H. B., makers of electric wires & cables, Gravelle St. Maurice (Seine), France.
Delaporte, Paul Emile, electrical engineer, 31, rue Demours, Paris.
Delaporte & Roux, electrical engineers, 56, rue de la Victoire, Paris.
Delarge, Fr., M.I.E.E., Director-General of the Belgium Telegraphs & Telephones, Hôtel Central des Postes et des Télégraphes, place de la Monnaie, Brussels. Local hon. secretary and treasurer of the Institution of Electrical Engineers.
Delaroche, —, electrical contractor, 47, rue St. Martin, St. Quentin (Aisne), France.
Delaunay, —, electrical apparatus & instruments maker, 45, rue Alexandre Legros, Fécamp (Seine-Inférieure), France.
Delaunay, Ernest-Baptiste, electro-platers, 12, rue Saint Gilles, Paris.
Delaval, —, electrician & electrical engineer, 2, rue Lafayette, Grenoble (Isère), France.
"De Laval" Electrotechnical Office, Heerengracht 370, Amsterdam, Holland. (Telegrams: "Kjoebmand, Amsterdam." Telephone No. 1269.)
Delaval, H., & Cie., manufacturers of drilling tools for electrical purposes, 11, rue Morand, Paris.
De la Ville le Roulx, Pierre, manager of the Société pour le travail électrique des métaux, 90, boul. Flandrin, Paris.
Delcloy, Emile, electrical engineer, 44, rue Chanzy, Calais.
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Delfour, P., electrical apparatus maker, 53, rue des Remparts, Bordeaux.
Delgado, Manuel, electrical engineer, Noblejas 3-3°, Madrid.
Delgay, L., civil engineer, director, Station d'Argelés, 31, rue Porteneuve, Pau (Basses Pyrénées), France.
Del-Grosso, Giacomo, dealer in electric light fittings, Varese, Lombardy, Italy.
Del-Grosso, L., gas & electrical apparatus installer, via Petrarca 20, Milan.
Delhaye, E., electrical engineer, rue Robiano 90, Brussels.
Deligny et Bernard, electrical apparatus manufacturers, 16, boul. St. Denis, Paris.
Delisle Frères, makers of electric light fittings, 24, rue Pavée, Paris.
Dellacasa, G. B., electric bell fitter, Vico Garibaldi 12R, Genoa.
Dellacasa, Guiseppe, electric bell fitter, Vico Carlone 3, Genoa.
Dell' Orto, Luigi, electrician, Cernobbio (Prov. di Como), Italy.
Delmas, L., lead, zinc & copper merchant, 45, faub. St. Antoine, Paris.
Delobel, —, Station Electrique au Mont Dore, Puy de Dôme.
Deloustal, R., agent for Felten & Guilleaume, Cortes 581, Barcelona, Spain. (Telegrams: "Deloustal Cortes, Barcelona." Telephone No. 1089.)
Deloye, M., ivory & celluloid manufacturer, 127, rue Oberkampf, Paris. (Telegrams: "Travail, Paris." Telephone No. 902-61.)
Delpierre, Henri, & Co., dealers in electrical sundries, 28-30, Chaussée de Bruxelles, & 15-18, Jumet (St. Antoine), nr. Charleroi, Belgium.
Delplace, G., electrical installations, 46, rue des Marais, Paris. (Telephone No. 141-27.)
Del Proposto, Cesidio, electrical engineer, director of the Sebastopol tramways, Sebastopol, Russia.
Delvaux, —, electrician, Moulins (Allier), France.
Delvaux, Henri, mining & electrical engineer, 22, rue d'Assaut, Brussels. (Telephone No. 3029.) Supplies for every branch of electricity.
Delville, Trophime, telegraph engineer, Bell Telephone Manufacturing Co., 18, rue Boudewijns, Antwerp.
Delvincourt, C., electrician, Andruicq (Pas-de-Calais), France.
Demarchi, Luigi, electric light contractor, Piazza Lepre 9, Genoa, Italy.
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Demaret, Léon, electrician & mining engineer, 17, avenue d'Havré, Mons, Belgium.
Demarle, G., electrician, Andruicq (Pas-de-Calais), France.
Demarquet Frères, electro-platers & gilders, 79, rue du Temple, Paris. (Telephone No. 145-07.)
Demaurex, M., electro-medical apparatus, place Fusterie 10, Geneva.
Demblon, Aug., electrical engineer, ave. Isabelle 25, Antwerp.
Demblon & Verset, electric light & power contractors, 3, rue d'Arenberg, Antwerp.
Demerbe, V., & Co., engineers & tram rail manufacturers, Jemeppes, Mons, Belgium.
Demme, B., telegraph contractor, Steinweg 55 & 56, Mühlhausen-i.-Th., Germany.
Demol Fils, electrical installations, 19, rue de la République, Saint Chamond (Loire), France.
Demuth Bros., telegraph cable making machine manufacturers, Linzerstrasse, Vienna XIII., Austria. (Telephone No. Hietzing 133.)
Denaeyer, Aug., electrician, Chaussée de Waterloo 483, Brussels.

Dénariev, L., electrician, 13, rue D'Algev, Toulon (Var), France.
Denies, A., electrician, rue du Métal 23, Brussels.
Denis, Albert, fils, wire manufacturer, 88, rue Amelot, Paris.
Denis, Ernest, electrician, pl. de Flandre 10, Mons, Belgium.
Denissel, —, electrician, 83, Grande rue, Roubaix, France.
Denti, Ing. Eugenio, electrical engineer, viale Umberto 4, Milan.
Denzler, Dr. Albert, consulting electrician, Zürich-Fluntern, Switzerland.
Departementale Electrique, La, lighting, transmission of power, bells, telephones, Valenciennes (Nord).
Depauw, J. F., telegraph engineer, 10, rue Courbe, Brussels.
Depoorter & Demortier, electric light installations, rue de Coutrai 162, Ghent.
Deppe, Paul, electric tramway supply manufacturer, 7A, Bahnhofstr., Hanover. (Telephone No. 2825.)
De Pretto, Silvio, & Cia., turbine makers, Schio, Italy.
De Proost, L., electrician, 211, rue Haute, Brussels.
Derclaye, Oscar, electrical engineer, Paturages, Belgium.
Deri, Max, electrical engineer, Doblhoffgasse 7, Vienna I.
Deriard, P., bronze fittings for electric lighting, 305, rue Paul Bert, Lyon, France.
Deries, A., general manager of the Société Nouvelle des Etablissements de l'Horme et de la Buire, 8, rue Victor Hugo, Lyons. (Telegrams: "Horme, Lyons." Telephone No. 3.)
Derolland, B., insulating materials manufacturer, 7, rue Notre-Dame-de-Nazareth, Paris.
De Roos, J. D. C. M., government engineer for railway signalling, Regentesseplein 22, The Hague.
Dery, J. E., administrateur delegué de la Sté. d'Energie pour la Construction de locomotives, &c., 127, avé. de la Toison d'or, Brussels. (Telegrams: "Energie, Brussels." Telephone No. 4145.)
Desailly, J., electrical measuring instrument maker, 25, rue D'Alleray, Paris.
De Savoye, —, manager Cie. Internationale des Telephones, 47, ave. de la Toison d'Or, Brussels.
Desclercs, Pairev & Cie., copper & german silver wire for electrical purposes, 75, rue Turbigo, Paris.
Desguin, P., engineer, patent agent & expert, 46, rue Bara, Brussels.
Desmazures & Lambert, acid manufacturers, 8, rue du Parc Royal, Paris.
Des Moutis et Cie., platinum manufacturers, 56, rue Montmartre, Paris. (Telegrams: "Platinum, Paris." Telephone No. 115-51.)
D'Espine, Achard & Cie., water meters for supplying generators, 52, quai de la Marne, Paris. London agent: W. Craig, 20, Bucklersbury, E.C.
Desprat, —, electrical engineer, Cahors (Lot), France.
Desprès, A., mechanical & electrical apparatus maker, Frauenfeld (Thurgau), Switzerland.
Desroziers, E., consulting electrician & expert engineer, 10, ave. Frochot, Paris.
Desruelles, L. (Graindorge succr.), electrical engineer, 81, boul. Voltaire, Paris.
Dessau, Dr. Bernhard, professor of physics, University, Perugia, Italy.
Dessendier, —, consulting electrician, 82, rue Nationale, Roanne (Loire), France.
Desseux, David, manufacturing electrician, 61, Place Badouillère, St. Etienne, France.
Dessy, Flavio, electrical engineer, via Leopardi 28, Milan, Italy.
d'Ester, Th., electric lift maker, 11, Marxergasse, Vienna III/2.
Destriau, J., electrical contractor, 18, rue Monadey, Bordeaux, France. (Telegrams: "Destriau, Bordeaux." Telephone No. 1727.)
Dethioux, J., electrical engineer, rue Traversière 104, Brussels.
Detouche, C., electric clock manufacturer, 18, boul. Poissonnière, Paris. (Telephone No. 122-45.)
Dette, W., & Co., makers of electroliers, 27, Grimstr., Berlin, S.
Dettmann, Herm., telegraph works, Immanuelkirchstr. 37, Berlin, N.O.
De Tuyll, Baron Fred. Wm., A.I.E.E., Aerdenhout, Zandvoort, Holland.
Deutsch, Felix, M.I.E.E., director of Allgemeine Electricitäts Ges., Berlin, Schiffbauerdamm 22, Berlin.
Deutsch-Atlantische Telegraphengesellschaft, Stolkgasse 3/11, Cologne o/Rhine. Directors: Herren O. Moll & C. W. Guilleaume. (Telegrams: "Atlantisch, Cologne." Telephone No. 4495.)
Deutsch & Co., electrical apparatus, Schäfergasse 9, Frankfort-a-M.
Deutsch, S., & A. Bak, electrical apparatus & carbons, Gudrunstr. 187, Vienna X.
Deutsch-Niederländische Telegraphengesellschaft A.G., Cologne, Germany. (Telegs.: "Vijapa, Cologne." Teleph. No. 2542.) Directors: H. Pfitzner & J. J. le Roy.
Deutsch-Oesterreichische Mannesmannröhren-Werke, makers of seamless steel tubes & posts. Head office: Dusseldorf; & works at Rath, Remscheid, Bous o/Saar & Komotau, Bohemia. (Telegrams: "Mannesrohr, Dusseldorf.")
Deutsch-Russische Elektrizitätszähler-Gesellschaft m. b. H., manufacturers of electric meters, Venloerstr. 389, Ehrenfeld, Cologne.
Deutsche Babcock & Wilcox Dampfkessel-Werke, A-G., Oberhausen, Rheinland; & 1, Kaiser Wilhelmstr., Berlin, C.
Deutsche Carborundum-Werke, electro-chemists, Iserlohn, Germany.
Deutsche Celluloid Fabrik, manufacturers of raw celluloid, Leipzig-Plawitz, Germany.
Deutsche Elektricitäts Gesellschaft Jean Houbois, electrical apparatus & accessories makers & dealers, 225-229, Neusserstr., Cologne Nippes, Germany.

Deutsche Elektrizitäts-Werke zu Aachen (Garbe, Lahmeyer & Co. Akt.-Ges.), dynamo & electromotor manufacturers, Aachen, Germany. (Telegrams: "Dynamo, Aachen." Telephone No. 140.)

Deutsche Fabrik biegsamer Wellen A. Otto & Co., Strelitzerstr., 60, Berlin, N. 31. (Telegs. "Flexible, Berlin." Telephone No. Amt. III. 5466.)

Deutsche Gasglühlicht A. G., Auergesellschaft, incandescent lamps, Alte Jacobstr., 139–143, Berlin.

Deutsche Ges. für Bremer Licht, m. b. H., Leipzigerstr. 103, Berlin, W.

Deutsche Gold und Silber Scheide Anstalt, vorm. Rössler, makers of electric furnaces, 4–10, Schneidwallgasse, Frankfurt-a.-M., Germany.

Deutsche Kabelwerke Aktien-Ges., alt. Boxhagen 15–17, Rummelsburg bei Berlin.

Deutsche Lehrmittel-Anstalt, Franz Klodt, instructive toys, Bethmannstrasse, Frankfort-on-the-Main.

Deutsche Messingwerke, Flunkert, Kretzer & Eveking, copper & brass manufacturers, Niederschöneweide bei Berlin, S.W.

Deutsche Phosphorbronce-Industrie (E. von Münstermann), makers of telephone wires, &c., Kattowitz-o/s, Germany. Branches: Sosnowice, Russian Polen & Bielitz, Oesterreich-Schlesien.

Deutsche Privat Telephon Gesellschaft H. Fuld & Co., Vilbelerstr. 29, Frankfort-a-M.

Deutsche Telephonwerke R. Stock & Co., G. m. b. H., telegraph, telephone & cable manufacturers, Zeughofstr. 6 & 7, Berlin, 33. (Telegs.: "Telephonwerk, Berlin." Teleph. Amt. IV., Nos. 1 & 625.)

Deutsche Ton & Steinzeug Werke, Akt. Ges., earthenware electrical apparatus manufacturers, Berlinerstr. 22B, Berlin-Charlottenburg. (Telegrams: "Thonwerke, Charlottenburg." Telephone No. 56.)

Deutsche Unternehmung für electrische Beleuchtung, E. Seeligmann, Gereonshof, Cologne.

Deutsches Kaiserliches Patentamt (Imperial Patent Office), 97–103, Gitschinerstr., Berlin, S.W. 61. (Telephone Nos. 8940, 1991 & 1606, Amt. III.)

Devarennes, Vve. Constant, & Cie., manufacturing electricians, 125 & 127, rue du Mont Cenis, Paris. (Telephone No. 4820, Amt. IV.)

De Vaux, L. J., electrical engineer, 61, chaussée de Fleures, Gosselies, Belgium.

De Vere, A. V., telegraph engineer & manufacturer's agent, Constantinople.

Devilaine & Rougé, electrical engineers, 47, rue St. André des Arts, Paris.

Devilder, F., electrical engineer, Cambrai (Nord), France.

Devisscher & Graetz, consulting engineers, 5, boul. Senne & 8, boul. du Nord, Brussels. (Telegrams: "Inventions, Brussels." Telephone No. 3966.)

De Vita, Domenico, scientific apparatus maker, Largo del Nilo 9, Naples.

De Vries, Herm. A., manufacturer of electrical apparatus & expert, 111, Kalverstraat, Amsterdam. (Telegrams: "Devries, Electrician, Amsterdam." Telephone No. 2053.)

De Vries, Mulder & Co., manufacturers of electrical apparatus, 40, Breedeweg, Amsterdam. (Telegrams: "Vriesmulder, Amsterdam." Telephone No. 2053, Intercommunal.)

Dewaele, J. E., electric light contractors, rue Joseph Plateau 105, Ghent.

De Walque, electrician, professor at the University, 26, rue des Joyeuses-Entrées, Louvain, Belgium.

De Wandre, electrical engineer, Monceau-sur-Sambre, Charleroi, Belgium.

Dewinter (Vve.) et Fils, glass cell & battery manufacturers, 63–69, rue du Vautour, Brussels.

De Wit, W. C. & K., consulting engineers, 183, Prins Hendrikkade, Amsterdam. (Telegrams: "Dewit, engineers, Amsterdam." Telephone No. 1711.)

D'Hoop, E., electrical engineer to the Brussels Tramways Co., Brussels.

Dias Santilhano, J., & Co., electrotechnical installations, Singel 413, Amsterdam, Holland. (Telephone No. 4678.)

Diatto, Alfredo, electrical engineer, inventor of the Diatto System of Electric Traction, 17, via Ottavio Revel, Turin. (Telegrams: "Alfredo Diatto, Turin.")

Diatto & Co., electric tram & carriage construction, Piazza Gran Madre di Dio 12, Turin.

Diaz, C., electrical engineer & importer of electrical material, 31, via Boccaccio, Milan.

Diaz, Manuel, electrical engineer, Almendralejo, Badajoz, Spain.

Dick, Friedr., file & tool manufacturer, Esslingen a. N., Württbg., Germany.

Didier, G., electric light fittings, 84, rue Amelot, Paris.

Didier, A., & fils, electrical insulator manufacturers, 70, rue d'Angoulême, Paris.

Diener, Alf., & Co., dealers in electrical supplies & metal cement manufacturers, Mythenstr. 29, Zurich, Switzerland.

Dieny, Paul, electrical engineer, Société Centrale d'Electricité de Moscou, W.O. 6 linie 5, St. Petersburg.

Dierksmeyer & Helsner, engineers' tool manufacturers, Mockau 107, Leipzig, Germany.

Dierman, W., M.I.E.E., electrical & civil engineer, 15, rue du Bailly, Brussels, Belgium. (Tel. No. 5001.)

Diesen, E., superintendent Norwegian Telegraphs, Christianssand, Norway.

Dieskau & Co., electrical supplies, Berlinerstr. 12, Charlottenburg, Berlin.

Diessel & von Uslar, electric light fittings makers, 2, Leinstr., Hanover. (Telephone No. 2268.)

Dieterichs & Löffelhardt, manufacturing electricians, 9, Hansaplatz, Hamburg, Germany.

Dietze, F. R., manufacturer of electrical machines, apparatus, &c., Könneritzstr. 15, Dresden, A. (Teleph. No. 2194.)

Dieudonné & Malot, manufacturing electricians, rue de Mars 253, Reims, France.

Digeon, J., & fils, ainé, electrical engineers, 15–19, rue du Terrage, Paris. (Telephone No. 403-09.)

Digeon, Louis, et Cie., electrical engineers & contractors, 25, rue de la Montagne-St.-Geneviève, Paris. (Telephone No. 808-50.)

Dihlmann, Carl, electrical engineer & director, Siemens Schuckertwerke G. m. b. H., Franklinstr. 29, Charlottenburg.

Diltsch, Anton, electrical engineer, Elektr. Kraftstation Linz-a.-D., Austria.

Dilullo, Tommaso, maker of electric bells, annunciators, &c., via Flaminia 61, Rome, Italy.

Di Nardi, Giuseppe, practical electrician, Vico Berio a Toledo 18, Naples, Italy.

Di Nasso, Orfeo, mechanical constructor & electrician, via S. Agostino 16, Pisa.

Dingler's Polytechnisches Journal (weekly), edited by Prof. M. Rudeloff, Berlin-Grosslichterfelde; published by Richard Dietze, Verlagsbuchhandlung, Berlin.

Dinin, Alfred, maker of electric accumulators & cars, 2, quai National, Puteaux (Seine), France. (Telegs.: "Accudinin, Puteaux." Teleph. No. 571-04.)

Dinter, O., maker of electric signalling apparatus, Crimmitschau, Saxony. (Telephone No. 127.)

Direct Spanish Telegraph Co., Ltd., Barcelona & Bilbao, Spain; & Marseilles, France.

Direction des Services Industriels, Le Locle, Switzerland.

Direzione di Torpedini e Materiale Elettrico San Bartolomeo, 1°, Dipartimento Marittimo, Spezia, Italy.

Dirit, G., electrical contractor, 3, rue d'Isly, Limoges, France. (Telegs.: "Dirit, Limoges." Teleph. No. 175.)

Disclyn, A., & Linn, electric light fittings makers, 17, boul. de la Madeleine, Paris. (Telephone No. 252-46.) Works: 139, rue Fazillan, Levallois (Seine), France. (Telephone No. 568-81.)

Diserens, Jules, electrical engineer, 8, Lapouchinskaia, St. Petersburg.

Dissera e figlio, Gaetano, electric bell fitter, Corte Contarina 1563-1564, Venice.

Distribuzione Elettrica La (monthly), 11, via Cernaia, Milan. (G. Nantica, editor.)

Ditmar, R., manufacturer of electroliers, Erdbergstr. 21-27 & Schwalbeng 2-4, Vienna III. (Telegrams: "Ditmar-Wien.") Office for electric light & power installations: Kärntherstr. 13, Vienna I. (Telephone No. 2830); & Kossuth Lajos utcza 3, Budapest IV.

Ditmar, Rodolfo, electric lighting apparatus, corso Umberto I. 288, Rome. (Telegrams: "Ditmar, Roma." Telephone No. 2889.)

Divé, Pierre et Emile, frères, electric light installations, Chaussée de Gand 108, Brussels.

Diverio, Franzinetti & Co., electrical installations, 58, via Corso Umberto 1°, Rome.

Djursholm Electric Light Co. (manager, C. O. A. son Rahm), Djursholm, Sweden.

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Doehner, Alfred, electrical engineer, Clos Sully, Lausanne.

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Doijer, Huibert, A.I.E.E., Claes de Vriese laan, 112, Rotterdam, Holland. (Teleph. No. 564.)

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Domange, A., & fils, leather driving-belt makers, 74, boul. Voltaire, Paris. (Telegrams: "Courroles, Paris.")

Dombard fils, Aug., electric light fixtures & supplies, 47, rue du Centre, Verviers. (Telephone No. 242.)

Dombrovsky, Ch., electrician, Poutilowsky Works, St. Petersburg.

Dooms, P., electrical engineer, Brussels Central Electric Light & Power Station, Brussels.

Doms, Fr., manufacturer of electrical, railway, telegraph & telephone apparatus, Prague I. 945. (Telegrams: "Doms, Prague I. 945.")

Donati, Girolamo, electric bell dealer, via Stella 25, Verona, Italy.

Doniol, M., electrical engineer, Brioude (Haute-Loire), France.

Döpke, C., electrical engineer, Dortmund, Germany.

Dopke, H., electrical engineer, Norden, Hanover, Germany. (Telephone No. 36.)

"Dora" Società Industriale Italiana, makers of incandescent lamps & accumulators, Vetreria, Genoa. (Telegs.: "Dora, Genoa.") Works: Alpignano, Italy. (Telegs.: "Dora, Alpignano.")

Dorant, W., engineer, Riasan-Ouralsk Railways, Wvedenskaya oulitza 17, St. Petersburg.

Doré, —, electrical instrument maker, 89, rue Lafayette, Rouen (Seine-Inférieure), France.

Dorer & Nickol, electrical apparatus makers, Brunswick, Germany.

Dörfel, Carl, electrical apparatus manufacturer, 18, Schützenstr., Berlin, S.W. 12.

Dorn, C. F., Nachf., electric light & power contractor, Stuttgart.

Dorn, E., physics & electricity, Professor at the University, Halle, Germany.

Dortet, —, practical electrician, Châlons-sur-Marne, France.

Dorvaux, L., manufacturer of reflectors & shades, &c., 21, 23 & 25, rue St. Sebastien, Paris. (Telegrams: "Dorvaux, Paris." Telephone No. 931-12.)

Dost, L., electrical engineer, 18-20, Weidendamm, Königsberg, East Prussia, Germany. (Telegrams: "L. Dost, Konigsbergpr." Telephone No. 24.)

Dotal, François, dynamo maker, 42, boul. de Belleville, Paris.

Dotzheimer, A., director "Motor" Actiengesellschaft für angewandte Elektrizität, Baden, Switzerland.
Douady-Demay, —, electrical apparatus maker, 10, rue Bretonneau, Tours (Indre-et-Loire), France.
Douane, —, steam engine maker, 23, avenue Parmentier, Paris. (Telegrams: "Chaudfroid, Paris." Telephone No. 900–21.)
Douillet, E., manufacturer of electric light fittings, 46, boul. de la Bastille, Paris.
Doulsky, N., engineer, Wladikavkas Railways, Rostow-on-Don, Russia.
Doulton et Cie., battery jar makers, 63, boul. Bessières, Paris.
Dourin, Victor, electric tramway supplies, rue du Congrès 2, Brussels.
Douris-Bernichon, —, electrical engineer, avenue de la Republique, Thièrs (Puy-de-Dôme), France.
Doyer, H., & Co., electrical & mechanical engineers & contractors, 3, Nieuwland, Rotterdam, Holland. (Telegrams: "Electrostoom, Rotterdam." Telephone Nos. 524 & 564.)
Drake, Francis E., general manager, Société Anonyme Westinghouse, 45, rue de l'Arcade, Paris; & le Hâvre.
Drammens elektriske Bureau (G. Thorkildsen), Br. Næs., Drammen, Norway.
Drammens Telefon Aktieselskab (managing engineer, C. Ullitz), Drammen, Norway.
Dreefs, E., electrical apparatus manufacturer, Rodach-i.-Oberfr, Germany.
Drees, C., elektrische apparate ingenieur, Kaiserstr. 11, Frankfurt-a-Main. (Teleph. No. 2049.)
Dreier, L., engineer, T. Stroutschoff & Schibisoff Co., Nowinsky Coulen 117, Moscow.
Drescher, dealers of electrical supplies, Morskaja 21, St. Petersburg. (Teleph. No. 22880.)
Drescher, Josef, manager Teplitzer Elektr.-und Kleinbahn-Ges., Teplitz, Bohemia.
Dresdner Gasmotorenfabrik vorm. Moritz Hille, Aktien Gesellschaft, gas & oil engine manufacturers, Dresden, Saxony, Germany. (Telegrams: "Maschinenfabrik Hille, Dresden." Teleph. No. 114.)
Dresdner Kunstzewerbe, Böhme & Hennen, electric light fittings makers, 16, Görlitzerstr., Dresden, N. (Telephone No. 2809.)
Dresdner Glühlampenfabrik Zschocke & Co., Leipzigerstr. 45, Dresden, N. 11. (Teleph. No. 3640.)
Dressel, Kister & Co., insulator (porcelain) manufacturers, Passau (Bayern), Germany. (Teleph. No. 10.)
Dressler, F., electric bells, telephones, &c., Ryesgade, 28, Aarhus, Denmark.
Drevdal, F., Binoche & Co., accumulator makers, 30, rue Amelot, Paris.
Drewsen, C. C., electro-plater, Östergade 1, Copenhagen K.
Drewsen, H. C., electro-plater, Amagertorv. 6, Copenhagen. (Telephone No. 6515.)
Drexler, Fredk., electrical & consulting engineer, 18, Beatrixgasse, III. Vienna, Austria. (Telephone No. 3872.)
Dreyer, Rosenkranz & Droop, water gauges & patent indicators, Hanover, Germany. (Telephone No. 45.)
Drittler & Erlanger, electrical insulator manufacturers, Merkelsgasse 19, Nürnberg.
Drosten, R., electrician & scientific instrument maker. Agent for Hartmann & Braun, of Frankfort, rue du Marais 49, Brussels.
Drugman, Léon, M.I.E.E., rue Gachard, 117, Brussels.
Dübner, M., electric light fittings maker, Beusselstrasse, 70, Berlin, N.W.
Dubois, —, electrician, 155, rue de Laeken, Brussels.
Dubois, Ed., electric light installations, rue de Laeken 155, Brussels.
Dubois-Favresse, electrician, boul. Audent 46, Charleroi, Belgium.
Dubosch, Georges, electrician, La Hulpe, Belgium.
Dubrujeaud & Jean Richermoz, bronze fittings, 72, rue de la Folie Méricourt, Paris. (Telephone No. 923–26.)
Dubs, H., director Cie. de Tramways, Marseilles.
Dubsky, Alfred O., D.SC., chief electrical engineer at the Hungarian Ministry of Commerce, 18, Nádor-utcza, Budapest V
Dubuisson Fils, electric bell founders, 24, ave. Laumière, Paris.
Duc, Tardy & Henry, electrical apparatus & instrument manufacturers, place de la République, Valence (Drôme), France.
Ducarnoy, Guche, dealer in electric bells, telephones, &c., 36, rue des Religieuses Anglaises, Boulogne-sur-Mer, France.
Ducastel-Blandin, contractor for installations, bells, telephones, &c., 61, rue Nationale, Lille, France. (Telephone No. 417.)
Ducati, Ing. A. C., representative of G. Clerici & Co., Milan, corte Galuzzi 2–4, Bologna, Italy.
Ducellier, G., arc lamp & projector maker, 25, passage Dubail, Paris.
Duchange, crystals & glassware for electrical purposes, 21, rue de l'Hirondelle (6, place St. Michel), Paris. (Telegrams: "Aduchange, Paris." Telephone No. 819-21.)
Duchange, J., electrician, 108, boul. Haussmann, Paris.
Duchatel, G., electrical sundriesman, 74 & 76, rue Jean Jacques Rousseau, Paris. (Teleph. No. 219–43.)
Duchemin, Emile, electrical engineer & magnet manufacturer, 37, boul. de la Tour Maubourg, Paris.
Duchesne, A., electrical engineer, 26, rue Charlot, Paris.
Duchesne, G., manufacturer of lanterns & reflectors for gas, electricity, 70, rue d'Angoulême, Paris. (Telephone No. 936–42.)
Ducloy, Jacques F., A.I.E.E., "Villa Grisnez," Cape Grisnez, Pas de Calais, France.

Duco & Duirgneau, electrical contractors, 12, rue de la Trémerré, Bordeaux (Gironde), France.
Ducotè, —, manufacturing electrician, Cluny (Saône-et-Loire), France.
Ducretet, E., electrical engineer & apparatus maker, 82, rue Notre Dame des Champs, Paris.
Ducrotoy, J. B., electrical apparatus maker, 53, rue des Vinaigriers, Paris.
Dudach, E., manufacturers of electrical apparatus, 10, rue Ste. Anastase, Paris.
Dudeck, H., maker of machine tools (Dudeck Patent), Hermannstr. 24, Berlin-Rixdorf. (Telephone Amt. Rixdorf, No. 201.)
Duerr, G. F., electrical engineer, 68, rue Neuve, Brussels.
Dufer, Victor, makers of dynamos, electric motors & accumulators, rue Pintamont, Ath., Belgium. (Telephone No. 12.)
Duflon, Louis, electrical engineer, managing director Ste. de Constructions Electro-mecaniques, Lopouchinskaya 8, St. Petersburg, Russia.
Dufour Frères, electrical engineer, Les Avants, Vaud, Switzerland.
Dufour, —, electric light apparatus maker, 15, rue de Vieux-Palais, Rouen (Seine-Inférieure), France.
Dufour, F. C., electrical engineer, Wilhelminapark, Haarlem, Holland. (Telephone No. 439.)
Dufour, Henri, consulting electrician, professor at the University, Lausanne, Switzerland.
Dufour, L., chief engineer of the Signal & Electrical Department of the State Railway Co., Utrecht, Holland.
Dugardyn, Edm., electrical engineer, 91, boul. d'Anderlecht, Brussels.
Duisberg, Richard, & Co., tapes for insulating purposes, Barmen, Germany.
Duisburger Dampfkesselfabrik (H. Ketzer), engineers & boiler manufacturers, Duisburg-am.-Rhein, Germany.
Duisburger Maschinenbau Aktien Geselischaft, vorm. Bechem & Keetman, mechanical & electrical engineers, Duisburg-a-Rh., Germany.
Dujacquier, —, electrician, 77, rue de la Gare, Roubaix (Nord), France.
Dujardin, electricians, 77, rue de Tourcoing, Roubaix (Nord), France.
Dujardin, P. J. R., & Cie., manufacturers of accumulators, 28, rue Vavin, Paris; & Pont Authou, Eure, France.
Dulait, Julien, manager, Sté. Anonyme Electricité et Hydraulique, Charleroi, Belgium.
Dumartheray, E., electric bells & apparatus, 3, rue Pradier, Geneva.
Dumas, N., practical electrician, Le Puy (Haute-Loire), France.
Dumichel, L., manufacturing electrician, place du 14 Juillet, Aiguillon (Lot-et-Garonne), France.
Dumon, Albert, electrical engineer & agent, 17, rue Fossé-aux-Loups, Brussels.
Dumonchel, P., manufacturing electrician, 40, rue de Verneuil, Paris.
Du Mont, E. C. P., electrical engineer, Cie. Electro-Mecanique, 68, rue de l'Hotel de Ville, Lyon (Rhône), France. (Telegrams: "Electranic, Lyon." Telephone No. 17–30.)
Dumont, Ch. G., mechanical & electrotechnical engineer, Koninginneweg 47, Amsterdam, Holland. (Telephone No. 6321.)
Dumont, E., chief engineer, Société Française des Cables Electriques, 11, Chemin du Pré-Gaudry, Lyons, France.
Dumont, L., electrical pumps, 55, rue Sedaine, Paris; et 100, rue d'Isly, Lille, France.
Dumont, L., electrical engineer, 67, rue St. Servais, Namur.
Dumont, Louis, electric light contractor, rue Montoyer 74, Brussels.
Dumont, Pierre, electric light & power contractor, Bellegarde, Ain, France.
Dumont, P., chemical manufacturer, 46, rue de la Chapelle, Paris.
Dumoulin, C., accumulators for traction & lighting, Chauffailles (Saône-et-Loire), France.
Dunand, J. E., Sigg & Camenzind, electrical apparatus makers, 64, boul. de Saint Georges, Geneva, Switzerland. (Telegrams: "Anglometa, Geneva." Telephone No. 4932.)
Dunkel, —, works manager, Städt. Elektricitätswerkes, Rosenheim. (Telephone No. 50.)
Dunkel, G., electric supply dealer, 11, Berlinerstr., Leipzig.
Dunod, H., & Pinat, E., technical publishers, 49, Quai des Grands-Augustins, Paris, 6e.
Dunoyer, L', electricians, rue de Lyon, Tararc (Rhône), France.
"Duplex" Motors, 130, rue Lafayette, Paris. Works: Ferrière-la-Grande, près Maubeuge (Nord), France.
Dupont, D., electric apparatus, 1, rue Ami-Lullin, Geneva, Switzerland. (Telephone No. 1409.)
Dupont, Georges, managing director Compagnie nationale d'électricité, 29, rue de la Victoire, Paris.
Dupraz, H., electric apparatus, 6, rue de la Tour-Maitresse, Geneva, Switzerland. (Teleph. No. 2449.)
Dupuich, Ch., engineer, avenue de la Toison d'Or 70, Brussels.
Dupuy, C., consulting electrician & electric railway & tramway engineer & contractor, 6, rue Docteur Rayer, Caen, France.
Dura Elementban Ges. m. b. H., Eisenacherstr. 44, Schöneberg, C. Berlin.
Durand, —, electrical letters, 6, rue de Lancry, Paris.
Durand, A., director of Central Electrical Laboratory, 23, rue Mayet, Paris.
Durand, F., & Cie., arc lamp makers, 152, faub. St. Martin, Paris.
Durban & Martin, agents for electrical companies, Cologne, Germany.
Duroni & Co., scientific instrument & electrical apparatus dealers, Galleria Vittorio Emmanuele 9, Milan

Dürr, Fritz, electrical engineer of the Municipal Machinery Office, Elberfeld.
Dürr, Robert, electrician, 155–157, rue Masui, Brussels, Belgium. (Telephone No. 3301.)
Durran, R. T., A.M.I.E.E., Allgemeine Elektricitäts Ges., Foreign Department, 22, Schiffbauerdamm, Berlin, N.W.
Dürrwächter, Alois, electrical apparatus maker, Mayence, Germany.
Dürst, Em., electrical engineer, Frechen, bei Cologne.
Durst, Konrad, chief engineer, Ganz & Co., Budapest.
Dussart, Charles, electrician, Administration des Télégraphes, Liége.
Dussaugey, —, electrical engineer & manager, Société d'Energie Electrique de Grenoble et Voiron, Grenoble, France.
Düsseldorf Ratinger Röhrenkesselfabrik, steam boiler makers, Ratingen bei Düsseldorf, Germany. (Telegrams: "Kesselfabrik Ratingen." Telephone No. 3.)
Dusseldorfer Eisen und Draht Industrie, wire & cable manufacturers, Dusseldorf-Oberbilk, Germany.
Düsseldorfer Maschinenbau-Act.-Ges., electrical & mechanical engineers, Düsseldorf-Grafenberg, Germany.
Düsseldorfer Städtisches Elektricitätswerk, Düsseldorf, Germany.
Düsseldorfer Werkzeugfabrik A. Herzer, tool maker, Düsseldorf. (Teleph. No. 679.)
Duthoit & Libaud, electric incandescent lamp makers, Croix (Nord), France.
Duval, Alexandre, manufacturing electrician, 45, rue Casimir Périer, Le Hâvre. (Telephone No. 3–90.)
Duvoisin, et Cie., galvanized iron wire manufacturers, 17, rue de Lancry, Paris.
Dvorak, Dr. V., consulting electrician & author, Professor at the Royal University, Agram, Croatia.

Eastern Extension Telegraph Co., agency, 37, rue Caumartin, Paris. (Telegrams: "Anglorient, Paris." Telephone No. 249–74.)
Ebel, —, electrical engineer, director of the Cie. d'Eclairage Electrique du Secteur des Champs Elysées, 92, boul. de Courcelles, Paris. (Telephone No. 513–89.)
Ebel, August, mechanical & electrical engineer, Mainz, Germany.
Ebeling & Croener, electric light apparatus makers, Bankstr. 11, Dresden, Germany. (Telephone No. 3953.)
Ebert, Max, installation contractor, Zöllnerstr. 26, Chemnitz., Saxony.
Ebert, Prof. Dr. Hermann, physicist, Technische Hochschule, Munich, Germany.
Ebert, Th., telegraph & telephone contractor, kl. Ritterstr. 2, Merseburg, Germany.
Echo de l'Industrie L' (weekly; ann. sub., 15*s.*), Charleroi, Belgium.
Echo des Mines, de la Metallurgie et de l'Electricité (twice a week), 26, rue Brunel, Paris. (Ann. sub., P.U., 45 frs. = £1 12*s.*)
Echten, A., electric light contractor, rue du Dublin 32–32A, Brussels.
Eck, A.-R., electro-medical apparatus, Wilhelmstr. 121, Berlin, S.W.
Eckardt, W., G. m. b. H., engineers, Aachenerstr. 1, Cologne.
Eckart, Paul, electric goods, Straussbergerstr. 14, Berlin. (Telephone No. 7,1891.)
Ecke, Ernst, electrical agent, Hohestr. 47, Leipzig.
Eckel & Glinicke, electroliers, Wassertorstr. 50, Berlin, S.
Eckelt, J. L. C., lead specially prepared for accumulators, Chausseestr. 19, Berlin, N.
Eckersberg, J. F., electrical agent, Apothekergade 6, Christiania, Norway.
Eckert, Paul, electrical engineer, Bad. Anilin & Sodafabrik, IV. Gartenveg 3, Ludwigshafen-a.-Rhein, Germany.
Eckinger, F., electrical engineer, Dornach, nr. Bâsle, Switzerland.
Eckinger, L., electrical engineer, Baden, Switzerland.
Éclairage Electrique, L' (weekly, ann. sub., P.U., 60 frs.), 40, rue des Écoles, Paris Ve. (Telephone No. 823–56.)
Ecoffey, E., electrical apparatus, 24, rue Dauphine, Paris.
Ecole des Mines et Faculté Polytechnique du Hainaut, courses in electricity, rue de Houdain, Mons, Belgium.
Ecole du Génie Civil de Gand, courses in electrical engineering, Gand, Belgium.
Ecole Municipale de Physique et de Chimie Industrielles (E. Hospitalier, professeur d'électrotechnique; M. Gasnier, chef des travaux pratiques d'électricité), 42, rue Lhomond, Paris.
Ecole Professionnelle de Mecanique de Précision d'Horlogerie et d'Electricité, Brussels. (M. Nys, professor of electricity.)
Ecole Supérieure d'Electricité, 14, rue de Staël, Paris. Directeur: P. Janet, D.ès.; sous-directeur, H. Chaumat.
Ecole Supérieure de Télégraphie, 99 à 103, rue de Grenelle, Paris.
Edelberg, —, electrical engineer, Kharkoff, Russia.
Edelmann, Dr. Otto, chief engineer, Bayerisches Gewerbe-Museum, Nuremburg.
Edelmann, Prof. Dr. M. Th., scientific apparatus maker, Nymphenburgerstr. 82, Munich, Germany. (Telephone No. 6565.)
Edelmann & Wallin, electricians & engineers, 159, Kantstr., Berlin-Charlottenburg.
Edelmuller, J., manufacturer of bronzes for electric lighting, 81, boul. Richard Lenoir, Paris.

Edoux, Léon, & Cie., electric lifts, 72, rue Lecourbe, Paris. (Telephone No. 708–78.)
Edström, J. S., managing director Allmanna Svenska Elektriska Aktiebolaget, Vesterås, Sweden.
EENBERG, B. REIMERS, ex-secretary Edison General Electric Co. of New York in London. Electrical engineering, the Bergmann Interior Conduit System; electrical machinery & appliances. Speciality: Edison type sockets, switches, & cut-outs, 22, Place de Brouckère, Brussels. (Telegrams: "Eenberg, Brussels.") *See advt., page* 1002.
Efron, B. A., electrical engineer, Siemens & Halske, Moïka 9, St. Petersburg.
Egger, Ernst, chief engineer & manager, Vereinigten Elektr. Akt.-Ges., 187, Gudrunstr., Vienna X/1. (Teleph. No. 6374.)
Egger, Gyula, manager United Incandescent Lamps & Electrical Co., Ltd., Ujpest 4, nr. Budapest.
Eggermont, E., constructing electrician, boul. du Petit Dock 9, Ghent.
Eggersmann & Lang, electric light engineers & contractors, Aachen, Germany. (Telegrams: "Eggersmann Lang, Aachen." Telephone No. 480.)
Eggington, Alfred, M.I.E.E., Eastern Telegraph Co., 28, via Venti Settembre, Rome. (Telegrams: "Eggington, Rome." Telephone No. 993.)
Egli, H., engineer Fabrik für Elektrische Industrie, Seebach-Zurich.
Egloff, W., & Co., manufacturers of electroliers & lamps, Turgi-Limmatthal, Switzerland.
Ehestädt & Robert, electric light fittings makers, 35, Brandenburgstr., Berlin.
Ehrenberg, J., engineer, Geb. Ehrenberg & Albrecht, Lucerne, Switzerland.
Ehrhardt, Myl., Röntgen tubes, batteries & incandescent lamps, Ackerstr. 132, Berlin, N. 31.
Ehrling, O., electric light engineer & contractor, 3, Schmiedestr., Leipzig-Plagwitz, Germany. (Telephone No. 8036.)
Ehrich & Graetz, electric light fittings & lamps, 105 & 106, Alexandrinenstr., & 92 & 93, Elsenstr., Berlin, S.O. 36.
Eichapfel, B., electric bells & medical apparatus, Palmstrasse 26, Dresden, Germany. (Teleph. No. 3549.)
Eichberg, Dr. F., electrical engineer (Allgemeine Elektrizitäts-Ges.), 43, Dorotheenstr., Berlin, N.W.
Eichler, Ant., electrical & steam apparatus, IV. Favoritenstr. 20, Vienna. (Telephone No. 3484.)
Eiffe & Fehr, patent expanding bolts, screws, &c., Rodingsmarkt, Hamburg.
Einbeck, J., electrician, director der Accumulatoren Fabrik Akt. Ges., Landshuterstr. 37, Berlin, W.
Einbock Gesellschaft für Beleuchtungskörper, Tauenziesstr. 51, Breslau. (Teleph. No. 7840.)
Einhorn & Damcke, makers of insulators, Tilsiterstr. 70, Berlin. (Telephone Amt. VII. No. 2599.)
Einkaufsgenossenschaft Österr.-Ungar. Elektricitätswerke, III. Rechte Bahngasse 48, Vienna.
Eisemann, Ernst., & Co., magnet-electro igniters, Rosenbergstr. 61, Stuttgart.
Eisenach, Franz, & Cie., platinum, Offenbach a. M. (Telegrams: "Eisenach, Offenbachmain." Telephone No. 516.)
Eisenbahnbau-Gesellschaft Becker & Co. (G. m. b. H.), Potsdamerstr. 28, Berlin, W.
Eisenburger Elektrizitätswerke A. G., Szombathely, Hungary.
Eisenfuhr, W., maker of electricians' tools, 31A, Kommandantenstr., Berlin, S.
Eisengiesserei Rödinghausen Comm.-Ges., electrical apparatus manufacturers, Menden, bei Iserlohn, Westfalen, Germany.
Eisenstädter Gebr., insulating material manufacturers, 21, Kirchstettengasse, Vienna, XVI./2.
Eisenstuck, Paul, electrician, Bayerschestr. 80, Leipzig.
Eisenwerk (vorm. Nagel & Kaemp), A. G., electric crane & hoist makers, Hamburg-Uhlenhorst, Germany. (Telegrams: "Kampnagel, Hamburg.")
Eisig, Dr. M., electrical engineer, Stadtbauamt 2, Fünferplatz, Nürnberg, Germany.
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Ekeberg, L. E., telephone director, Rikstelefonstation, Malmo, Sweden.
Ekman, C. P., electrical engineer, St. Badhusg. 6, Gothenburg, Sweden.
Ekman, A., & Co., electro-platers, 1–5, Frilager, Toldboden, Copenhagen K.
Elala, L. d', electrical contractor, 1, rue du Palais-de-Justice, Bordeaux, France.
Electra, L', Société Anon., 3, rue Lormand, Bayonne, France.
Electra Alicantina, La, Calderon de la Barca, Alicante, Spain.
Electra Baselland, electrical central station, Liestal, nr. Basle, Switzerland.
Electra Birseck, electrical central station, Neue Welt, nr. Basle, Switzerland.
Electra Castellana, Vega L., Bustamante y Co., Gran Via 50, Bilbao, Spain.
"Electra" Compania General de Electricidad, Bilbao, Spain. (Telegs.: "Electra, Bilbao.")
Electra de Bolueta, Ripa 1, Bilbao, Spain.
Electra de Pamplona, electrical engineers, Pamplona, Spain.
"Electra del Guadalquivir" Sociedad Mercantil Anonima por Acciones, Andujar, Spain.
Electra Naamlooze Vennootschap, electric central station, Amsterdam.
Electra Zamorana, electric light & power engineers & contractors, Calle de S. Juan de las Monjas, & 29, Santa Clara, Zamora, Spain.
Electria engineer office, Kochstr. 3, Berlin, S.W.
Electric Light Co. A. E. G. (Elektriska Aktiebolaget), St. Vattug 9, Stockholm, Sweden. (Telegrams: "Elektron, Stockholm.")

Electric Power Co., Ltd., Bakou, Russia. (Telegrams: "Elektrosila, Bakou." Telephone No. 895.)
Electrica Moderna de Jerez, electric works, Apartado 14, Jerez de la Frontera, Spain.
"Electrica" Societate Română pe actiuni fost Lahmeyer, Str. Sărindar 22, Bucharest. (Telegrams: "Electrica, Bucharest." Telephone No. 764.)
Electrical Laboratory of the Royal Hungarian Technical "Joseph" University, Muzeumkörút 6-8, Budapest VIII., Hungary.
Electrical Speciality Co., G. m. b. H., Leipzigerstr. 113, Berlin, W.
Electrical Works (manager, R. Hagstrand), Borås, Sweden.
ELECTRICIEN, L'; REVUE INTERNATIONALE DE L'ELECTRICITE ET DE SES APPLICATIONS (weekly—subscription, 25 frs. per annum), director, J. A. Montpellier, Paris, published by Dunod et Pinat, libraires éditeurs, 49, quai des Grands-Augustins, Paris. (Telephone No. 819-38.)
Electricista Segoviana, La, fabrica de Luz Electrica, Segovia, Spain.
Electricita Toledana, La, Fabrica de Luz Electrica, Toledo, Spain. Chief engineer, N. Labandera.
Electricitäts Gesellschaft, Baden, Switzerland. (C. Pfister, manager.)
Electricitäts-Gesellschaft Gelnhausen, Ltd., incandescent lamps, Gelnhausen, Germany. (Telegrams: "Filament, Gelnhausen.")
Electricitätsgesellschaft "Sanitas," Friedrichstr. 131D, Berlin, N.
Electricitäts Haus, G. m. b. H., 35, Potsdamerstr. 24, Berlin, W. 35. (Telegs.: "Technical, Berlin." Teleph. No. 9924, Amt. 6.)
Electricitätswerk an der Sihl, electric works, Wädensweil, Zurich, Switzerland. (Telegs.: "Sihlwerk, Wädensweil.")
Electricitätswerk der Gemeinde, Bözingen bei Biel, Switzerland.
Electricitätswerk Eisenach, A.-G., electric light & power contractors, Eisenach.
Electricitätswerk Hagneck, Chemical Works, Nidau bei Biel, Switzerland.
Electricitätswerk der Stadt Schaffhausen. H. Geiser, director.
Electricitätswerk of the town Solothurn, Switzerland. (Telegrams: "Electricitatswerk, Solothurn.")
Electricité de Montauban, 44, rue St. Louis, Montauban (Tarn & Garonne), France.
Electricité de Stavelot (Société Anonyme), Stavelot, Belgium.
Electricité et Electro-Mécanique (formerly Ch. Arendt), electric drilling machines, 34, rue Bosquet, Brussels, Belgium. (Telegrams: "Electromécania, Brussels." Telephone No. 3969.)
Electricité Industrielle, A. Lecorsais, dynamo & motor maker, Luxembourg. (Telegrams: "Lecorsais, Luxembourg." Telephone No. 424.)
Electricité Industrielle Ancienne Maison Milde, manufacturing electrical engineers, 13, place de l'Hôtel de Ville, Hâvre. (Telephone No. 552.)
Electricité: Journal Russe (semi-monthly; sub., P.U., 12 roubles, or 30 frs.). Edition de la Sté. Imperiale Technique de Russie. Editor, A. Smirnoff, Canal Ekatherine 134, St. Petersburg, Russia. (Teleph. No. 733.)
Electriciteits Maatschappij "Maarssen," accumulator, dynamo & motor manufacturers, Maarssen, nr. Utrecht. C. E. Wolff, manager.
Electricitets Kompagni (det danske), electrical engineers & contractors, Gothersgade 30, Copenhagen K., Denmark.
Electricitetswerk Gjemsö Kloster, Skien, Norway. (Telegrams: "Klosteret, Skien.")
Electricity Supply Co. for Spain, Ltd., calle Espoz y Mina 6, Madrid.
Electrique, L', electric cars for sale & hire, 17, rue Jean Goujon, Paris. (Telephone No. 559-71.)
Electrique, L' (soc. anon.) (J. Julien, manager), 319 *bis*, Chaussée d'Anvers, Brussels. Central lighting station, 15, rue Zérézo (Telegrams: "Electrique, Brussels"); & 23, rue du Bac, Paris.
Electrische Drahtseilbahn, Biel-Leubringen, Switzerland.
Electrische Glühlampen-Fabrik "Watt," Scharf & Co., incandescent lamp manufacturers, 95, Grinzingerstr., Nussdorf (Telephone No. 14298); & I. Schottenring 17, Vienna. (Telegrams: "Watt, Wien." Telephone No. 15931.)
Electrischer Ferndrucker, G. m. b. H., Zimmerstr. 28, Berlin, S.W.
Electrizitäts-Actiengesellschaft Hydrawerk, Süd-Ufer 24 & 25, Berlin, N. (Telegrams: "Hydra, Berlin." Telephone No. 1997, Amt. II.)
Electrizitätswerk Ilmenau, electric light & power contractors, Thuringia, Germany.
Electro: Belgian & International Review of Electricity (ann. sub., 10 frs.; P.U., 12 frs.), 31, rue Montagne-aux-Herbes Potagères, Brussels.
Electrochemische Zeitschrift, 11, Kurfurstenstr., Berlin, W. 57. M. Krayn, publisher.
Electrochimie, L' (monthly, price 1s.), rue de Berne 37, Paris.
Electro-Industrielle L' (Soc. Anon.), electrical engineers, 64, Ava Parmentier, Paris.
Electromotion, Société Française des Voitures Electriques, 7 bis, rue Deguingand, Levallois-Perret (Seine), France. (Telephone No. 517-52.) Offices: 54, ave. Montaigne, Paris.
Electron (3 times a month), Marques de Santa Ana 26, Madrid. (Publisher, Lorenzo Camarero.)
"Electron," electrical apparatus, Cortes 525, Barcelona.
"Electron," Electrical Co., Nijni-Novgorod, Russia.

Electrotechnic Club (Elektroteknisk Forening). Chairman, Th. Windfeld Hausen, Copenhagen K., Denmark.

Electrotechnisch-Bureau der Industriëele Maatschappij, Keizersgracht 127, Amsterdam. (Telephone No. 1357.)

ELECTROTECHNISCH-EN WERKTUIGKUNDIG WEEKBLAD. Editors, Van Mantgem & De Does, Amsterdam, Holland. (Telephone No. 5041.)

Electrotechnische Fabrik, Carl Fuchs, Lindenstr. 3, Berlin, S.W.

Electrotechnische Fabrik, Goldberg & Co., Bergstr. 132, Rixdorf bei Berlin.

Electrotechnische Industrie (formerly Willem Smit & Co.), manufacturing electrical engineers, Slikkerveer, Holland. (Telegrams: "Electro Slikkerveer." Telephone No. 2786.)

Electrotechnisches Institut der Technischen Hochschule, Danzig.

Electrotechnisches Institut G. m. b. H., electrical apparatus, Mainzer Landstr. 148, Frankfort-a.-M.

Electrotechnische u. Polytechnische Rundschau (twice a month, 9.50 marks per ann. in Germany; other countries 12 marks), 10, Kaiserstr., Frankfort a. Main, Germany. (Telephone No. 586.)

Electrotechnisches Echo, Magdeburg, S.

Electrotechnitchesky Wiestnick: journal russe (monthly; subscription, P.U., 7 roubles, or 16 frs.). Editor, W. Woskresenski, Znamenskaya 40, St. Petersburg. (Telephone No. 1016.)

"Elektra" Accumulatoren-Ladestation, Erich Markert, Rossstr. 7, Berlin, C.

"Elektra" Aktien-Gesellschaft, Lüttichaustr. 21I, Dresden. (Telephone Amt. No. 79.)

Elektra, Berliner Elecktrotechnikum, Neanderstr. 4, Berlin, S.O.

"Elektra" Bregenz, Voralberg, electric heating & cooking apparatus makers, Bregenz, Tyrol, Austria.

"Elektra" Fabriken Elektrischer Heiz-u-Koch-Apparate, manufacturers of electrical heating & cooking apparatus, Waedenswil, bei Zurich, Switzerland.

"Elektra" Gesellschaft für Licht und kraft Anlagen, Linkstr. 38, Berlin, W. 9.

"Elektra" Vertrieb elektrischer Uhren (Patent Möller), Jacob Neuweck, Ritterstr. 87, Berlin, S.

Elektricitaets Aktiebolaget (f. d. Paul Wahl & Co.), electrical engineers, Wiborg, Russia. (Telegrams: "Elektra, Wiborg.")

Elektrizität, Die, Münzstr. 16, Berlin, C. (Every Friday; ann. sub., 6 marks.) Editor, P. Huckewitz. (Teleph. Amt. VII.A, No. 7620.)

Elektricitäts Actien Gesellschaft, vorm. Herm. Pöge, Ingenieur-Bureau Dresden, Waisenhausstr. 27, Dresden (Telephone No. 2256); & Chemnitz, Saxony.

Elektricitäts Actien Gesellschaft, vorm. Kolben & Co., electrical engineers & manufacturers of dynamos & motors, Prague-Vysočan, Bohemia, Austria (Telegrams: "Kolben, Prague"); & Vienna, III./2 Marxergasse 28c. (Telegs.: "Telephon Elektrokolben, Vienna." Teleph. No. 29.) General agents for England & Colonies: Witting, Eborall & Co., Ltd., electrical engineers & contractors, Temple Bar House, London, E.C.

Elektrizitäts Gesellschaft Hansa m. b. H., electrical installations, Obernstr. 25, Bremen. (Telegs.: "Motorhansa, Bremen." Teleph. No. 497.)

Elektricitäts-Gesellschaft Richter, Dr. Weil & Co., electric signs & electrical apparatus, Frankfort-on-the-Main. (Telegrams: "Richterweil, Frankfort." Telephone No. 532.)

Elektricitäts-Gesellschaft Sirius, G. m. b. H., makers of the Hansen arc lamp, Bitterfelderstr. 2, Leipzig Germany.

Elektricitäts-Gesellschaft Zschockelt, m. b. H., electrical apparatus makers, Dresden, 16 A. (Teleph. No. 1868.)

Elektricitätsgesellschaft "Sanitas," electro-medical apparatus manufacturers, 131D, Friedrichstr., Berlin, N.W.

Elektricitäts und Accumulatoren Werke Seidelmann & Co., 9 & 10, Ritterstr., Berlin, S. 42.

Elektricitäts und Maschinen Industrie Ing. R. Valentin, I. Gr. Feldstr. 31, Breslau, Germany. (Telephone No. 7495.)

Elektricitätswerk der Stadt St. Gallen, St. Gallen, Switzerland.

Elektricitätswerk Sempach-Neuenkirch (Schmid & Cie.), Sempach, Switzerland.

Elektricitätswerk Südwest Aktiengesellschaft, Motzstr. 48, Wilmersdorf-Berlin.

Elektricitetswerk. Elfkulla elektr. aktb., Mjölby, Sweden.

Elektricitetswerk (managing engineer, Sverre Lund), Fredrikshald, Norway.

Elektrické Podniky Král. hlav. mesta Prahy, electric tramway contractors, Prague.

Elektrische Bahnen und Betriebe (36 times a year). Editor, Prof. W. Kübler, Dresden; publisher, R. Oldenbourg, 8, Glückstr., Munich, Germany.

Elektrische Blockstationen Akt. Ges., Leipzigerstr. 13, Berlin, W.

Elektrische Blockstationen-Gesellschaft m. b. H., Wolfstr. 1A, Cologne.

Elektrische Bogenlampen & Apparate Fabrik G. m. b. H., arc lamp makers, Nürnberg, Germany. (Telegrams: "Solenoid, Nürnberg.")

Elektrische Industrie Ges. m. b. H., Leipzigerstr. 66, Berlin, S.W.

Elektrische Normal Uhr. G. m. b. H., Bülowstr. 21, Berlin.

Elektrische Licht & Kraft Anlagen, Akt. Ges., Kanonierstr. 17–20, Berlin.

Elektrische Schwebebahn Barmen-Elberfeld-Vohwinkel, Elberfeld, Germany.

Elektrische Strassenbahn Altstätten-Berneck & Elektrizitatswerk, Altstätten, Switzerland.
Elektrische Strassenbahn Barmen-Elberfeld, Elberfeld, Germany. (E von Pirch, director; J. Lehrmann, engineer.)
Elektrische Strassenbahn Valparaiso Aktiengesellschaft, Französischestr. 65, Berlin, W.
Elektrische Uhren G. m. b. H., Vilbelerstr. 29, Frankfort-on-Main. (Telephone No. 6256.)
Elektrisches Perlen-Licht G. m. b. H., Potsdamerstr. 10/11, Berlin, W.
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Elektrisk Bureau (Luth & Rosén), 1, Rosenlundsg., Stockholm. (Telegrams: "Luth, Stockholm.")
Elektrisk Kompagni, electrical engineers, 1, Rosenkr-gade, Christiana.
Elektriska Aktb. Holmia, Norrlandsg. 13, Stockholm, Sweden. (Telegs.: "Dynamo, Stockholm.")
Elektriska Aktb. Magnet, Ludvika (manager, Gunnar Mothander), Malmö, Sweden. (Telegrams: "Magnet, Malmo.")
Elektriska, Kol-og Elementfabrik, Kontor, Regeringsgatan 30, Stockholm. Victor Löwendahl, director.
Elektriska Pröfningsanstalten (Holmgren & Rossander), electrical consultation office, Rageringsgatan 38, Stockholm. (Telegs.: "Elektroprof, Stockholm." Teleph. Nos.: 3505, 3562, Riks.; & 896, Allm.)
Elektriske Belysnings Anlæg. "Titan," Koefod, Hauberg, Marstrand & Helweg, Tagensvej 32, Copenhagen L.
Elektrizitäts Aktiengesellschaft vorm. C. Buchner, Wiesbaden. (Telegrams: "Elektrobuchner, Wiesbaden." Telephone No. 30.)
Elektrizitäts Aktiengesellschaft, vormals Hermann Pöge, dynamo makers, &c., Chemnitz, Saxony.
Elektrizitäts Gesellschaft Alioth, electrical engineers, machine builders & contractors, Munchenstein, Basle, Switzerland, & Lyons, France. (Telegrams: "Alioth, Munchenstein.")
Elektrizitäts-Gesellschaft Haas & Stahl, manufacturers of apparatus for bleaching by electrolysis, Aue i.-S., Erzgeb., Germany. (Telegrams: "Haas Stahl, Aueerzgeb." Telephone No. 51, Amt. Aue.)
Elektrizitätsgesellschaft Schönenwerd, Schönenwerd.
Elektrizitäts Ges. "Sirius," Schützenstr. 18, Berlin, S.W.
Elektrizitätswerk Krakau, Krakau, Galicia, Austria. (Teleph. No. 567.)
Elektrizitätswerk Kubel, St. Gallen, Switzerland.
Elektrizitätswerk Lehmann, battery makers, Guben, Germany.
Elektrizitätswerk Marktbreit, electricians, Markbreit-a.-M., Germany.
Elektrizitätswerk Schwandorf G. m. b. H., Schwandorf, Germany.
Elektrizitätswerk und Strassenbahn Gotha, A.-G., Gotha, Germany. (Teleph. No. 90.)
Elektrizitätswerk Zufikon-Bremgarten, Bremgarten, Switzerland. (E. Freund, engineer.)
Elektr. belysningsanläggning, electric light, H. Karlsson, Örebro, Sweden.
Elektr. Kraftöverförings-o-belysningsanläggn, Motala, Sweden.
Elektrochemische Technik (monthly; ann. sub., 10*s.* 6*d.*). Dr. Franz Peters, Gross Lichterfelde West, nr. Berlin, W., editor & publisher.
Elektrodon Gesellschaft m. b. H., Mullerstr. 30, Berlin, N.
Elektrogasfernzünder Gesellschaft m. b. H., Lindenstr. 18, Berlin, S.W.
Elektro-Metallurgie, G. m. b. H., Hollmannstr. 32, Berlin, S.W.
Elektromobil-Ges. m. b. H., Mittelstr. 25, Berlin, N.W.
Elektromotor G. m. b. H., electrical engineers, 21, Schiffbauerdamm, Berlin, N.W. 6.
Elektromotorenwerke Heidenau, G. m. b. H., Rontgen apparatus, dynamos, motors, &c, Heidenau, Bez. Dresden. (Telegs.: "Elektromotor, Heidenau." Teleph. Amt. Mügeln, No. 761.)
Elektromotoren Werke Hermann Gradenwitz, Kürfürstenstr. 146, Berlin, W. 35.
Elektron Lighting Co., Ltd., Gothenberg, Sweden. (J. G. Calvert, managing director.)
Elektrotechnik (*Electrician*): journal russe (semi-monthly; subscription, P.U., 7 roubles, or 18 frs.). Editor & publisher, N. Wolkoff, Catherinehoff Perspective 63, St. Petersburg, Russia.
Elektrotechnik & Maschinenbau (weekly, price 70 heller), Nibelungengasse 7, Vienna I. (Teleph. No. 2403.)
Elektrotechniker, Der (semi-monthly), Heugasse 62, Vienna, IV. (Ann. sub., 12*m.* = 12*s.*) (Teleph No. 3980.)
Elektrotechnische Anstalt vorm. P. Ludwig, makers of all kinds of electrical apparatus, Acherstr. 13A, Bonn a. Rhein, Germany. (Telephone No. 221.)
Elektrotechnisches Installationsgeschäft Boehnke & Co., Prenzlauerstr. 18, Berlin, C.
Elektrotechnische Fabrik und Elektricitäts Werke (Rud. Ley), electrical engineers, Arnstadt, Germany.
Elektrotechnische Fabrik Nürnberg (Gottlieb Heckel), 13, Jacobstr., Nürnberg, Germany.
Elektrotechnische Fabrik Offenbach, makers of electrical apparatus, Offenbach-am-Main. (Telegrams: "Contact, Offenbachmain." Telephone No. 188.)
Elektrotechnische Fabrik Schmidt & Co., 82, Chausseestr., Berlin, N. 39.
Elektrotechnische Gesellschaft (Professor Hartmann, chairman), 5, Götheplatz, Frankfort-on-the-Main.
Elektrotechnische Gesellschaft zu Leipzig, Leipzig.
Elektrotechnische Lehr- und Untersuchungs-Anstalt des Physikalischen Vereins zu Frankfurt-am-Main. (Telephone No. 701.) (Dr. C Deguisne, director.)
Elektrotechnische Patentblätter (twice a month; ann. sub., M. 24; single copies, M. 1.50), 35, Potsdamerstr. 113a, Berlin, W. 35.

Elektrotechnische Versuchsstation, Westendstrasse, 21 & 22, Magdeburg.
Elektrotechnische Werkstätte Darmstadt, G. m. b. H., electrical engineers & dynamo, motor & ventilator makers, Darmstadt, Germany. (Teleph. No. 414.)
Elektrotechnische Zeitschrift (E. C. Zehme, editor), 3, Monbijouplatz, Berlin, N. 24. (Telephone Amt. III. No. 529.)
Elektrotechnischer Anzeiger (bi-weekly), F. A. Günther & Son, editors, 6, Lützowstr., Berlin, W.
Elektrotechnischer Neuigkeits Anzeiger und Maschinentechnische Rundschau (monthly), 18, Gumpendorferstr., Vienna VI. (Ann. sub., 8s.) (Telephone No. 1426.)
Elektrotechnischer Verein, Leipzig. Vereinslokal: Hôtel Müller.
Elektrotechnischer Verein, in Wien (Ludwig Gebhard, president; Eugene Karel & Prof. Arthur Budau, vice-presidents; Ing. J. Seidener, secretary), 7, Nibelungengasse, Vienna, I. (Teleph. No. 2403.)
Elektrotechnischer Verein der Studirenden der Königlich Technischen Hochschule zu Berlin, Berlin.
Elektrotechnisches Institut der Grossherz. Hess. technisch. Hochschule, Darmstadt. (Teleph. No. 328.)
Elektrotechnisches Institut der k. k. Technischen Hochschule, IV. Gusshausstr. 25, Vienna. (Teleph. No. 1710.)
Elektrotechnisches Institut der Technischen Hochschule, Helmholtz-str. 9, Dresden, Germany. (Director, Prof. H. Görges.) (Telephone No. 1761.)
Elektrotechnisches Institut, G. m. b. H., measuring instrument & electro-medical apparatus manufacturers, Frankfurt-am/Main. (Telegrams: "Galvanometer, Frankfurtmain." Telephone No. 1105.) Agent, G. Braulik, 217 & 218, Upper Thames-st., London, E.C.
Elektroteknisk Tidsskrift (3 times a month), Christiania, Norway. The only electrical journal of Norway.
Elektrotermofabriken (R. de Wendel), V. Hamng. 20, Gothenburg, Sweden. (Telegrams: "Freyr, Gothenburg.")
Elektro-Typograph, System Méray-Rozár, G. m. b. H., Landgrabenstr. 94, Nuremberg.
Elettricista, L' (fortnightly, illustrated), edited by Prof. Dr. A. Banti, 222–226, via Cavour, Rome. (Ann. sub., 16s.) (Telegs.: "Elettricista, Rome." Teleph. No. 28–47.)
Elettricità, L' (weekly; P.U., 20 frs. per ann., in Italy, 15 Lire), Foro Bonaparte 12, Milan. Founded 1882.
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Elsässische Electricitäts Werke (Otto Schulze), electrical engineers & contractors, Strassburg. (Telegrams: "Elektricität-Schulze, Strassburg." Telephone No. 196.)
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Emmericher Maschinenfabrik & Eisengiesserei, Emmerich.
Empresa de Electricidad de Casillas, Cordoba, Spain.
Empresa de Tranvias Electricos, Ensanche 1, Sevilla.
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Energia Electrica, La, Plaza de Isabel II. 5, Madrid.
Energie Electrique du Littoral Méditerranéen (Soc. Anon.), 13, place Masséna, Nice (Alpes Maritimes), France.
Energie Electrique, L' (fortnightly, price 1 fr.), 18, rue Dauphine, Paris.
Energie Electrique, L' (Soc. Anon.), electrical engineers, 4, rue de Traktir, Paris.
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Engineering School, Zwickau, Germany. (Directors: Kirchhoff & Hümmel.)
Engl, M., storage batteries, Elisabethstr. 13, Vienna I. (Telephone No. 1227.)
Enke, Ferd., technical publisher, Stuttgart, Germany.
Engländer, Richard, engineer & professor, VI. Kopernikusgasse, 7, Vienna.
Englebert, O., Fils & Cie., hard & soft rubber manufacturers, ebonite, insulating tape, rue de Vennes 7, Liége.
Entreprise Thusy-Hauterive, electric light & power contractors, Fribourg, Switzerland.
Entreprises Générales d'Eclairage, Emanuel Tsakonas, 45, rue de Stade, Athens, Greece.

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Voigt & Häffner, A. G., electrotechnical apparatus makers, Falkstr., 2, Bockenheim, Frankfurt-a.-Main.
Voigt & Kleidt, telephone supplies, Nostizstr. 30, Berlin, S.W. 29.
Voigt & Mühler, small motors, Gohlis-Leipzig, Germany. (Telegrams: "Voigt Muhler, Leipzig." Telephone No. 4037.)
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Volker & Täger, electrical engineers, Kattowitz, Germany.
Voller, Dr. A., consulting electrician, professor & director of the Physikalische Staatslaboratorium, Hamburg, Germany. (Telephone Amt. I. No. 4808.)
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Vollmer, E., copper for electric purposes in bars, sheets, wires, tubes, &c., rue Van de Weyer 60 & 62, Brussels. (Telegrams: "Vollmer, Brussels." A.B.C. Code.)
Volt Ampère & Gesellschaft, Fleischmann & Co., electrical apparatus, Schleusenstr. 15, Frankfurt-a-M. (Teleph. No. 7869.)
"Volta," Compañia General de Electricidad, 4, Rio de la Pila, Santander, Spain.
Voltohm, Seil- & Kabel-Werke Actien-Gesellschaft, makers of electric wires & cables, 129, Hainerweg, Frankfort-on-the-Main. (Telegrams: "Voltohm, Frankfurt, Sachsenhausen." Telephone No. 258.)
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Von Mulmann & Forkel, electrical apparatus, petroleum engines, Reddaways belting, &c., rue de Laeken-Brussels.
Von Poncet, glass cell (battery) manufacturers, Köpnickerstr. 54, Berlin, S.O. Agents: Witting, Eborall & Co., Ltd., Temple Bar House, Fleet-st., London, E.C.
Von Terpitz & Wachsmuth, electrical supplies & appliances, 59, Bülowstr., Berlin, W. (Telegrams: "Citron, Bülowstr., Berlin." Telephone No. 1507, Amt. VI.)
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Vorberg & Co., insulating material & mica manufacturers, Niederlahnstein a/Rhein, Germany. (Telegrams: "Vorberg, Niederlahnstein.")
Voronoff, A., electrical engineer, director at Technological Institute, St. Petersburg, Russia.
Vorwerk & Sohn, makers of insulating tape, Barmen, Germany. (Teleph. Nos. 253 & 759.)
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Voss, J. Rob., influence machine maker, 20, Pallisdenstrasse, Berlin.
Voss & Steininger, patent agents, 68, Gorokhowaya, St. Petersburg, Russia. (Telegrams: "Steinvoss, St. Petersburg.")
Vroesom de Haan, Dr. J., director "Bataafsch Genootschap voor proefondervindelijke Wijsbegeerte," Rotterdam. (Telephone No. 1619.)
Vuarchex, César, screws, terminals & small detached accessories, Scionzier, Haute-Savoie, France.
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Wacker & Doerr, Hartgummi & Holzwaarenfabrik, Nieder Ramstadt bei Darmstadt. (Teleph. No. 271.)

Waden, Dan. Joh., managing director of the Helsingfors Telephone Co., proprietor of Electro Technical Works, Helsingfors, Finland.
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Wagener & Co., manufacturers of galvanized iron & steel wire for electrical purposes, Altena, Westphalia, Germany.
Waggonfabrik Act.-Ges. vorm. P. Herbrand & Co., electric tramcar builders, Cöln-a.-Rhine, Ehrenfeld, Germany.
Waggon-und Maschinenfabrik Akt. Ges., vorm. W. C. F. Busch, 35–39, Eimsbütteler Marktplatz, Hamburg. (Telegs.: "Wagenbusch, Hamburg." Teleph. Amt. II. No. 129.)
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Wallut, Raymond, electrician, 168, boul. de la Villette, Paris. (Telegrams: "Wallut, Paris." Telephone No. 401–52.)
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Walser, Otto, electric light installations, Herisau, Switzerland.
Walsöe, C. E., engineer, Royal Danish Telegraphs, Copenhagen.
Waltenhofen, Dr. Adalbert von, president of the Internationale Electricitäts Gesellschaft, IV. Wiedner Haustr. 40, Vienna, Austria.
Walter, Jos., electrician, 21, rue du Chevaliér, Berchem, Antwerp.
Walther & Co. (Actien Commandit-Gesellschaft), engineers & boiler makers, Dellbrück, nr. Cologne, Germany.
Walz, H., tool & plant machine manufacturer, Strelitzerstr. 60, Berlin, N. 60.
Wangemann-Bock, H. P., A.M.I.E.E., 71, Gitschinerstr. 3, Berlin, S.W.
Wanner & Cie., belting, rue van Artevelde 83, Brussels.
Wanner, Frères, electrical apparatus manufacturers in wrought iron, 27, Terrassière, Geneva.
Wanson, J. N., electrician, 47, boul. Emile van de Putte, Brussels.
Wanzeele, Ch., electric bells & telephones, rue d'Akkergem 59, Ghent, Belgium.
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Warburg, R. D., & Co., shippers of electric goods, Manerstr. 53, Berlin, W.
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Waring & Gillow, electrical contractors, 172, rue de Charonne; & 8, rue Glück, Paris. (Teleph. Nos. 244.45 & 929–71.)
Warmbrunn, Quilitz & Co., manufacturers of glassware & galvanic batteries, Heidstr. 55–57, Berlin, N.W.
Warnon, V. J., galvanic battery maker, 157, rue de Vanves, Paris.
Warren, Albert A., telegraph engineer & superintendent Ottoman Railway, Smyrna, Turkey.
Warsage, Clement, electric light & power installations, 185, boul. Anspach, Brussels.
Wasilewski, J., electrician (Messrs. Lilpop, Rau & Lœwenstein), Warsaw, Russia.
Wasser- und Elektrizitätswerk Hallau, Unter-Hallau, Schaffhausen.
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Watrin, H., electrician, 58, rue Maghin, Liége.
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Falck, E., electrical contractor, 9, rue Gentil, Lyon (Rhone), France.
Falcó y Comp[a], mfrs. of porcelain for electric apparatus, Valdemorillo, por El Escorial, Madrid.
Falconnet, Perodeaud, indiarubber & gutta-percha manufacturer, Choisy-le-Roi, Seine, France.
Falcou, —, electrical engineer, quai Bourbon 19; & rue Oberkampf 6, Paris.
Falk & Frank, electricians, Dresdenerstr. 84, Berlin, S. (Teleph. Amt. IV. No. 5817.)
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Falun Electric Light Co. (manager, Richard Jobson), Falun, Sweden.
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Faraut, L., & Co., wire coverers, Galleria Natta, Turin.
Farcot, E., ventilators, 163, ave. de Paris, Plaine St. Denis (Seine), France. (Telegrams: "Farcot, Plaine St. Denis." Telephone No. 404-13.)
Farcot Frères & Cie., steam-engine, dynamos & boiler makers, 17, ave. de la Gare, St. Ouen, Paris. (Telephone No. 504-55.)
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Fato Lionetti, G., electrical agent, via Abate Gimma 251, Bari, Italy. (Telegrams: "Fatolionetti, Bari.")
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Faure, A., fils, detached accessories for electrical, telegraphic & telephonic apparatus, 67, rue du Chemin Vert, Paris.
Faure, Jean, bronzes, 47, rue de Chateaudun, Paris.
Faure, Pierre, electrician, 21, place du Champ-de-Foire, Limoges, France.
Faure-Miller, Dr., electrician, 8, rue de Miromesnil, Paris. (Telephone No. 516-05.)
Faussemagne, F., carbons & incandescent lamps, 316, avenue de Saxe, Lyon.
Faust, Gebr., accumulator makers, 18, Alexianerstr., Köln-a-Rh., Germany.
Favarger, Albert, electrical engineer (Peyer, Favarger, & Co.), Neuchâtel, Switzerland.
Favero, Ing. Valentino, electric light contractor, Bassano (Prov. di Vicenza), Italy.
Favre & Cie., bronze fittings, 4, rue de Saintonge, Paris IIIe. (Telephone No. 251-76.)
Favre, W. J., & Chalut, dealers & makers of electrical apparatus, rue de la Halle 3, Geneva. (Telephone No. 1466.)
Favre-Jacot, Georges, & Co., manufacturers of chronometers & clock movements, Le Locle, Neuchâtel. (Telegrams: "Billodes, Locle.")
Fayaud, Vve. A., fils & gendre, maker of insulating materials, 100 & 102, rue St. Denis, Paris.
Fayollet, J., engineer & patent agent, 18, rue Mogador, Paris. (Telephone No. 155.63.)
Fayot, —, dealer in electrical sundries, bells, &c., Boulogne-sur-Mer, France.
Fedoritzky, Nic., electrical engineer, Baltic Works, Wassylostrow Ekaterinen Canal 160, St. Petersburg.
Feer, F., electrical engineer, Zurich IV., Switzerland.
Fehlert, C., patent lawyer, 17, Belle Alliance Platz, Berlin, S.W.
Feilchenfeld, Henry, electric novelties, Alexandrinenstr. 37A, Berlin, S.

Feilendorf, R., electrical engineer & accumulator maker, VII. Schottenfeldgasse 76, Vienna. (Teleph. No. 8716.)

Fein, C. & E., electrical engineers, Stuttgart, Germany.

Feiser, F. K., electrical agent, Wassily Ostrow, 9th line, N. 42, St. Petersburg, Russia. (Telephone No. 21001.)

Feldmann, Clarence, professor of electrical engineering, Technical University, Delft, Holland.

Feller, Josef, manufacturer of electric wires & cables, VII. Kaiserstr. 54, Vienna. (Telegs.: "Josef Feller, Vienna." Teleph. No. 2903.)

Felsing, Conrad, non-magnetizable clock & watch maker, 20, Unter den Linden, Berlin, W.

Felsing, Conrad, jun., Maschinenbauanstalt für Kabelfabrikation, cable machinery manufacturer, Coepenick, near Berlin. (Telegrams: "Felsing, Coepenick.")

FELTEN & GUILLEAUME LAHMEYERWERKE ACTIEN GESELLSCHAFT, manufacturers of wire of all descriptions for electrical & all other purposes, cables, wire-rope, &c., makers, Carlswerk, Mülheim-am-Rhein; & V. Vaczi-ut. 1458, Budapest.

Felten & Guilleaume Fabrik Elektrischer Kabel, Stahl und Kupferwerke Actien Gesellschaft, manufacturers of electric cables, Vienna, Austria. (Telegrams: "Guilleaume, Vienna.")

Fenner, A., & Co., dealers in electrical supplies, 32, Löwenstr., Zurich.

Férid bey, engineer, manager of the Fabrique Telegraphique, Constantinople.

Ferla, Pedro, electrical apparatus, Lauria 2, Barcelona.

Fernandez, Antonio, electrical apparatus, Cuchilleria 3, Ciudad Real.

Fernandez, Eligio C., M.I.S.E., Electricity Station, Chiclana, Cadiz.

Fernandez, Vicente, electrician, Gijon, Spain.

Fernandez Hermano, electrical engineers, Jardines 12, Bilbao, Spain.

Fernandez Losado, Augustin, engineer & manager of the Electrica de Jaen, Jaen.

Fernandez y Gonzalez Manés, director de la Compania de Luz Electricia, Infiesto (Oviedo), Spain.

Fernon, —, electric bell manufacturer, Tonnerre (Yonne), France.

Ferrari, Adolfo, electrical engineer & agent, 3, via Fieno, Milan.

Ferrari Belmonte, Julian, mechanical electrician, Puerte de Aire 57, Orense, Spain.

Ferraris, Lorenzo, electrical engineer, via Sagliano 4, Turin.

Ferreira d'Araujo e Silva, Antonio, engineer, rua Fernandes Thomaz 314, director of the Public Works, Porto.

Ferreira da Silva, Conseiller Antonio Joaquim, professor of chemistry organic & analytic, in the Polytechnic Academy, &c., & adviser to the Chemical Laboratory of the Town Council of Porto, rua de Santa Catharina 846, Porto, Portugal.

Ferrer, Juan Antonio, electrician, Arzobispo Mayoral D., Valencia, Spain.

Ferrero & Craveri, apparatus, corso Massimo d'Azeglio 74, Turin.

Ferrini, Prof. Rinaldo, electrician, R. Istituto Tecnico Superiore, Milan.

Ferrioli e Giobbio Societá Elettrica Robbiese, telephone & electric light, Vercelli.

Ferro, G. & G., & Co., telegraph & telephone galvanized iron & steel wire manufacturers, Stabilimento Metallurgico di Bussoleno, Bussoleno (Prov. di Torino), Italy. (Telegrams: "Ferro, Bussoleno.")

Ferron & Basset, manufacturers of arc lamps, 15, rue d'Angleterre, Lille (Nord), France.

Ferrovia Funicolare al monte dei Cappuccini, Turin, Italy.

Ferruccio Guidetti & Co., agents for electrical apparatus, Corso Vitt. Emmanuele 34, Turin. (Telegrams: "Ferruccio Guidetti, Turin.")

Ferry, P., electrician, 37, rue Gambetta, Lunéville, France. (Telephone No. 44.)

Fessler Johann, Nietenfabrik, screw & nut manufacturers, 108, Auenstr., München, Germany. (Telephone No. 6316.)

Fetke, —, engineer, manager of Niederschl. Elektricitäts & Kleinbahn Akt. Ges., Waldenburg i. Schl.

Feuchtmeyer & Koenitzer (Inh. M. Tremmel), lighting goods & installations, Müllerstr. 52, Munich. (Teleph. No. 6298.)

Feugray, E., manufacturing electrician, electrical appliances, bells, telephones, &c., 36, rue de Dunkerque, Paris. (Telephone No. 406-26.)

Feuillet, Dque., glass shade maker for export, 3, rue des Guillemites, Paris.

Feussner, Prof. Dr. K., electrical engineer, 80A, Berlinerstr., Charlottenburg-Berlin.

Fevrier, Eugene, electrical apparatus, Neuchatel.

Fichant-Macret, Jules, electrician, Charleville, Ardennes, France.

Fiche, —, managing director, Ste. Anonyme Electricité de Montauban, rue St. Louis 44, Montauban (Tarn-et-Garonne), France.

Fichet, P.-A., electrical engineer, 15, rue de Béthune, Versailles (Seine-et-Oise).

Fidler, F., director of telegraphs, Polesky R.R., Wilna, Russia.

Fiedler, Richard, manufacturing electrician, Kreuzbergstr. 42F, Berlin, S.W.

Fiévé, G., electrical engineer, director of the Bureau Technique de Surveillance et de Verification des Installations Electriques et Gaziers, 34, rue de la Bastille, Nantes, France. (Telephone No. 912.)

Figee & de Kruijff, engineers, NZ, Voorburgwal 28 & 30, Amsterdam, Holland. (Telephone No. 594.)

Fighetti, Carlo, porcelain insulators and sundries manufacturer, via Azzone Visconti, Lecco, Italy.

Figueras, H., general electrical supplies, 4, rue Pajol, Paris, XVIIIme.
Figueras, E., & Cie., electrical apparatus makers, 4, rue Pajol, Paris XVIIIe.
Filagrana, Clemente, electrical apparatus dealer, via Cavour 52, Parma.
Filagrana, Luigi, optical dealer & installer of bells & instruments, Portico Archiginnasio, Bologna, Italy.
Filliol, J., electrical apparatus, 31, rue de Constantinople, Paris.
Filsinger, Richard, electrical engineer, Rumine 38, Lausanne, Switzerland. (Teleph. No. 1693.)
Finska Elektriska Aktiebolaget, 2, Södra Magasinsgatan, Helsingfors, Russia. (Telegrams: "Elektriska, Helsingfors.")
Finzi, Dr. G., M.I.E.E., electrical engineer, 3, via Lanza, Milan.
Finzi, Ing. Vittore, electrical engineer & agent in Italy of the Allgemeine Electricitäts Gesellschaft, Monte Napoleone 7, Milan, Italy.
Fiocca, Alfonso, maker of electric bells & apparatus, Catanzaro, Italy.
Fiorenzi, G., hydraulic engineer & electric light contractor, Osimo, Italy.
Firchow, Paul (Nachfolger), manufacturer of automatic cut-outs, Bellealliancestr. 3, Berlin, S.W. 61.
Firket, Victor, electrical engineer, engineer to the Corps des Mines, 33, rue Charles Morren, Liége, Belgium.
First Electric Supply Co., Obwodny Canal 76, St. Petersburg; & Moscow.
Fischbach, Paul, & Co., accumulator makers, 17, Neuenburgerstr., Berlin, S.W.
Fischer, Bela, managing director of the Ungarische Electricitäts-Actien-Gesellschaft, Budapest.
Fischer, Ferd., electrical engineer, Eisenbahnstr. 3, Kaiserlautern, Germany.
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Fischer, Julius, electrical apparatus manufacturer, 10, Ottenweg, Zurich.
Fischer, R., chief of construction dep., Hartmann & Braun, Frankfurt-a-Main-Bockenheim, Germany.
Fischer, Ing. Stefano, technical, scientific & electrical specialities, 36, via Solferino, Milan.
Fischer, Th., electrical engineer, International Elektr. Gesellschaft, IX. Lichtensteinstr. 21, Vienna.
Fischer & Co., electric light fittings makers, 36, Rheinstr., Mainz.
Fischer, F., & Röwer, makers of hydrometers for accumulators, Stützerbach-i-Thür., Germany.
Fischer & Pöthig, telegraph apparatus manufacturers, Glashütte-i.-Sachs, Germany.
Fischer-Devillez, A., resistance wires, rue de Mèrode 22, Brussels.
Fischer-Hinnen, J., electrical engineer, Villa Krakau, Oerlikon, Switzerland.
Fischinger, E. G., consulting engineer, Johanngeorgenallee 13, Dresden, Germany. (Telegrams: "Emil Fischinger, Dresden." Telephone No. 4438.)
Fischmann, Léo, electrician, Tstváu u. 9, Ujpest, Hungary.
Fjeldseth, F., electrical engineer, Söndregd 12, Trondhjem, Norway. (Telegrams: "Elektrik, Trondhjem.")
Flamand, J. B., electrician, 25, rue du Nord, Brussels.
Flamme, F., & Rorive, V., electrical installations, Obourg-lez-Mons.
Fleischhauer, G., electric light & power installations, Königstr. 68, Magdeburg.
Fleischbein, F. E. von, electrical engineer, Kaiserlautern (Pfalz), Germany. (Telephone No. 82.)
Fleischner, Julio, electrical apparatus, Carretas 33, Madrid.
Fleischhacker Lampen Compagnie, incandescent lamp manufacturers, Grossenhainerstr. 92, Dresden. (Telephone No. 4736.)
Fleischhauer, G., electrical agent, 78, Osterstr., Hanover. (Telephone No. 200.)
Fleischmann, M., glow lamp manufacturer, Antonigasse 65, Vienna XVII/1, Austria. (Telegrams: "Kohlenfabrik, Vienna.")
Flesch, L., electrical engineer & manager of the Ateliers de Construction Oerlikon, Lausanne. (Telegrams: "Flesch, Lausanne." Telephone No. 1771.)
Fleuranceau, Louis, electrician, 42, rue Servandoni, Bordeaux, Gironde, France.
Fleurman, A., electrician, 35, courte rue des Foulons, Bruges.
Flohr, Carl, electrical engineer & lift maker, Chausseestr. 28B, Berlin, N.
Florand, Robert, electric light fittings, 116 & 118, rue St. Georges, Lyon. (Telegrams: "Florand, Lyon." Telephone No. 1–31.)
Floris-Thorel, Ing. F., civil & hydraulic engineer, Vico 3° Lamarmora N. 4, Cagliari.
Flügel, P., electrical engineer, Ateliers Jura-Simplon, Bienne, Switzerland.
Foà, Icilio, electrical & civil engineer, 9 bis, via San Carlo, Naples.
Focquet, Ch., manufacturing electrician, 100, chaussée St.-Pierre, Etterbeck, Brussels. (Telephone No. 649.)
Foerster, Chr. Gottlob, manganese merchant, Ilmenau, i/Th., Germany.
Fogliacco, Giov., general commission agent for electric wire & carbons, via dei Mille 6, Turin. (Teleph. No. 1282.)
Foiret, Anatole, manager Cie. Française pour l'Exploitation des Procédés Thomson-Houston, 31, rue Claude Vellefaux, Paris.
Fölsche, R., electrical engineer, electric transmission of power, 5, Hegenstr., Halle-a.-Saale, Germany. (Telegrams: "Fölsche, Hallesaale." Telephone No. 218.)

Fonderia del Pignone, ornamental gas & electric light brackets (lamp posts a speciality), Florence, Italy.

Fonderies et Laminoirs de Biache-Saint-Vaast (soc. anon.), metal manufacturers, makers of electric wires, 28, rue St. Paul, Paris. (Telegrams: "Biache, Paris." Telephone No. 157-77.) Works: Biache-Saint-Vaast (Pas-de Calais), & Ougrée (Belgium).

Fonos Gesellschaft m. b. H., electric bells, indicators, dry cells, &c., Lindenstr. 16 & 17, Berlin, S.W. 68.

Fonreau, Marcel, & Ch. Corberon, dynamos, motors, cables, &c., 54, rue de Chabrol, Paris.

Font, Federico, maker of electric bells, annunciators, &c., rambla del Centro 17, Barcelona, Spain.

Fontaine, —, electrical contractor, 12, rue de la Juiverie, Le Mans, France.

Fontaine, Eugène Paul, consulting mining engineer, general secretary to the Syndicat des Usines d'Électricité, 27, rue Tronchet, Paris VIIIe. (Telephone No. 225-92.)

Fontaine, G., electrical instrument maker, 16, 18, 20, rue Monsieur-le-Prince, et 24, rue Racine, Paris. (Telegrams: "Fongorges, Paris." Telephone No. 810-83.)

Fontaine, Hipp., electrical engineer, 58, rue Notre Dame des Champs, Paris. (Telephone No. 109-45.)

Fontana, Alessandro, maker of electric bells & electric light fitter, via ai Quattro Canti di S. Francesco 43, Genoa, Italy.

Fontana, Paolo, & Co., electrical instrument makers, via Asse 14, Bologna.

Foras, Felix, electrical apparatus manufacturer, 5, rue Debelleyme, Paris.

Force et Eclairage par l'Electricité (Soc. Anon.), electric light & power contractors, boul. d'Anderlecht, Brussels; & rue Leopold, Antwerp.

Force et Lumière Electrique (Soc. Anon.), 9, rue de Rocroy, Paris. (Telephone No. 405-91.)

Forde, H. B., A.I.E.E., Norddeutsche Seekabelwerke, Nordenham, a/d Weser.

Forges de Douai (Soc. Anon.), electrical & mechanical engineers, 52, boul. Haussmann, Paris (Telephone No. 245-42); & Douai (Nord), France. (Pierre Arbel, managing director.)

Forges de Vulcain, Aux. (A. Chouanard), electrical engineers' tool makers, 3, rue St. Denis, Paris.

Forges et Chantiers de la Mediterranée (Soc. Anon.), electrical & mechanical engineers, La Seyne (Var); & Marseilles (Bouches-du-Rhône), France.

Fornara, Giov., & Co., wire manufacturers for telegraphic purposes, via Garibaldi 43, Turin, Italy. (Telephone No. 980.)

Forns y Cia., Pedro, engineers, D. Jaime I. 54, Zaragoza, Spain. (Telegrams: "Forns, Zaragoza." Telephone No. 1021.)

Forssman, C. M., late director Swedish telegraphs, Sandvik Karlshamn, Sweden.

Forster, W. G., telegraph engineer, Eastern Telegraph Co., Cadiz.

Förster & Leuchtag, carbons for electric purposes, A. b. c.-Hof, Hamburg.

Fortschritte der Elektrotechnik, Dr. Karl Strecker, editor; Julius Springer, publisher, Monbijouplatz 3, Berlin, N. (Telegrams: "Springer, Monbijou, Berlin." Telephone Amt. III. No. 529.)

Foscarini, A., engineer & manager, Electric Tramways, 39, via Manzoni, Milan.

Fosse, —, electro-medical apparatus manufacturer, 12, rue de l'Hôtel de Ville, Lyons, France.

Foster, Thomas Wallace, electrical engineer, via Quintino Sella 2, Milan.

Fouché & de Laharpe, steam engines for dynamos, 38, rue des Ecluses St. Martin, Paris. (Telephone No. 403-36.)

Fould, Léon, electrician, 30, rue du faub. Poissonnière, Paris.

Fouquemberg, Nestor, electrical engineer, Vasmes, près de Mons, Belgium.

Fournier, Joseph, engineer & turbine builder, 1, chemin St. Fridore, Lyons, France.

Fournier (Agence) Co., Ltd., telegraphic news agents, 1, rue de la Bourse, Paris.

Fournier & Cie., electrical engineers & contractors, 38 *bis*, rue de Rivoli, Paris.

Foussat, Gabriel, agent for incandescent lamps & electric light apparatus, 61, quai Valmy, Paris. (Telephone No. 244-08.)

Foveau de Courmelles, Dr., licentiate of physical & natural science, professeur libre d'Electrothérapie et de Radiographie, &c., 26, rue de Châteaudun, Paris. Director of *L'Année Electrique*.

Frachebois, Ch., electrician, 66, rue Lafayette, Paris. (Telephone No. 218-48.)

Frager, —, manager of the Compagnie pour la Fabrication des Compteurs et Matériel d'Usines, 23, boul. de Strasbourg, & 16 boul. de Vaugirard, Paris.

Fraigneux, L., electrician, rue Douffet, 13, Liége.

Française Electrique (Société Anonyme), La, manufacturing electrical & traction engineers. Head office & works: 99, rue de Crimée, Paris, XIXème. (Telegs.: "Polyphase, Paris." Teleph. Nos. 404-28 & 420-05.)

Française, La, manufacturers of electrical apparatus, 59, boul. de Strasbourg, Paris. (Telegrams: "Farkas, Paris." Telephone No. 402-50.)

Franceschi, electrical apparatus maker, 109, boul. Beaumarchais, Paris. (Teleph. No. 273-42.)

Franchini, Gustavo, director-general Electrical Dept., Rome.

Franck, A. & J., frères, zinc rods & battery plates manufacturers, 6, ave. de Versailles, Paris. (Telephone No. 691-98.)

Franck & Co., dynamo brushes, Schlettstadt, i/E, Germany.

Franco-Belge, La, manufacturers of indiarubber, cables, & vulcanite fibre, boul. du Hainaut 99, & rue de la Caserne 22, Brussels. (Telegrams: "Franbelge, Brussels." Telephone No. 1224.)

Francois, electric medical instruments, 114 bis, ave. des Batignolles, S. Ouen près Paris. (Teleph. No. 42.)
François, L., Grellou, A., & Cie., electric wire & cable manufacturers, 43, rue des Entrepreneurs, Paris. (Telegrams: "Fabricant, Paris." Telephone No. 710-48.)
Françoise, V., electrical engineer, 72, boul. Audent, Charleroi, Belgium.
Francotte, J. J., electrician, Jauche, Belgium.
Frank, Dr. R., director, Consortiums für Elektro-Chemische Industrie, Golling, bei Salzburg, Austria.
Franke, C. F., electrical engineer, 101, Karlstr., Gross Lichterfelde, Berlin.
Franke, Fr. E. *See* Maschinenfabrik E. Franke & Co.
Frankfurter Asbestwerke Aktienges., vorm. Louis Wertheim, Frankfort-on-Main. (Telephone No. 3151.)
Frankfurter Eisenbau-Anstalt, Rohnstadt & Zweigle, lamp-holders & post manufacturers, Taunusstr. 44, Frankfurt-a-Main.
FRANKFURTER GLIMMERWARENFABRIK, LANDSBERG & OLLENDORFF, mica manufacturers, Frankfurt-a.-M., Bockenheim, Germany. (Telephone No. 5495.) *See advt.*, MICA MERCHANTS, BRITISH SECTION.
Frankfurter Lackfabrik G. m. b. H., manufacturers of varnishes for electrical purposes, Frankfurt-a.-M. (Telephone No. 1132.)
Frankl & Kirchner, electrical engineers & contractors, Mannheim. (Telephone No. 214.)
Franzosi, Luigi, electric light contractor, Omegna (Prov. di Novara), Italy.
Franzosi Fratelli, electric light contractors, Omegna (Prov. di Novara), Italy.
Frassl, F. S., electrical engineer, VII. Zieglergasse 43, Vienna.
Frassoni, Ditta, G., electric bell maker, 7, Pescheria Vecchia, Verona, Italy.
Fratelli Cellai, electric light contractors, Lungarno Regio, Pisa, Italy.
Fratelli Petrini, electric light contractors, Bastia (Prov. di Perugia), Italy.
Frazer, R. W., M.I.E.E., electrical engineer, Anglo-Portuguese Telephone Co., Lisbon, Portugal. (Telegs.: "Edison, Lisbon.")
Fréchou, Émile, electrician, Nérac, Lot-et-Garonne, France.
Frédéric, J., electric bell fitter, 17, rue des Tournelles, Paris.
Fredrikshalds Elektrik Bureau (Birgir N. Björnstad), Fredrikshald, Norway.
Fredriksson, Edv., electrician, Granbergsdal, Sweden.
Fredriksstad Gas & Electricitetsverk (managing engineer, Arvid Ruth), Fredriksstad, Norway.
Fredriksstad Telephone Co. (general manager, Olaf M. Holwech), Fredriksstad, Norway.
Frei, P., principal telegraph inspector of Federal Railways, Berne, Switzerland.
Freiburgische Städtisches Elektricitätswerke & Strassenbahn, Freiburg-i-Breisgau, Germany.
Freissler, Ant., electric lifts maker, X. Erlachplace 4, Vienna; & David-utcza 2, Budapest VI.
Freitag, Gustav, electric light contractor, Barmen, Germany. (Teleph. No. 2065.)
Fremin, Oscar, electrician, Hautmont (Nord).
Frémy, E., manufacturing electrical engineer, 57, boul. du Hainaut, Brussels.
Frenais, Ar., electro-plater & gilder, 65, boul. Richard Lenoir, Paris. (Telephone No. 931-87.)
Frenzel, A. T., manufacturer of crystal & brass fittings for electric light, &c., Steinschönau, Bohemia. (Telegrams: "Frenzel, Steinschönau.")
Frera, Corrado, & Co., motor cars & accessories, via Carlo Alberto 33, Milan. (Telegrams: "Frera, Milan." Telephone No. 372.)
Frère, G., electrician, rue du Jardinier 65, Ledeberg, Ghent, Belgium.
Frété, —, iron, steel & copper cables, 12, boul. Sébastopol, Paris. (Telegrams: "Corderie Centrale, Paris." Telephone No. 128-52.)
Freund, Alb., maker of electric pocket lamps, neue Friedrichstr. 56, Berlin.
Freund, E., electrical engineer, Kraftwerke an der Reuss, Bremgarten, Switzerland.
Freund, J., jun., electric motor maker, Gitschinerstr. 106A, Berlin, S.W.
Freund, M., manufacturing electrician, Wilhelmstr. 23, Gleiwitz, Germany.
Frey, Col. E., director Bureau Internat. des Administrations Télégr., Berne. (Telephone No. 520.)
Frey, Dr. E., director Kraftübertragungswerke, Rheinfelden.
Freydier, Vve. H., screw makers & all small fittings for electrical apparatus, rue St. Maur 204 (9, Passage Hebrard), Paris. (Telephone No. 421-59.)
Frezoul, A., electric bell manufacturer, 11, rue de Thorigny, Paris.
Friant, —, electric bell manufacturer & contractor, 26, rue Jeanne-d'Arc, Nancy, France.
Friart, J., electric bells & medical instruments, 8, rue Simonis, Brussels.
Fribourg, G., inspector-general of State telegraphs, 11, place Malesherbes, Paris.
Frich's, S., Eftf., electrical engineers, Aarhus, Denmark. (Telegrams: "Frichs, Aarhus.")
Fricke, W., electrical engineer, 2A, Landschaftstr., Körtingsdorf, Hanover.
Fried. Krupp Act. Ges. Grusonwerk Engineering Works, iron & steel foundry, Magdeburg-Buckau, Germany. (Telegrams: "Grusonwerk, Magdeburg.") Sole agent for Great Britain & Ireland: W. Stamm, 25, College Hill, Cannon-st., London, E.C.
Friedlaender, Albert & Co., telephone & scientific instrument makers, 108, Leipzigerstr., & 16, Lindenstr., Berlin.

Friedrich, A., electric light fittings manufacturer, 3 & 4, Reichenbergerstr., Berlin, S.O.
Friedrichs, Ernst, electric light engineer & contractor, 8, Gemarkerstr., Barmen, Germany. (Telegrams: "Engineer, Friedrichs, Barmen.")
Friese, Erich, dry cells, Waldemarstr. 34, Berlin, S.O.
Friese, Prof. Robert, director Siemens-Schuckertwerke G. m. b. H., Franklinstr. 28, Charlottenburg.
Frigerio, Ing. Carlo, electrical engineer, representative Gadda & Co. & Brioschi, Finzi & Co. of Milan, via Cavour 82, Rome.
Friis, Hans Wingaard, electrical engineer, superintendent Royal Norwegian Telegraphs, Drammen, Norway.
Friis & Neckelmann, electrical engineers, Odense, Denmark.
Frilli de Lamorte, Alfredo, electric light & power contractor, 5, via Nazionale, Florence, Italy. (Telegrams: "Gregolo, Florence." Telephone No. 1306.)
Frisch, Gustav., manager of the International Electric Co., Wipplingerstr. 30, Vienna I.
Frischauer & Co., insulating material manufacturers, 41, Gumpendorferstr., Vienna VI. (Telegrams: "Frischauer Compagnie, Vienna." Telephone No. 7627.)
Frison, Emile, Fils, electricians, Aux-Forges de Bologne (Haute-Marne), France.
Frister, R., Akt. Ges., makers of electric light fittings, Oberschöneweide-Berlin. Show-rooms: Lindenstr. 23, Berlin, S.W. (Telegs.: "Lucifer, Oberschöneweide.")
Fritsche & Pischon, electrical engineers & manufacturers, Kurfürstenstr. 146 & 147, Berlin, W.
Fritz, Capt., electrician, Orient, Vaud, Switzerland.
Fritze, Joh., electrical engineer, 7, Barbarossastr. Berlin, W. 30.
Frobeen, L., lubricator makers for electric machines & engines, 15, Hedemannstr., Berlin, S.W. (Teleph. Amt. VI. No. 387.)
Frognerkilens Fabrik, manufacturers of dynamos & electric machines, Bygdö, near Christiania, Norway. (Telegrams: "Elektromotor, Bygdo." Telephone Nos. 162 & 102.)
Fröhlich & Perthen, electric light engineers & contractors, Kolowratring 3, Vienna I. (Telephone Nos. 8612 & 3874); & III. Salesianergasse 7, Vienna.
Frohn, Gustav, electric light engineer & contractor, Elberfeld, Germany.
Froitzheim & Rudert, electric cable machinery makers, 11, Neue Königstr., Berlin, N.O.
Fromont, Gaston, engineer, 44, rue Jeanne d'Arc, Reims.
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Fuchs, Carl, manufacturer of electrical goods, Lindenstr. 3, Berlin, S.W.
Fuchs, J. W., maker of fine electric wires, Nuremberg.
Fumero, Franco Ernesto, consulting electrical engineer, patent agent & chief editor of *L'Elettricità*, 12, Foro Bonaparte, Milan, Italy. (Telephone No. 2437.)
Fumière et Gavignot, complete electrical installations. Stores: 32, avenue de l'Opéra, Paris. (Telephone No. 234-74.) Works: 32, rue Guersant, Paris. (Telephone No. 511-01.)
Fundiçaõ de Belem, dynamos, motors, fittings, &c., Calçada d'Ajuda, No. 18, Belem, Lisbon.
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Fürst, —, works chief of electric tramway, Orlikon, Zurich.
Fürstlich Stolberg'sche Maschinenfabrik, steam-engine makers, Magdeburg, & Ilsenburg-am-Harz, Germany.
Furter, J., electrical apparatus, 7, rue Cendrier, Geneva.
Fuselli, Vittorio, electric light contractor, via S. Sebastiano, Genoa.
Fynn, A., electrical engineer, 2, rue Postale, St. Petersburg. (Telegrams: "Fynn, St. Petersburg.")

Gaa, Ch., electrical engineer & manager Brown, Boveri & Co., Mannheim-Kaeferthal, Germany.
Gabillot, Gaston, dynamo brushes, 100, rue de la Folie-Mericourt, Paris. (Telephone No. 417-81.)
Gablonzer Elektricitätswerk, Mahla, Hoffmann & Co., Gablonz a. d. Neisse, Bohemia. (Telephone No. 51.)
Gabreau, P., crystal fittings, 154, rue d'Allemagne, Paris.
Gabriel, R., electricity meters, Dreilaufergasse 11, Vienna V.
Gabriel, F., & H. Angenault, incandescent lamp makers, Combs-la-Ville (Seine-et-Marne), 10, rue Gaillon, Paris; & 34, Victoria-st., London, S.W.
Gadda & Brioschi, Finzi & Co., manufacturers of dynamos, motors & transformers, via Castiglia, Milan, Italy (Telegrams: "Dinamo, Milan." Telephone Nos. 2514 & 2516); & via Cavour 82, Rome.
Gadois & Dumanche, electricians, 58, rue de la Faisanderie, Paris.
Gaebler, O., electrician, Hartmann & Braun A. G., Frankfort-on-the-Main.
Gaertner, A., wood cases for all electrical purposes, Dresdenerstr. 38, Berlin, S.O. (Teleph. Amt. IV. No. 5059.)
Gagge, G., electrical engineer, Sundsvall, Sweden.

Gaggia, A., electrical engineer, Gio. Ansaldo & C., Cornigliano Ligure, Genoa, Italy.
Gagneau et Cie., electric light apparatus makers, 115, rue Lafayette, Paris.
Gaiffe, G., electrical engineer, 40, rue St. André-des-Arts, Paris.
Gaiffe, G., maker of scientific electrical instruments & electro-medical apparatus, 9, rue Méchain, Paris.
Gaillard, A., manufacturer of wood telegraph poles injected with sulphate of copper, ave. de Pezenas, Beziers, Hérault, France. (Telegs.: "Gaillard Bois Beziers." Teleph. No. 226.)
Gaillard, Em., professor l'Ecole d'Ingenieurs, electrical engineer, chief of the Contrôle des Installations Electriques et Industrielles, Martheray 5A, Lausanne, Switzerland.
Gaillard, Philippe, electrical engineer, Les Arolles, Lausanne, Switzerland.
Gaillet, P., electrician, 8, rue Nicolas Leblanc, Lille (Nord), France.
Galereau, Léon, electrician, Laval, Mayenne, France. (Telegrams: "Galereau, Laval.")
Galey Frères, electrical engineers, 242, boul. St. Germain, Paris. (Telephone No. 724-74.)
Gall, Henry, manager of the Gesellschaft für Elektrochemie, 2, rue Blanche, Paris.
Gallais, A., chemical manufacturer, 73, boul. de la Villette, Paris.
Galland, Leo, electrical engineer, Bülowstr. 10, Berlin, W. 57.
Galland Fils, electrical engineers, Montbrison (Loire), France.
Gallarati, Ing. D., electric light & power contractor, via Monte di Dio 2, Naples. (Telegrams: "Elettrotecnico, Napoli.")
Galle, Richard, electro-medical apparatus, constant batteries, &c., Alte Jacobstrasse, 8, Berlin, S.W. (Telephone Amt. IV. No. 583.)
Gallego y Carranza, Lorenzo, Commanding the Telegraph Battalion, Ferraz 1 & 3, Madrid, Spain.
Galli, E., electrical engineer, 9, Ventaglieri, Naples.
Gallimard, Jacques Félix, engineer, Sté. Industrielle des Téléphones, 7, rue Gounod, Paris.
Galliot, —, electrical engineer, Ingénieur des Ponts et Chaussées, Dijon, France.
Gallois, Ch., electro-chemist, 37, rue de Dunkerque, Paris. (Telephone No. 405-80.)
Gallois Fils, electrical engineers, St. Martin-de-Ré (Charente-Inférieure), Paris.
Gallonier, A., telephone apparatus manufacturer, 19, rue Tandac, & 97, rue de Grenelle, Paris. (Teleph. No. 424-71.)
Galloway, Reginald, manager Robert W. Blackwell, 20, ave. du Boulevard, Brussels.
Gallud, Ramon, electrician, Santander, Spain.
Galvanische Metallpapierfabrik Aktien Gesellschaft, Gerichtstr. 2, Berlin, N. (Telegrams: "Galvanopapier, Berlin." Telephone No. III. 2083.)
Galvanophoren-Werke (system Vogt), S. Szubert, Com.-Ges., Erdmannstr. 12, Berlin-Schöneberg. (Telegrams: "Galvanophorwerk Szubert, Schönebergberlin." Telephone Amt. VI. No. 6215.)
Galvany, Palissy, electrical instruments, rua Serpa Pinto 91, Lisbon.
Gambs, —, electrician, 8, pl. des Jacobins, Lyon (Rhône), France.
Gamet, Th., electrical supplies, 5 bis, place Voltaire, Paris.
Gander, A., electrical engineer, manager Société Nantaise d'Eclairage et de Force par l'Electricité, 16, rue Lamoricière, Nantes (Loire-Inférieure), France. (Telegs.: "Electricité, Nantes." Tel. No. 7.)
Gandillon, A., manufacturer of turbine-dynamos of moderate speed, Senlis (Oise), France. (Telegrams: "Gandillon, Senlis." A.B.C. Code, 5th edit. Telephone No. 15.)
Gandini, Prof. Giovanni, electrician & inventor of the "Gandini" accumulator, Lodi, Italy.
Gandolfi, Cesare, engineer & scientific instrument maker, P. Brasata al Lauro; & via Vittorio Emanuele, Bergamo.
Ganelli, Ernesto, electrotechnical apparatus maker, via Venezia 2, Cremona, Italy.
Gans & Goldschmidt, electric measuring apparatus, Reinickendorfstr. 54B, Berlin, N. 65.
Gantert, C., director of Russische Gesellschaft Schuckert, Moscow.
Gantke, Hugo, domestic electrician, 105A, Friedrichstr., Berlin, N.
Gantois, J., & Cie., manufacturers of material for dynamo brushes, St. Dié-des-Vosges; 46, boul. Magenta, Paris; & Berkhampstead, England.
Ganz Electric Co., Ltd., electrical apparatus & machine manufacturers, Lövöház-u. 39, Budapest II., Hungary; Wipplingerstr. 21, Vienna I. (Telegs.: "Alterno, Budapest.")
Garatti, V., electrical apparatus maker, via Vittorio Emmanuele, Treviso, Italy.
Garbayo y Moreno, Manuel, engineer, Compania Electrica, San Sebastian.
Garcia, F., electrician, rue du Houblon 49, Brussels.
Garcia, J., electrical engineer, Independencia 28, Zaragoza, Spain. (Telegs.: "Javier Garcia, Zaragoza.")
Garcia, A., & Co., engineers, gas engines, 8, rue du Marché, Brussels. (Telegrams: "Garcia, Brussels, Nord." Telephone No. 3206.)
Gardelli, Dante, electrical apparatus, borgo Giacomo Tommasini, Parma.
Gardy, R., electrical instruments, rua do Assumpção 99, Lisbon. (Telegs.: "Rgardy, Lisbon.")
Garfield, A. S., M.I.E.E., 67, Avenue de Malakoff, Paris.
Gariboldi, Luigi, electrical engineer, via Stella 10, Milan.
Gariel, C. M., electrician, 6, rue Edouard-Detaille, Paris, XVIIe. (Telephone No. 515-27.)
Garin, —, electrical engineer, Cambrai (Nord), France.

Garnier, Hubert, electrical engineer, 105, quai d'Orsay, Paris.
Garnier, P., electric clock maker, 16, rue Taitbout, Paris. (Telephone No. 215-53.)
Garnier, Vittorio, electrical engineer, via Bogino 35, Turin.
Garnot, X., electric lighting engineer, 4, ave. de Péterhof, Paris.
Garrett Smith & Co., mechanical engineers, Magdeburg-Buckau, Germany.
Garrone, Ing., & Arigo, electrical engineers, 8, via Gioberti, Turin, Italy. (Telephone No. 36.)
Garrone & Co., electric light supply, via Massara, Pavia, Italy.
Garrone e Marchetti, electric light contractors, Varallo Sesia (Prov. di Novara), Italy.
Garteiz Hermanos, Yermo & Cia., electrical & mechanical engineers, Gran Via 20, Bilbao; & at Gijon & Valladolid. (Telegrams: "Garteiz, Bilbao.")
Gärtner, Arth., electrical engineer, Technisches Bureau, Victoriastr., Breslau XIII.
Gas & Elektricitäts Co., Ltd., "Brema," Bremen.
Gas-Elektrizitäts und Wasserwerke der Stadt Cöln, Cöln-am-Rhein. (Telegrams: "Gaswerke, Cöln." Telephone No. 2763.)
Gas und Wasserleitungsgeschäft Stuttgart G. m. b. H., electric conduit manufacturers, 36, Calwerstr., Stuttgart, Germany.
Gas-, Wasser- und Elektrizitäts Werke, Biel, Switzerland.
Gas-, Wasser- und Elektrizitätswerke, Basle, Switzerland.
Gascard, A., electrician, rue Pierre-Bullet 6, Paris.
Gasmotorenfabrik Deutz, Börsenplatz 7, Frankfurt-on-Main.
Gasmotoren Fabrik Deutz, Otto gas engine works, Cologne-Deutz, Germany. (Telegrams: "Ottomotor, Cologne." Telephone Nos. 2295, 2296 & 2297.)
Gasnier, P., chief of practical electricity, l'Ecole de Physique et de Chimie Industrielles de Paris, 42, rue Lhomond, Paris. (Telephone No. 806-18.)
Gason, A., manufacturer of electrical apparatus, 137, boul. Léopold II., Brussels.
Gasquet, —, electric light & power contractor, rue de Gand, Iseghem.
Gasquet, Mateo, representative of the Compagnie Générale d'Electricité, Sierpes 47, Seville, Spain.
Gass, Charles, electrical & mechanical engineer, quai à la Chaux 4, Brussels. (Telephone No. 5526.)
Gasterstaedt, J., electro-plater, silverer & gilder, VII. Zieglergasse 69, Vienna, Austria. (Telephone Nos. 1743 & 3089.)
Gatliff, P., agent Eastern Telegraph Co. & the Anglo-American Telegraph Co., 37, rue Caumartin, Paris. (Telegs.: "Anglorient, Paris." Teleph. No. 249-74.)
Gatti, Louis, electrical engineer, rue Baretti, 34, Turin, Italy.
Gaudin, Louis, electrician, Coppet, Vaud, Switzerland.
Gauernack & Reinboth, electro-medical apparatus manufacturers, Louisenstr. 7, Dresden, Germany.
Gaultier, Georges, engineer, 14, rue Dumont d'Urville, Paris.
Gaumont, L., & Co., electrical engineers, 57, rue St. Roch, Paris. (Telegrams: "Objectif, Paris." Telephone No. 230-87.)
Gaupillat, Marcel, & Cie., makers of electric pumps & explosives for mines, 39, rue Bouret, Paris.
Gautard, Pierre, electrician, Usines du Creuzot, Creuzot, Saône-et-Loire, France.
Gauthé Chaubert, electric bell manufacturer & contractor, Nevers, France.
Gauthier, G., electrical engineer, 219, boul. Voltaire, Paris.
Gauthier, Leclerc & Cie., electrical engineers, 7, ave. Pictet de Rochemont, Geneva, Switzerland. (Telegs.: "Segme, Geneva.")
Gauthier & Cie., electric light contractors, à Serres (Hautes-Alpes), France.
Gauthier-Villars, technical publishers, 55, Quai des Grands Augustins, Paris, 6e.
Gautier, Dr. Georges, electrician, 9, rue Beaujou, Paris.
Gautier, L., electrician, Monthureux-sur-Saône, Vosges, France.
Gautier, M., bronze fittings, complete light & power fittings, rue Ferrandière 27 (près la rue de la Republique), Lyon.
Gautier, electric light, bell & telephone fitters, 36, rue St. Lazare, & 78, rue Taitbout, Paris.
Gautschy-Félix, E., optician, place St. François, Lausanne, Switzerland. (Telephone No. 570.)
Gauverit, J. M., electric bells & telephones, 114, rue d'Irlande, Brussels.
Gauverit & de Kanter, electrical & mechanical engineers, Heerenstraat, Zeist, Holland. (Teleph. No. 2.)
Gavazzi, Ad., manufacturing electrician, via S. Nicolao 2, Milan.
Gavotti, Ing., & Senni-Guidotti, instruments of precision, via due Macelli 66, Rome. (Telegs.: "Arte Industria, Rome." Teleph. No. 3598.)
Gay, —, electrical engineer, Société Industrielle des Téléphones, 25, rue du Quatre Septembre, Paris.
Gaze, Max, chief engineer, Union Elektr.-Ges., 16, Yorkstr., Berlin, S.W.
Gebauer & May, electricians, Köthenerstr. 21, Berlin, W.
Gebhard, Ludwig, director to the Accumul. Factory, I. Bellariastrasse 8, Vienna.
Gebhardt Söhne, Paul, electrical school apparatus maker, Neue Schonhäuserstr. 6, Berlin, C. (Telephone Amt. III. No. 5637.)
Geck Gebr., multiple wire machinery, Altena, Westphalia.
Gefle Electricity Works, electrical engineers, Gefle, Sweden.

Gehm, G., electric bells, rue Parnasse 6, Brussels.
Geisel, J., installation contractor, Deislerstr. 1, Hannover-Linden.
Geiser, Herm., engineer, director of the Municipal Light & Water Works, Shaffhausen, Switzerland.
Geisse, R. & F., electric bells, Waldschmidtstr. 17, Frankfort-a.-M. (Telephone No. 3001.)
Geisselbrecht, K., electrical apparatus maker, Nuremberg, Germany.
Geissler, Dr. H., successor Franz Müller, maker of all kinds of electrical & chemical apparatus, Bonn-am-Rhein, Germany. (Telegrams: "Geissler, Succr., Bonn." Telephone No. 794.)
Geissler, E., & Co., electrical apparatus manufacturers, 51, Hohenstaufenstr., Berlin, W. 30.
Geist, Ernst Heinrich, Elektricitäts Aktien Gesellschaft, electrical engineers & dynamo manufacturers, Zollstock-Cologne, Germany. (Telegrams: "Dynamogeist, Kölnrhein." Telephone No. 1098.)
Geitler, Dr. J. von, professor of physics, the German University, Prague.
Geitner's, Dr., Argentanfabrik, F. A. Lange, German silver, nickelin & rheotan manufacturers, Auerhammer bei Aue, Saxony.
Gelder, de G., engineer, Oosterpark 27, Amsterdam, Holland. (Telephone No. 5785.)
Gemeinde Wien Städtisches Electricitätswerk, VI. Rahlgasse 3, Vienna.
Gemp, Kon. D., electrical stores, Vassily Ostrow, 11th line, N. 24, St. Petersburg.
Gendrin, Léon F., electrician, 27, rue de la Paroisse, Versailles, France.
General Austrian Electricity Co., electric light contractors, Wallnerstr. 2, Vienna I.
GENERAL ELECTRIC DE FRANCE, LTD., agents for General Electric Co., Ltd., of London (Lucien Espir, general manager), 11 *bis*, rue de Maubeuge, Paris. (Telegrams: "Cespir, Paris." Telephone No. 147–80.)
General Office of Electricity & Industrial Appropriations, 56, rue de la Victoire, Paris. (Telegrams: "Voltampes, Paris.")
General Swedish Electric Co., Ltd., manufacturers & installers of electric machinery for transmission of power & light, Stockholm & Westerås, Sweden. (Telegrams: "Elektriska.")
General Telephone Co. (Allmänna Telefon Aktiebolaget), telephone engineers & contractors, Stockholm.
Genest, Werner, electrical engineer, Boothstr. 16, Gross Lichterfelde, Berlin.
Geneste Herscher et Cie., ventilating engineers & engineers' stores, 42, rue du Chemin-Vert, Paris. (Telephone No. 900–61.)
Geneux, François, director of the Société des Forces Électriques de la Goule, St. Imier, Switzerland.
Génie Civil, Le (weekly), 6, chaussée d'Antin, Paris. (Ann. sub., P.U., 45 frs. = £1 16*s*.) (Telegrams: "Génie Civil, Paris." Telephone No. 115–98.)
Geniets, A., electric bells & fittings, 14, rue de Brabant, Ghent.
Genovesi, Gaetano, electric bell fitter, Parione 19, Rome.
Genteur, J. A., electrical fitting manufacturer, 122, ave. Philippe Auguste, Paris. (Teleph. No. 940–38.)
Geoffroy, Eugène, membre fondateur de la Société des Electriciens, 2, rue Portalis, Paris.
Geoffroy et Delore, engineers, makers of cables & wires for all electrical purposes, 28, rue des Chasses, Clichy (Seine), France. (Telephone Nos. 503–71 & 503–73.)
Georgeivsky, N., electrician, Professor of Physics, Institut Technologique, St. Petersburg.
Georges & De Watteville, agents Stock Co., Berlin, telephone contractors, Keizersgracht 188, Amsterdam. (Telephone No. 2295.)
Gérard, A., electrical engineer, Bogny-Braux, Ardennes, France.
Gérard, Alph., electrician, rue Wazon 122, Liége.
Gérard, Ernest, chief engineer, Ministere de Chemins de Fer, 15, ave. Renaissance, Brussels.
Gerard, G., electrician, Arlon, Belgium.
Gérard, L., consulting engineer, professor at the University & Solvays Institute, ave. de Tervueren 102, Brussels.
Gérard, Prof. E., M.I.E.E., director Institut Electro-technique Montefiore, 35, rue St. Gilles, Liége.
Gérard, E., et Cie., manufacturers of all supplies for electricians, 40, quai d'Amercœur, Liége, Belgium.
Gérard fils, —, electrical engineer, 71, rue Gide, Levallois Perret, Seine, France.
Gérard, Vve., electric bells & supplies, 30, rue de Fer, Namur, Belgium.
Gerber, Victor, electrical agent, Schottenbastei 14, Vienna I. (Telegrams: "Cerberus, Vienna." Telephone No. 12595.)
Gerken, L., director of telegraphs, South-West Railway, Kiew, Russia.
Gerland, Prof. Dr. Ernst, electrician, Royal Academy of Mines, Clausthal, Germany.
Gernaert, J., general engineer, editor of *L'Industrie*, 13, rue Ducale, Brussels. (Telephone No. 1761.)
Gernaert & Co., agents for Felten & Guilleaume, 3, rue d'Arlon, Brussels.
Gernett, S. P., electrical supplies, Kirochnaja 32–34, St. Petersburg.
Gerson & Sachse, patent agents, Gitschinerstr. 110, Berlin, S.W.
Gervais, F., electrician, 12, rue des Filles du Calvarre, Paris.
Gervais, L. (ancienne Maison Monniot), 8, rue Martel, Paris. (Telephone No. 246–27.)
Gès Emmanuel, electrical agent, Paseo de Colón 17, Barcelona, Spain. (Telegs.: "Ges, Barcelona.")
Gesellschaft des Aare- und Emmenkanales, Solothurn, Switzerland.
Gesellschaft des Aechten Naxos-Schmirgels, "Naxos-Union," makers of emery wheels & emery wheel machines, 43, Waldschmidtstr., Frankfort-on-the-Main; & 23, Crutched Friars, London, E.C.

Gesellschaft des Elektrischen Personenaufzugs, Matte-Plattform, Bern, Switzerland.
Gesellschaft für Beleuchtungskörper, vormals Zeisser, Habiger & Co., bronze fittings for gas & electric light, Neustiftgasse 72, Vienna VII/3. (Telegrams: "Lusterwerk, Vienna." Telephone No. 4135.)
Gesellschaft für den Bau von Untergrundbahnen G. m. b. H., 6, Kronenstr., Berlin, W.
Gesellschaft für Drahtlose Telegraphie m. b. H., Berlin, S.W.
Gesellschaft für Elektrische Beleuchtung, Frutigen, Berne, Switzerland.
Gesellschaft für Elektrische Hoch und Untergrundbahnen, Köthenerstr. 12, Berlin.
Gesellschaft für Elektrische Industrie, makers of electric machinery & electric hoists, Karlsruhe, Baden (Telegrams: "Electra, Karlsruhebaden." Telephone No. 418); & Schiffbauerdamm 2, Berlin.
Gesellschaft für Elektrische Industrie, Volksgartenstr. 3, Vienna I. (Telegrams: "Fulgur, Vienna." Telephone No. 17508.)
Gesellschaft für Electrische Kraftübertragung & Elektr. Licht, Pfäffikon, Zurich.
Gesellschaft für Elektrische Maschinen und Installationsbedarf (m. b. H.), manufacturers of electrical supplies, Lindenstr. 101, Berlin, S.W. 68. (Telegrams: "Rapidos, Berlin.")
Gesellschaft für Elektrische Unternehmungen, 45, Dorotheenstr., Berlin, N.W.
Gesellschaft für Elektrizität Wirth & Futterknecht, electrical engineers, Schnetzthor & Hussenstr., Konstanz, Germany. (Telephone No. 293.)
Gesellschaft für Elektrotechnik (Grün & Fischer), VII. Kirchberggasse, Vienna.
Gesellschaft für Gleislose Bahnen Max Schiemann & Co., Wurzen i/Sa. (Telegs.: "Schiemann, Wurzen." Teleph. No. 69.)
Gesellschaft für Licht u. Kraftanlagen m. b. H., St. Johann-Saarbrücken, Germany. (Telegrams: "Energie, St. Johann-Saarbrücken." Telephone No. 755.)
Gesellschaft für Maschinenbau und Elektrische Neuheiten (G. m. b. H.), machines & electrical novelties, Hafenplatz 5, Berlin, S.W.
Gesellschaft für Strassenbahn Bedarf, electric tramway engineers & contractors, Schönhauser-Allée 62, Berlin, N. (Telegrams: "Condensator, Berlin." Telephone III. No. 5,300.)
Geslin, Auguste, maker of electric lifts, 10, rue Guillaume Tell, Paris. (Telegrams: "Geslin, Ascenseurs, Paris." Telephone No. 501–59.)
Getting, Edouard, managing director of the Compagnie française de Charbons pour l'Électricité, 53, rue de Châteaudun, Paris.
Gevaert, E., electrical engineer, 99, rue de la Victoire, Brussels.
Geveke & Co., mechanical & electrical engineers, 408, Heerengracht, Amsterdam. (Telegrams: "Globated.")
Gevers, Marcel, agent Western Union Telegraph Co., 2, Courte rue de la Chapelle des Bateliers, Antwerp.
Gezen, B. J., electrician, Municipality, Perm, Russia.
Ghien Fils & Muret, electrical engineer, 12, rue Gubernatis, Nice, France.
Ghieu, Joseph, electrician, 37, rue Pastorelli, Nice.
Ghysens, J., electric light contractor, 22, rue du Vivier, Liège.
Ghysens, M., & Cie., lightning conductors, 50, rue des Clarisses, Liége, Belgium.
Giacchino & Sbardolini, electrical fittings, via Venti Settembre 15, Turin, Italy.
Giacon & Polacco, iron & copper, bell & telephone dealer, via Cavour, 37 (Prov. di Padova), Este.
Giampieri Fratelli, electrical engineers, Chiaravalle, Ancona, Italy.
Giampiero, Ing., Clerici & Co., electric light machinery & apparatus makers, via Pergolese 11, Milan, Italy.
Giannantoni & C., electrical engineers, Mantua.
Giannini, Carlo, agent for electric machines for continuous & alternating current, Rieti, Umbria, Italy. (Telegrams: "Giannini, Rieti.")
Gianoli, —, magnets & all electrical apparatus for automobiles, 26, boul. Magenta, Paris. (Telegrams: "Gianolaco, Paris." Telephone No. 440–08.)
Giardi, T., electrical engineer & agent, Siena, Italy.
Gibault, Vve. Ch., engineer & contractor, ave. Philippe-Auguste 68 & 70, Paris. (Telephone No. 904–95.)
Gibert, A., electrician, 87, rue St. Thomas, St. Quentin (Aisne), France.
Gibert, Francisco, electrical apparatus, Cuatro Santos, Cartagena, Spain.
Gibert Fils, electric bell manufacturer, 17, rue du Soleil, Angoulême, France.
Gibson, G. W. E., electrical agent, Rotterdam, Holland.
Giebel, Hans, electric light fittings, Prinzenstr. 26, Berlin. (Telephone Amt. IV. No. 238.)
Gigot, Carl, manufacturer of electric batteries, Schweizerstr. 7, Frankfurt-am-Main, Germany. (Telephone No. 6296.)
Gil, Jose, electrician, Espoz y Mina 39, Zaragoza, Spain.
Gil, Pedro, electrician, Campos, Cartagena, Spain.
Gil de los Reyes, managing director of the Gas & Electricity Works, 11, Enrique de las Martinas, Cadiz, Spain.
Gilardone & Gazagnaire, electricians, rue Hermann, Cannes (Alpes-Maritimes), France.
Gilbich, T., director of telegraphs, Moscow-Kasan Railway, Moscow.
Giles, Georges, director Société de Condensateurs, Fribourg, Switzerland.
Gillespy, W., superintendent Eastern Telegraph Co., Ltd., Palazzo delle poste, Trieste, Austria.
Gili, Eredi, telephone installer & contractor to the municipality, Cortile Palazzo Pretorio, Novara.

Gillet, J., president, Compagnie Electrique de St. Etienne, 14, rue du Treuil à St. Etienne (Loire).
Gillet, Forest & Cie., electric light fittings, 32, boul. Henri IV., Paris. (Telephone No. 126-67.)
Gillon, L., electrician & installer, 29, rue Saint-Pierre, Caen, France.
Gillon, Prof. G., electrical engineer, place du Peuple 13, Louvain, Belgium.
Gilquin, P., electrician, 20, rue de la Rotonde, Béziers (Hérault), France.
Gimé, E., electrical engineer, 155 bis, rue Legendre, Paris, XVIIe. (Telephone No. 505-24.)
Gin, Gustave, engineer & electro-metallurgist, 43, rue Lévis, Paris, XVIIe. (Telephone No. 550-79.)
Gindre Frères & Cie., dynamo makers, 5, quai de Retz, Lyon (Rhône), France. C. Limb, consulting engineer. (Telephone No. 11.07.)
Giordano, G^ro., & A^de La Marra, agency & depôt for electric light apparatus & representatives, S. Bartolomeo 13, Naples. (Telegrams: "Giordano Lamarra, Naples.")
Giorgi, Giovanni, M.I.E.E., chief electrical engineer to the municipality, via Farini 5, Rome.
Giorgi, Ing., Arabia & Co., Studio Tecnico per Impianti Elettrici e Forniture Industriali, importers of electrical apparatus & supplies, via dell' Umiltà 79, Rome. (Telegrams: "Giorgiabia, Rome.")
Giorgio, Cavalieri, Ing., & Co., Società Elettrica Metaurense, Urbino, Italy.
Giort, J., engineer, Union Co., Miasnitskaya, h. Kouznesoff, Moscow.
Giovanni, Ansaldo, Armstrong, & Co., naval & general engineers, Sanpierdarena, Cornigliano, & Sestri Panente, Genoa. (Telegrams: "Giansaldo, Genoa.")
Girard, —, electrician, 125, ave. Victoria, Vichy (Allier), France.
Girard, E. E., manager, Service de l'Electricité, Boudry, Neuchâtel, Switzerland.
Girard, F., electrician, 26, rue Sainte, Marseille, France.
Giraud, Dr. Paul Henri, electrician, Chantilly, Oise, France.
Giraud, Sauron & Cie., electricians, 17, ave. de Vizille, Grenoble (Isère), France.
Girbasoff, M., engineer & electrical agent, Tomsk, Russia.
Giros, A., & Loucheur, electrical & hydraulic engineers, 9, rue Bonaparte, Paris. (Telephone No. 816-11.)
Girshausen, Adolfo, electrical material, Aragon 259, Barcelona.
Giry, —, electrician, pl. de l'Hôtel de Ville, St. Etienne (Loire), France.
Gittens, Charles, electric light & power contractor, chaussée de Malines 116, Antwerp.
Giuseppe, Arri, dealers in electric bells, annunciators, &c., vico Casana 27-29, Genoa, Italy.
Glaenzer & Cie., electrical engineers, 35, boul. de Strasbourg, Paris.
Glaesner Frères, manufacturing electricians, accumulators, &c., Châtillon (Luxembourg), Belgium.
Glaive, —, electric light apparatus & fittings, 4, rue du Parc-Royal, Paris. (Telephone No. 248-88.)
Glansdorff, H., electric light installation, 3 & 5, rue Keyenveld, Ixelles, Brussels.
Glaser, F. C., patent attorney, Lindenstr. 80, Berlin, S.W. (Telegrams: "Argument, Berlin." Telephone IV., 1721.)
Glasfabrik "Marienhütte" Carl Wolffhardt, reflectors, glass bulbs for incandescent lamps, VII/1, Andreasgasse 13, Vienna. (Telegrams: "Marienhütte, Vienna." Telephone No. 6368.)
Glasfabrik Sophienhütte, glass tube makers, &c., Ilmenau (Thür.), Germany.
Glashüttenwerke vorm. J. Schreiber & Neffen, glass manufacturers, 22, Liechtensteinstr., IX., Vienna. (Telegs.: "Glasschreiber, Vienna.")
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Hanover Rubber Co., Ltd. (Hannoversche Gummi-Kamm Co., Actien-Gesellschaft), insulating materials, Hanover-Limmer, Germany. London office: 63, Finsbury Pavement, E.C.
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Hartmann & Braun Aktiengesellschaft, electric testing & measuring instruments, Frankfurt a. M.-Bockenheim. (Telegs.: "Hartmannbraun, Frankfurtmain." Teleph. Nos. 4826, 5403 & 5491.) London representatives: Union Electric Co., 151, Queen Victoria-st., E.C.
Hartmann, Gebr., turbine builders, Flums, St. Gallen, Switzerland.
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Helios, Export Zeitschrift für Elektrotechnik (weekly, in German, English & French), 20, Inselstr., Leipzig. (Telegrams: "Helios, Leipzig." Telephone Amt. I. No. 4382.) Editors: Oskar Arendt & Karl Thal. Publishers: Hachmeister & Thal.
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Hendrickx, Eug., & Co., electric light illuminations, longue rue d'Images 258, Antwerp, Belgium.
Henkel's Electricitäts-Werk in Wilhelmshöhe, bei Cassel. (Telegrams: "Elektrikwerk, Cassel." Telephone No. 521, Amt. Cassel.)
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Henry, R., lubricating machines, 117, boul. de la Villette, Paris. (Telephone No. 418–50.)
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Hentschke, Buchholz & Co., electric light fittings, Alte Jacobstr. 1, Berlin, S.W.
Hentze, Carl, electrical engineer & agent, Am Weidendamm 1, Berlin, N.W. (Teleph. No. 9658, Amt. I.)
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Herberg, Fried. Max, & Co., makers of every kind of crucible steel files, Nürnberg.
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Heskia, N. A., dealer in electrical apparatus, VIII. 1, Piaristengasse 17, Vienna. (Teleph. No. 15870.)
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Hesse, C. Max, & Co., electrical apparatus manufacturers & electrical agents, Palermo. (Telegrams: "Hesse, Palermo.")
Hesse, L., & fils, electrical apparatus manufacturers, 70, rue des Archives, Paris.
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Hildebrand & Rausch. *See* Ostdeutsche Glühlampenfabrik.
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Hiltmann & Lorenz, engine makers, Aue-i-S.
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Hinque, Marret & Bonnin, platinum & platina manufacturers, 220, rue St. Martin, Paris. (Telephone No. 145–44.)
Hinstin Frères, arc lamp makers, 202, faub. St. Denis, Paris.
Hinterholzer & Co., electrical manufacturers, Fraunhoferstr. 4, Munich. (Telephone No. 1724.)
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Horwitz, L., electrician, Greifswalderstr. 221-223, Berlin, N.O.
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Hospitalier, Edouard, M.I.E.E., editor of *l'Industrie Electrique*, 87, boul. Saint Michel, Paris (V^e^). (Telephone No. 812-89.)
Hössly, Willy, electrical engineer, Brauerstr., Winterthur, Switzerland.
Host, J., electrical apparatus, 21, rue Rabelais, Lyon (Rhône).
HOUART, OCT., COMPLETE INSULATING MATERIAL FOR ELECTRICAL APPARATUS, SCLESSIN, LEZ QUAI DE L'INDUSTRIE, LIÉGE. (Teleph. No. 1067, Liége.)
Houben & Cie., leather driving-belt makers, Verviers, Belgium.
Houel, Perrin, electric bell manufacturer, Docelles, Vosges, France.
Houlon & fils, electrical engineers, Reims (Marne), France.
Houtman, Jr. D. electrical installations, Anna Paulowuastraat 107, The Hague, Holland. (Teleph. No. 3979.)
Hovent, Dr., electrician, director of the Institut Pneumotherapique et Electrothérapique, 18, rue de la Révolution, Brussels.
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Howell, B. Hunting, president, L'Industrie Internationale, 20, rue St. Georges, Paris. (Telegrams: "Kurkee, Paris." Telephone Nos. 213-76 & 236-23.)
Howitz, J. C. B., electrical engineer, Vestervoldg. 14, Copenhagen B.
Hubau, A., lightning conductors, Roulers, Belgium.
Huber, Col., M.I.E.E., president of the Maschinenfabrik Oerlikon, Zurich V., Switzerland. (Telegrams: "Huberus, Zurich." Telephone No. 1301.)
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Hüber & Cia., Sociedad Española Oerlikon, Principe 30, Madrid. (Telegrams: "Oerlik, Madrid." Telephone No. 853.)
Huber, Josef, & Co., electrical engineers & agents, Steyr, Upper Austria. (Telegrams: "Huberwerk, Steyr." Teleph. No. 12.)
Huber, R. & E., makers of electric wires & cables, Pfäffikon, Zurich.
Hubert, H., electrician, 56, boul. Voltaire, Paris.
Hubert, Fülöp és Társa, metal works; armatures; water, steam, bath fittings & electrical work, Budapest VI., Gyar-utcza 10. (Telegrams: "Hubert, Telefon, Budapest." Telephone No. 22.67.)
Hubner & Co., chemicals for electrical purposes, rue Bervoet 15, Antwerp.
Hubrecht, Dr. H. F. R., director of the Netherland Bell Telephone Co., Amsterdam. (Teleph. No. 135.)
Huck, Rob., electrical engineer, Rückerstr. 4, Berlin, C.
Huertas, Tomás, electrical engineer, Soc. La Electricista Segoviana, Segovia, Spain.
Huet, Gaston, electrician, 23, rue Thiers, Bernay (Eure), France.
Huguenin, Louis, & fils, manufacturing electricians, La Sarraz, Vaud, Switzerland.
Hugues, —, practical electrician, Société du Gaz, Marseilles, France.
Huguet, H., electrical engineer, 22, rue Vicq d'Azir, Paris. Works: Persan.
Huguet de Vars, Dr. H., medical electrician, 27, rue de Londres, Paris.
Huguet, Victor, electrical engineer, 72, rue d'Alésia, Paris 14e. (Telephone No. 714-50.)
Huici, Em., civil engineer, "La Electrica de la Vega de Armijo," Marmolejo, Spain.
Huidobro, Gabriel, electrical engineer, Soc. Volta, Santander, Spain.
Huijgen & Wessel, consulting engineers, Scheepmakershaven 37, Rotterdam, Holland. (Telegs.: "Huijgen Wessel, Rotterdam." Teleph. No. 2330.)
Hulin, Léon, engineer & electro-chemist, Grenoble (Isère), France.
Hülss, Fr., chief engineer, Siemens Schuckert Werke, Prannerstr. 15, Munich. (Telephone No. 1272.)
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Humbert, H., electric power light & contractor, rue Lucien Namèche 7, Namur, Belgium. (Telegrams: "Electric, Namur." Telephone No. 394.)
Humblot, Paul, electrician, 7, route de Sannois, Argenteuil, France.
Humboldt, Ateliers de Construction, electro-metallurgists, 17, boul. Haussmann, Paris. (Telephone No. 116.02.)
Hunebelle, Alfred, electrician, 6, rue Pierre Nicole, Paris.
Huré, P., machine tools for electrical engineers, 218, rue Lafayette, Paris. (Telegrams: "Huré, constructeur, Paris." Telephone No. 403.65.)
Hurtu, —, electrical instrument maker, 54, rue St. Maur, Paris. (Telegrams: "Hurtu, Paris." Telephone No. 902–01.)
Hurwitz, H., & Co., electrical engineers, 56, Stralauerstr., Berlin, C.
Huskamp, Franz E., electrical contractor, Knochenhauerstr. 13, Bremen. (Telephone No. 3896.)
Husséin Hassib Bey, His Excellency, director-general of posts & telegraphs, Constantinople.
Huth, L., & Co., electroliers, Prenzlauerstr. 41, Berlin, C.
Hüttel, Hermann, manganese, Ilmenau, Thuringia, Germany.
Hütten, Th., electrical engineer, rue de la Caserne 53, Brussels.
Hüttlinger, J. L., maker of wire scratch brushes, Schwabach, bei Nürnberg, Germany. (Teleph. No. 15.)
Huvé, L., marble for electrical purposes, 62, rue St. Sabin, Paris. (Telegrams: "Marbrhuvé, Paris." Telephone No. 933–47.)
Huygens, W., manager of the Electric Lighting Station, Siemens & Halske, The Hague, Holland. (Telephone No. 78.)
Hydrawerk, Dr. Louis Röder, primary battery makers, Zieglergasse 7, Vienna VII. (Telegs.: "Hydrawerke, Vienna." Teleph. No. 4560.)
Hyvert, Georges, engineer, Carcassone (Aude), France.

Ibañez, Enrique, electrician, Rosario 14, Albacete, Spain.
Ibarra y Cia., manufacturers of tramway plant, Bilbao-Ortuella, Spain.
Ichounine, A., engineer, Koursk Municipality, Koursk, Russia. (Telephone No. 36.)
Iglesias, Florencio, director of Fabrica de Luz Electrica, Monforte (Lugo), Spain.
Iglesias & Torralva, makers of electrical apparatus, Desengaño 22 & 24, Madrid.
Ihlen, G. O., superintendent Norwegian telegraphs, Horten, Norway.
Iliyne-Berline, manufacturer of incandescent lamps & electrical apparatus, 8, rue des Dunes, Paris. (Telephone No. 421–87.)
Il Mese, international technical review, Lugano, Switzerland; & 2, via Berchet, Milan, Italy.
Il Politecnico (monthly), civil & industrial engineering journal, 2, Piazza S. Giov. in Conca, Milan. (Teleph. No. 246.)
Imme & Löbner, manufacturers of electrical supplies, 42, Wasserthorstr., Berlin, S. (Teleph. No. 9453, Amt. IV.)

Imperial Continental Gas Association, electric light engineers & contractors, I. Schenkengasse 10, Vienna.
Imperial & Royal Technical High School, Technikerstr. 13, Vienna IV. (Teleph. No. 1902.)
Impresa Illuminazione Elettrica, Acqui, Italy.
Impresa Illuminazione Elettrica, Aosta, Italy.
Impresa Illuminazione Elettrica, Capua, Italy.
Impresa Illuminazione Elettrica, Casalpusterlengo (Prov. di Milano), Italy.
Impresa Illuminazione Elettrica (Alimonda, Burgo & Co.), Albenga, Liguria, Italy. (Telegrams: "Burgo, Albenga.")
Impresa Illuminazione Elettrica, Grosseto, Italy.
Impresa Illuminazione Elettrica, Moncalieri, Italy. Engineer, — Jestucci.
Impresa Illuminazione Elettrica, Pesaro, Italy.
Impresa Illuminazione Elettrica, St. Marcello Pistojese (Prov. di Firenze), Italy.
Impresa Illuminazione Elettrica, Stradella, Pavia, Italy.
Impresa Illuminazione Elettrica, Trino Vercellese, Piemonte, Italy.
Impresa Illuminazione Elettrica, electric light contractors to the town, Tizzana (Florence), Italy.
Impresa Illuminazione Elettrica, electric light engineers & contractors of the town of Susa, Italy.
Impresa Illuminazione Elettrica (Garrone, Manhetti & Co.), Pieve di Teco (Prov. di Genova), Italy.
Impresa Impianto Elettrico della Valle Brembana, Bergamo, Italy.
Impresa Impianto Elettrico di Todi, Todi (Umbria), Italy.
Impresa Luce Elettrica, Crema (Prov. di Cremona), Italy.
Impresa Luce Elettrica di Avellino, Esercita dalla Banca Popolare, Avellino.
Impresa per Applicazioni Elettriche, Forli, Italy.
Impresa per l'Illuminazione Elettrica di Molfetta, Molfetta, Bari, Italy.
Inaebnit, Charles, & Co. (C. & L. Trolliet, successors), electrical agents, square du Stand, Geneva. (Telegrams: "Electro, Geneva." Telephone No. 1812.)
India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 97, boul. Sebastopol, Paris; & Persan-Beaumont, France.
Industria, L' (Rivista Tecnica-Economica) (weekly; ann. sub., P.U., 38 frs. = £1 10*s*.), Palazzo delle Assicurazioni Generali Venezia, Piazza Cordusio 2, Milan. (Telephone No. 820.)
Industria é Invenciones (weekly, 20 pesetas; abroad, 30 pesetas per annum), Ronda Universidad 17, Barcelona, Spain. (Telegrams: "Bolibar, Barcelona." Telephone No. 1048.)
Industrie Chimique, L' (weekly), 60, rue de Provence, Paris.
Industrie, L' (weekly; ann. sub., P.U., 25 frs. = £1), combining *L'Ingénieur Conseil, L'Industrie Moderne & Industria*, rue Ducale 13, Brussels; & Boyveau & Chevillet, 22, rue de la Banque, Paris. (Jules Gernaert, editor-in-chief.)
Industrie Électrique, L' (twice monthly; ann. sub., P.U., £1). Editor, E. Hospitalier, 87, boul. St. Michel (Telephone No. 812-89); publisher, A. Lahure, 9, rue de Fleurus, Paris, VIe; secretary, Alfred Soulier. (Telegrams: "Alahure, Paris.")
Industrie Électro-Chimique, L' (monthly; ann. sub., 10*s*.), 5, rue Guy Patin, Paris. (H. Becker, director.)
Industrie Internationale, L'. (Sté. Ane. Française), 20, rue St. Georges, Paris (Telegrams: "Kurkee, Paris." A1, A.B.C., Lieber's & Western Union Codes. Telephone Nos. 213-76 & 236-23); & 40, quai Michelet, Levallois-Perret, France. Capital: 450,000 francs.
Industrie Métallique, brass foundry, speciality: plates for electric apparatus, rue de la Princesse 10, Brussels, Belgium.
Industrieële Maatschappij, Keizersgracht 127, Amsterdam. (Telephone No. 1357.)
Industrielle Générale, l' (Sté. Anonyme), dynamo makers, 27, rue la Bruyère, Paris. (Teleph. No. 283-20.)
Ingegneria Ferroviaria, L. (fortnightly), Via del Leoncini 32, Rome.
Industriewerk "Elektra," electrical engineers, 50, Krautsstr., Berlin, O.
Institut d'Electrothérapie de Brussels, 31, rue de Malines, Brussels.
Institut Electrotechnique Montefiore, Université de Liége, courses in telegraphy & electrical engineering, rue St. Gilles 31, Liége, Belgium. Professor manager, Eric Gerard.
International Bell Telephone Co., Ltd., of New York, 48, Rempart Kipdorp, Antwerp.
Internationale Elektricitäts Gesellschaft, electric light engineers, &c., 1, Wipplingerstrasse 30, Vienna (Telegrams: "Intelectro, Vienna." Telephone No. 14714.)
Internationale Gesellschaft für Electrische Apparate und Installationsbedarf (m. b. H.), Berlin, N. 24.
Internationale Stromsparlicht Ges., incandescent lamp manufacturers, 27A, Alexander-str., Berlin, O. (Telegs.: "Stromsparlicht, Alexanderstr., Berlin." Teleph. Amt. VII. No. 4554.)
Internationalt Patent Bureau (Axel Lahn, engineer), Carl Johans Gade 13, Christiania. (Telegrams: "Patent, Christiania." Telephone No. 2289.)
Invernizzi, Ernesto, electrical apparatus dealer, via del Corso 49, Rome, Italy.
"Invicta," La, dynamos & motors, 4, rue Pajol, Paris.
Invicta Accumulator Co., 5, rue Deves, Neuilly-sur-Seine, France.
Inwald, Josef, manufacturer of glass for all electrical purposes, Kaiserstr. 85, Vienna I. (Teleph. Nos. 2578 & 7895.)

Irgens & Schuman, electrical engineers & agents, Walkendorffsgd. 12, Bergen, Norway. (Telegrams: "Electric, Bergen.")
Isaac, J., & Fils, screws & accessories, Nyon, Switzerland.
Isambert, M., electrician, boul. de la Préfecture, Poitiers, Vienne, France.
Isaria Zählerwerke G. m. b. H., electricity meters & apparatus for electricity, Munich X., Germany. (Telegrams: "Zaelerwerk, Munich.")
Isler, J., electrical engineer, Les Pleïades, Lausanne.
Isnard, Maxence, electrician, 36, ave. Alsace Lorraine, Grenoble, France.
Isnoskoff, A., electrical engineer, Gorochowaja 1, St. Petersburg. (Teleph. No. 301.)
Isoard, —, professor of physics, Lycée de Galata Seraï, Constantinople.
Isolation Aktiengesellschaft, Mannheim, Germany. (Otto Wolfer, manager.) (Telegrams: "Isolation, Mannheim." Telephone No. 1491.)
Isolier-Rohr G. m. b. H., insulating pipes, Dorotheenstr. 45, Berlin, N.W. 7.
Israel, Jules, e C., electric material importers, via Pantano 7, Milan, Italy.
Iung, Charles, engineer, assistant-secretary general Société des Telephones, 25, rue du Quatre-Septembre, & 11, rue Paul Louis-Courier, Paris.
Ivanoff, A. A., electrical engineer, Pouchkinskaya 4, St. Petersburg.

Jackson, Arthur, A.I.E.E., Conde de Aranda 1, Madrid. (Local hon. secretary & treasurer I.E.E.)
Jackson, E. P., M.I.E.E., Conde de Aranda 1, Madrid.
Jackson & Phillips, Ltd., engineers & contractors, Conde de Aranda 1, Madrid.
Jacob, R., electric bell, Iverskaya tschaste, dome Seleznewa, Moscow, Russia.
Jacob, Delafou & Co., earthenware manufacturers for electrical purposes, à Pouilly-sur-Saône (Côte d'Or), France; & 14, quai de la Rapée, Paris.
Jacobi, H., & Co., telegraph & telephone apparatus & lightning conductors, Seidengasse 40, VII. Vienna, Austria. (Teleph. No. 2295.)
Jacobs, André, constructing electrician & contractor, 26, rue Saxe-Coburg, Brussels.
Jacobs, H., Fils, electrician, rue Luther 84, Brussels.
Jacobs, J. B., electrician, rue de l'Abondance 66, Brussels.
Jacobs, Th., manufacturing electrician, rue Carnot 135, Antwerp.
Jacobsen, Leopold, electrical apparatus, Hietzinger Hauptstr. 82, Vienna XIII.
Jacobsen, N., electric workshop, electrical instruments, &c., Pilestræde 25, Christiania.
Jacobsen, Hendr., & Co., importers of electrical supplies, lamps, &c., Copenhagen.
Jacolliot, Paul, electrician, 101, rue Notre Dame, Troyes (Aube), France.
Jacopetti, Alfonso, practical electrician, via Pace a Chiaja 11 & 13, Naples.
Jacques, N., electrician, Chaussée Deurne 24, Borgerhout, Antwerp.
Jacques, Leon, & Cie., electrical apparatus makers, 27, rue Vinave d'Ile, Liége, Belgium.
Jacquet Frères, manufacturing electricians, dynamos, motors, &c., Vernon (Eure), France.
Jacquin, Louis-Paul, engineer, Compagnie d'Éclairage Electrique du Secteur des Champs-Elysées, 62, rue Cortambert, Paris.
Jacquot, J., agent for Messrs. Felten & Guilleaume, 30, rue des Bourdonnais, Paris. (Teleph. No. 225–19.)
Jaeger Bros., electricians, Langestr. 85, Berlin.
Jaeger, E., & Jaeger-Weidknecht Fils, dynamo makers, Epernay (Marne), France.
Jaeggé, Ch., & Fils, electrical apparatus makers, 97, ave. de Choisy, Paris. (Telephone No. 800–67.)
Jagenberg, Ferd. Emil., Morse & insulating paper maker, Düsseldorf.
Jahn & Cie., constructing electricians, rue Zérézo, 9, Brussels.
Jahnel, Josef, bronze fittings for electrical purposes, Haida, Bohemia.
Jaillard & Féry, electric light fittings, 58, rue des Tournelles, Paris. (Telephone No. 321–71.)
Jaillard & Veraud (Beziel & Ribot, successors), bronze fittings for electrical purposes, 54, boul. Voltaire, Paris. (Telephone No. 254–98.)
Jainin, L., manufacturing electrician, 2, rue du Cheval Blanc, Montpellier (Hérault), France.
Jamar, Ernest, electrical engineer, quai de Fragnée 22, Liége.
Jamelin, Ch., wire drawer & manufacturer, 12, Cité de Phalsbourg, Paris. (Telephone No. 903–47.)
James, E. C. P., incandescent lamp maker, 62, rue St. Antoine, Paris.
James, L., maker of storage batteries, Thury-Harcourt (Calvados), France.
James, M., small incandescent lamps, rue Saint-Antoine 62, Paris.
Jandin, Henry, electric pump maker, Cours Morand 60, Lyon. (Telephone No. 24–81.)
Janecke, Dr. Max, technical publisher, Osterstr., Hanover.
Jannettaz, Paul, electro-metallurgist, 68, rue Claude Bernard, Paris.
Janowsky, Bogdan, mechanical & electrical engineer, Municipal Electric Station, Orenburg, Russia.
Janson, J., electrician, Nijni-Nowgorod, Russia.
Janssen & Fügner, electrical engineers, Hanover. (Teleph. No. 2996.)
Janssens, P., electrical engineer, 126, rue Masui, Brussels.

Japiot, Dr. Emile, electrician, Dortan, Ain, France.
Japy Frères et Cie., electrical apparatus makers, 4, rue du Chateau d'Eau, Paris. (Telephone No. 165-97.)
Jaretzki & Paul, electrical engineers, Königsgl. 10, Posen, Germany.
Jaro, A., electrical apparatus maker, Krottenbachstr. 48, Vienna XIX.
Jaroslaws Erste Glimmerw. Fabrik, mica, Fregestr. 60, Berlin-Friedenau.
Jarre, L. H., electrical engineer, 9, rue Louis-le-Grand, Paris.
Jarriant, A. M., jeune, makers of electric wires & cables, 233, rue Croix Nivert, Paris. (Telephone No. 717-96.)
Jarrier, Max., electric light engineer, Clermont Ferrand, France.
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Javal, Dr. Emile, electrical engineer, 5, boul. de la Tour Maubourg, Paris. (Telephone No. 700-90.)
Javaux, E., electrical consulting engineer, managing director Sté. Gramme, 20, rue d'Hautpoul, Paris. (Telegrams: "Gramme, Paris." Telephone No. 402-01.)
Javey et Cie., electrical engineers, 106, rue Réaumur, Paris. (Telephone No. 145-76.)
Jean, L., manufacturer of electrical apparatus & fittings, 83, rue du Temple, Paris. (Telephone No. 145-09.)
Jean & Bouchon, electrical engineers, 52 *bis*, rue des Martyrs, Paris.
Jeanson, Veuve, casing for electric wires, 34, rue de Bondy, Paris. (Telephone No. 266-36.)
Jeantaud, Charles, electrician, 51, rue de Ponthieu, Paris. (Telephone No. 521-24.)
Jeanty, V., accumulator maker, 19, ave. de la Republique, Paris.
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Jenatzy-Leleux, C., insulating material manufacturer, rue Stephenson 10, Brussels, Belgium. (Telegrams: "Jenatzy-Leleux, Brussels.")
Jenisch, P., & Boehmer, telegraph & telephone makers, Markusstr. 50, Berlin, O.
Jenkins, Fred. C., Vereinigte Spezialfabriken für Elektrotechnik Maschinenbau, Kœnigstr., Hamburg. (Telegrams: "Jenkins, Hamburg." Telephone No. 3717, I.)
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Jensen, J. P., electrical works, Esbjerg, Denmark.
Jensen, N. P., superintendent & electrician, Danish Telegraphs, Helsingör, Denmark.
Jentsud, M., electric motor car builder, 11, quai de Seine, Courbevoie (Seine), France.
Jervis, Ing. Tommaso, consulting engineer, via Principe d'Acaja 10, Turin. (Telegrams: "Ing, Jervis, Turin." Telephone No. 15-52.)
Jessel, Jul., electric bells, Langestr. 25, Frankfort-a.-M.
Jigouzo, Paul, electrical engineer, 7, rue Jullien, Vanves (Seine), France.
Jilek, Emanuel, electrical engineer, VII. Alserstr. 49, Vienna. (Telephone No. 19930.)
Jirasko, A., electro-medical apparatus manufacturer, IV. Margarethenstrasse 36, Vienna.
Jochim, Th., & Co., dealers in electrical & mechanical apparatus, Newsky 3, St. Petersburg.
Joergensen, A. C., electrician, Great Northern Telegraph Co., Ltd., Calais.
Johannsen, Fritz, director Telephone Co., Copenhagen K.
Johansen, C. F., electrical instrument maker, Kirkegade 12, Christiania.
Johansen, S., electrical instruments, dry cells, &c., Kongensgade 32, Odense, Denmark.
Johanson, John, electrical engineer, Jamsa Jamsankoski, Finland, Russia.
Johansson, Hemming, engineer-in-chief, Aktiebolaget L. M. Ericsson & Co., 5, Tulegatan, Stockholm.
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Johansson, P. A., electrician, Söderhamn, Sweden.
Johansson, B. P., & Co., electrical engineers, Majornas 11A rote 156, Gothenburg, Sweden.
Jonas Gebrüder, electric light manufacturers, 92B, Plan Ufer, Berlin, S.
Jonckheer, Edm., & Co., electrical engineers, 46, Chausée de Mons, Brussels.
Jonge, Jhr. W. A. C. de, district engineer of the Signal & Electrical Department, State Railway Co., 's-Gravenhof 14, Zutfen, Holland. (Telephone No. 166.)
Joos, Ch., electrician, Hamme-lez-Termonde.
Joos, H., & Co., electric light contractors, rue de la Regence 65, Brussels.
Jordan, G., electric clocks, Krämerstr. 21, Nordhausen, Germany.
Jordan, P., director of the Allgemeine Elektricitäts-Gesellschaft, Brunnenstr. 107A, Berlin, N., Germany. (Telegs.: "Allgemid, Berlin.")
Jossé, E., electrician, Grand' Place, Condé-sur-Escaut (Nord), France.

Josse, H., electrician, patent agent, & manager of the *Revue Industrielle*, 17, boulevard de la Madeleine, Paris. (Telegrams: "Essoj, Paris." Telephone No. 116-61.)
Jouanne, Gaston Léon, manager of the Société électrique des Pyrénées, 5, rue St. Louis, à Pau (Basses Pyrénées).
Jouchkewitsch, W., engineer, Kineschma, gouv. Kostroma, Russia.
Jouët, Georges, membre de la Société des Electriciens, 64, rue Pierre-Charron, Paris. (Telephone No. 527-96.)
Jougla, Jne., electrician, Grenade-sur-Garonne (Haute-Garonne), France.
Jougla & Cie., electricians, l'Isle-en-Dodon (Haute-Garonne), France.
Jourdan, A., electrician, 14, rue Hoche, La Seyne (Var.), France.
Journal de l'Électrolyse (Aluminium & Acetyléne), 23, rue Brunel, Paris. (Bi-monthly; ann. sub., P.U., 30 frs. = 24*s*.)
Journal de Physique, Chimie et Histoire naturelle élémentaires, Abel Buguet, Rouen, France. (Telephone No. 225.)
Journal de Physique Théorique et Appliquée (monthly; annual subscription, 17 frs. France, & 18 frs. in other countries), 97, boul. Arago, Paris XIV.
Journal des Postes, Télégraphes et Téléphones, 27, rue de Temple, Troyes (Aube), France. (Teleph. No. 2.36.)
Journal Télégraphique (monthly; ann. sub., Switzerland, 4.20 frs.; P.U., 5 frs.), Berne, Switzerland. (Telegrams: "Burinterna, Berne." Telephone No. 1308.)
Journaux, J., electrician & microphone maker, 56, rue des Cévennes, Paris. (Telephone No. 709-73.)
Journet, Ferdinand, chief engineer, Compagnie Parisienne de l'air Comprimé, 25, rue Laugier, Paris. (Telephone No. 529-29.)
Jousse, V., père & fils, electrical apparatus makers, 17, rue Bretonnaise, Cholet (Maine-et-Loire), France.
Jouve, G., electrical engineer, 354, rue St. Honoré, Paris. (Teleph. No. 248-90.)
Jovanovitch Sofronia Bros., electric light contractors, Belgrade, Servia.
Joya, père & fils & Cie., insulator makers, 36, rue Nicolas Chorier, Grenoble (Isère), France.
Joyeux, M., director of Electrical Department, French Posts & Telegraphs, Paris.
Jüdel, Max, & Co., manufacturers of electrical apparatus, Brunswick. (Telephone No. 32.)
Juhel, C., electrician, 84, rue de Lyon, Macon (Saone-et-Loire), France.
Julien, J., director of the Sté. Anon. l'Electrique, boul. du Nord 73, Brussels.
Julius, Dr. W. H., professor of experimental physics, University, Utrecht.
Jüllig, Dr. Max, electrical engineer & teacher at the Technische Hochschule, Colloredog. 1, Vienna XIX.
Jumaucourt, —, electrician, Laon, Aisne, France.
Jumeau & Jallot, electric light engineers, 82, boul. Montparnasse, & 1, rue Daunou, Paris. (Telephone Nos. 705-62 & 231-88.)
Jung, J. W., electrical apparatus, Bibergasse 9, Frankfort-a.-M.
Jungbauer, W., maker of electrical apparatus, push-buttons, &c., Prachatitz, Böhmerwald, Austria. (Telegs.: "Jungbauer, Prachatitz.")
Jungels, H., electrician, Arlon.
Jüngermann, Heinrich, general agent for the Porzellanfabrik Hermsdorf-Klosterlausnitz, via M. Gioja 1, Milan. (Post Office Box 49. Telegrams: "Jüngermann, Milan.")
Junghanns, Arth., electrical engineer, Tauenzierstr. 9, Breslau V.
Junghanns & Kolosche, electrical apparatus makers, Frommanstr. 6, Leipzig.
Jupiter Elektrophotographische Geselleschaft m. b. H., arc lamp makers, 25, Bornwiesenweg, Frankfort-on-Main.
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Kabelfabrik, wire ropes & wire cords for electric lamps, Angerstrasse, Landsberg, a.d. W., Germany; Köpnickerstr. 190, Berlin, S.O.
Kabelfabrik Actien Gesellschaft Wien, cable makers, Oswaldgasse 33, Vienna XII/3; & Pressburg, Hungary. (Telegrams: "Kabel, Vienna," A.B.C. Code; "Kabelfabrik, Pressburg." Telephone Nos.: Wien, 110, 111 & 112; Pressburg, 282.)
Kabelwerk Duisburg, electric cable manufacturers, Duisburg a. Rh., Germany. (Telegrams: "Kabelwerk, Duisburg." Telephone No. 126.)
Kabelwerk Reydt A. G., wires & cables, 17, rue d'Assaut, Brussels.
Kabelwerk Rheydt Act. Ges., Rheydt, bei Düsseldorf.
Kabelwerk Wilhelminenhof A.-G., Krausenstr. 37, Berlin, S.W.

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Karavelas & Jérémias, electrical apparatus makers, 4, Germanon Paleon Patron, Athens.

Karcher, Christian, engineer, Sautter, Harlé et Cie., 60, rue de Provence, Paris.

Karcher, C., & Cie., dealers in tools for electricians, 32, Niederdorf, Zurich. (Telegrams: "Karchera, Zurich.")

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Karlsbader Kaolin-Industrie-Gesellschaft, porcelain insulators, Merkelsgrün bei Karlsbad. (Telegs.: "Porzellanfabrik, Merkelsgrün." Teleph. No. 292c, Karlsbad.)

Karlskoga's Electric Light & Power Station (managers, Joh. Lindholm & P. J. Karlsson), Karlskoga, Sweden.

Karlstads Elektricitetsverk, Elektro-tekn.-Aktb. Mundus, Karlstad, Sweden.

Karman & Mlinarsky Bros., electrical & machine stores, Troitskaya 13, St. Petersbourg: Miasnitskaya 2, Moscow, Russia.

Karnell, W., dealer in electrical supplies, Miasnitzkaya tschaste, 1th outschastok, house Ermakoff, Moscow, Russia.

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Kathe, Julius, vulcanized fibre & asbestos, Köln-Deutz, Germany.

Katsch, Alex., maker of reflectors & shades, 37A, Blücherstrasse, Berlin, S.

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Knorr & Hempel, arc lamp makers, 2, Poppitz, Dresden-Altst., Germany. (Telephone No. 8542.)
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Koch, Rudolf, light contractor, Göttingen.
Koch, Bantelmann & Paasch, steam engine & pump makers, Magdeburg-Buckau, Germany.
Koch & Bein, makers of electric advertising signs, Ritterstr. 49, Berlin, S.W. 68.
Koch, Emil, & Co., electrical apparatus, Mainzer Landstr. 65, Frankfort-a.-M.
Koch & Sterzel, electrical apparatus makers, Zwickauerstr. 42, Dresden A. (Teleph. No. 2226.)
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Koelliker, Teodoro, electrical apparatus & electric light contractor, via Andrea Appiani 1, Milan, Italy.
Koerting Frères, engineers, makers of the Koerting Injector, 20, rue de la Chapelle, Paris. (Telegrams: "Koerting, Paris." Telephone No. 408-70.)
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Köhler & Braun, telephone apparatus manufacturers, 57, Bülowstr., Berlin, W. 57.
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Kölnische Privat Telephon Gesellschaft m. b. H., Köln, Germany. (Telephone No. 173.)
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Koppel, Arthur, Akt. Ges., electric railway makers & contractors, Dorotheenstr. 45, Berlin, N.W. (Telegs.: "Koppelrail, Berlin." Teleph. Nos. 9101 to 9105, Amt. I.); & 27, Clements-lane, London, E.C. (Telegs.: "Alighting, London.")

Koppin, Richard, maker of artistic fittings, Elisabeth Ufer 5–6, Berlin, S.O.

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Körting, Wilh., coil-spinning & braiding machines, Barmen, Germany. (Telephone No. 55.)

Körting, B. & E., makers of condensers, Dresdnerstr. 70, Vienna XX. (Teleph. No. 14603.)

Körting Bros., electrical agents & stores, Moïka, 64, St. Petersburg, Russia. (Telephone No. 748.)

Körting, Gebr., Akt. Ges., gas engine makers, Körtingsdorf, nr. Hanover. (Telegrams: "Körtingsdorf, Hanover." Telephone No. 561.)

Körting Gebrüder, gas motors, Markgrafenstr. 8, Leipzig, Saxony.

Körting Gebr., electric light & power contractors, Pragerstr. 49, Dresden. (Telephone No. 282.)

Korting, Gebr., Elektrizität. G. m. b. H., Schiffbauerdamm 23, Berlin, N.W. 7. (Telegs.: "Gasdynamo, Berlin." Teleph. Amt. II. No. 3904.)

Körting & Mathiesen, Ltd., electrical engineers & makers of arc lamps for alternating & direct currents, also resistances, choking coils, search lights, & all arc lamp accessories, Leutzsch, nr. Leipzig. (Telegs.: "Bogenlampe, Leutzsch.") Sole agents for England: Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." Teleph. No. 2970, Hop.)

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Kramer & Löbl, glass goods of every description for electric lighting, Gablonz, Bohemia, Austria (Telegs.: "Loebl, Glabonz." A.B.C. Code, 4th ed. Teleph. Nos.: Office, 157; Works, 156); Paris & Brussels.

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La Salle & Co., copper plates, &c., Kriens, près Lucerne, Switzerland.
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Leobersdorfer Maschinenfabrik von Ganz & Co., contractors for electric light & power, Leobersdorf, Austria. (Telegrams: "Ganz, Leobersdorf." Telephone No. 18.)
Leoboldti, —, electrician, 43, rue d'Enghien, Paris.
Léonard-Giot, extra soft steel, specially for dynamo & motor construction, Marchienne-au-Pont, Belgium.
Leopolder & Sohn, electrical & scientific apparatus makers, Erdbergstr. 52, Vienna III. (Telephone No. 3005.)
Lepaute-Henry, electric clock manufacturer, 5, rue Halévy, Paris. (Telephone No. 147-51.) Works: 11, rue Desnouette, Paris. (Telephone No. 709-28.)
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Lerolle Frères, bronze fittings, complete installations, 1, rue du Foin, & rue de Béarn 3, Paris.
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Lesage, Robert, & Cie., electricians, 113, ave. de Villiers, Paris. (Telephone No. 502-27.)
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Lescanne, J. B., induction coils, 17, rue des Ottats, Creteil (Seine), France.
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Leser, Artur, & Co., electrical installers, Schaafenstr. 69, Cologne. (Teleph. No. 838.)
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Licht-und Wasserwerke Langnau, Berne, Switzerland.
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Liotard, Vve., mafrs. of electric lighting fittings, 22, rue de Lorraine, Paris. (Telephone No. 414-61.)
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Lippmann, Otto, serpentine-stone insulator maker, Ansprung-Zöblitz, Sächsische Erzgebirge, Germany.
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Lisbon Electric Tramways, Ltd., Lisbon. William Clark, director.
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Lohr, H., second director Municipal Electricity Works, Amsterdam, Holland. (Telephone No. 5783.)
Loiseau, H., electrical sundries, 31, quai Claude Bernard, Lyon.
Lombard-Gerin & Cie., Joint Stock Co. Concessionaires of the Zipernowsky-Deri-Blathy system of distribution, 31, quai St. Vincent, Lyons, France. (Telegrams: "Transform, Lyons.")
Lombardi, Angiolo, maker of electric bells, annunciators, &c., via Faenza 3, Florence, Italy.

Long, Edouard, electrical apparatus & copper wire, 2, rue du Rhône, Geneva. (Telegrams: "Londay, Geneva." Telephone No. 2861.)
Longfils, —, medical electrician, Ransart, Belgium.
Longueval, E., manufacturer of electric light fittings. Show-rooms, works & offices: rue de Théatre 8, Brussels.
Looienga & Co., battery, cable & arc lamp manufacturers, Haag, Holland. (Telegs.: "Looienga, Haag." Teleph. No. 899.)
Loos, Prosper, & Co., electric light contractors, 23, Chaussée d'Etterbeck, Brussels.
Lootze, Otto, & Co., electrical goods, Alte Jakobstr. 64A, Berlin, S.
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Lorch, Schmidt & Co., tool makers & engineers, Frankfurt-a.-M. (Telegrams: "Lorch, Schmidt, Frankfurtmain." Telephone No. 5560.)
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Löti, Isidor (Electrische Glühlampenfabrik, "Watt"), I. Grillparzerstr. 7, Vienna. (Telephone No. 16044.)
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Loveridge, Irving, manager Bell Telephone Manufacturing Co., Antwerp, Belgium.
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Lucco, Luigi, electric bell & annunciator maker, Piazza Madonna degli Angeli, 2, Turin.
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Luck, Robert, electrical goods, Egelostr., Tegel, nr. Berlin.
Lüdenscheider Metallwerke Akt. Ges., vorm. Jul. Fischer & Basse, manufacturers of electrical apparatus, Lüdenscheid, Germany. (Telegrams: "Electric, Lüdenscheid.")
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Lüdheuser, asbestos driving bands, via Principe Amedio 16, Turin.
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Luminais, Bruneteau & Cie., dynamo & motor makers, 9, rue Dubreil, Nantes (Loire-Inférieure). (Telegs.: "Energie, Nantes." Teleph. No. 389.)
Luna, Cárlos, electric light contractor & electric tanning, Salamanca, Spain.
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Luppens, H., & Co., electric light fixtures, boul. du Nord 151. Works: rue Danemark, Brussels.
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Mallié & Cie., manufacturers of porous cells, porcelain & magnets, 155, faub. Poissonnière, Paris. (Telephone Nos. 164-37 & 165-37.)
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Manufacture de l'Alfénide, german silver manufacturers, 66, rue des Marais, Paris.
Manufacture Générale de Caoutchouc L. Edeline (Pneumatiques Francais Gallus), indiarubber manufacturers, 33, quai National, Puteaux (Seine), France. (Telephone No. 502-80.)
Manufacture Métallurgique de la Jonchère, flexible tubes, La Jonchère, par Rueil (Seine et Oise); & 15, rue Saussier-Leroy, Paris. (Telegrams: "Metoflextub, Paris.")
Manufacture Parisienne d'Appareillage Electrique, 14, rue Commines, Paris.
Maquaire, F. V., consulting engineer, mechanical & electrical appliances, 101, rue de Vaugirard, Paris, VIe.
Maquaire, J. A., electrician, 31, boul. de Montmorency, Paris XVI. (Telephone No. 689-91.)
Maquinaria Anglo-Americana, machine tools worked by electricity, Cortes 559, Barcelona.
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Maraval, A., electric bell manufacturer & contractor, 7, cours Lieutaud, Marseilles, France.
Marcaccini, Oreste, electric bells, annunciators, &c., via Nazionale 1, Florence.
Marchal, —, electric bronze fittings, 22, rue de la Folie Méricourt, Paris.
Marchegay, —, electrical engineer, 11, quai des Célestins, Lyon, France.
Marcherat, P., representative of la Maison D. Soulé, of Bagneres de Bigorre, 42, rue Fessart, Paris.
Marchesi, Gaetano, director Ufficio Tecnico dei Telegrafi, Rome.
Marchi, Ing. Ugo, electrical engineer, Rovigo, Italy.

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Marcucci, D., electrical apparatus manufacturer, machines, dynamos & electric motors, Leghorn, Italy.
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Maréchal, Henri, electrical engineer, 272, faub. St. Honoré, Paris.
Maréchaux, L., electric locks, 134, boul. de Clichy, Paris.
MARELLI, ERCOLE, & CO., LTD., electric ventilator makers, Milan, Italy. (Telegs.: "Ventilatore, Milan." Teleph. Nos. 809 & 3150.) Works in Sesto S. Giovanni. *See advts., pages* 997, 998, & 1227 & ENGINEERS—VENTILATING & FAN MOTORS—BRITISH DIVISION.
Marenco, Prof. Emilio, electrical engineer, via Po 8, Turin, Italy.
Mares, Etienne, consulting electrician, 2, rue Auguste-Comte, Montpellier, France.
Marey, E. J., medical electrician, 11, boul. Delessert, Paris. (Telephone No. 685-64.)
Margelli, Ferdinando, dealer in electric bells & apparatus, via Roma, Sassari, Italy.
Margeot, D., electric bell fitter, 2, passage de l'Industrie (faub. St. Martin), Paris.
Marghiloman, Alexandre J., electrician, 7, rue Bisserica Amzi, Bucharest, Roumania.
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Marie Frères, electro-medical supplies, 108, rue de Rivoli, Paris.
Marin, Francisco, electrician, Aire, Cartagena, Spain.
Marinel, Le, capitaine com. la Cie. de Telegraphistes de Campagne, Etterbeek, Brussels.
Marinelli, Ottavio, optical & electrical apparatus dealer, corso V. E. 9, via Astagno 2, Ancona, Italy.
Mariner, Enrique, electrician, Barcelonina 9, Valencia, Spain.
Marini, G., electrician & electrical engineer, via Cola Rienzo 149, Rome, Italy.
Marini, G. & A., electrical engineers & contractors, Trapani, Italy.
Marinoni, F., & Co., sulphuric acid manufacturers, Este (Prov. di Padova), Italy.
Mariotti, G., electrical engineer, via Vittor Hugo 2, Milan.
Märkische Metalldrahtumspinnerei Fried. Heermann, manufacturers of covered electrical wires of all kinds, Hohenlimburg, Westphalia. (Telegrams: "Umspinnerei, Heermann." Telephone No. 55.)
Märkische Drahtwerke G. m. b. H., copper, bronze, brass & tombac wires, Oberrahmede, Westphalia.
Markische Elektromotoren Werke, dynamo & motor makers, Ritterstr. 59, Berlin, S.W.
Marktscheffel, G., installation contractor, Ferdinandstr. 28A, Hanover.
Marotti, E., electrical contractor, 46, via del Quirinale, Rome.
Marquer, Albert, maker of electric lighters, &c., 31, rue Marcadet, Paris, XVIIIe.
Marrel, G., fils, maker of electric light apparatus, 26, rue Feydeau, Paris.
Mars, A. J. B., electrician, 15, rue Hoche, Cannes (Alpes-Maritimes), France.
Marsan Frères, electric bell fitters & contractors, Boulogne-sur-Mer, France.
Marschel & Pannicke, electric light contractors, Chausseestr. 48, Berlin. (Amt. III. Teleph. No. 5369.)
Marteau, C. (Em. Douillet, succr.), electric light apparatus & fittings maker, 11, rue Pastourelle, Paris.
Martel, Catala & Cie., makers of dynamo brushes, Schlestadt, Alsace, Germany.
Marten, Herm., electrical installations, Brüsseler Platz 16, Cologne. (Teleph. No. 3964.)
Martenet, L., electrical engineer, Services Industriels (Eau, Gaz, Electricité), Hotel de Ville, Neuchatel, Switzerland.
Martignoni, Luigi, electric cable manufacturer, via Giaffa 6, Genoa, Italy.
Martin, Antoine, manufacturing electrical engineer, 52, avenue de la Gare, Nice (Alpes-Maritimes).
Martin, E., electrician, 42, Route de Condé, Valenciennes, Nord, France.
Martin, Ed., Elektrizitäts Ges. m. b. H., electrical manufacturers, 3, Lindenstr., Berlin, S.W. 68.
Martin, G., electrical engineer, Station d'Eclairage Electrique, 67, rue Rousseau, Bar-le-Duc, France.
Martin, J., electric bells, rue Pepin 26, Brussels.
Martin, Karl, chief engineer Siemens Schuckert Werke, Technical Bureau, Prannerstr. 15, Munich. (Telegrams: "Bureaudyn, Munich." Telephone Nos. 1272 & 1273.)
Martin Maerz, engineer, Osterr. Siemens-Schuckert III, Hiessgasse 2, Wien.
Martin, P., electrician, 14, rue Garnier, Nice, France.
Martine, A. & G., electricians, 2, Square Petrelle, Paris (Teleph. No. 406-63); & 15, rue de Roubaix, Lille (Nord), France.
Martineau, —, manufacturing electrician, 36, boul. Diderot, Paris.
Martinez, B., electrical engineer, Principe Alfonso 5, Murcia, Spain.
Martinez, Anselmo, & Co. (Sociedad Logroñesa de Alumbrado Electrico), Logroño, Spain. (Telegrams: "Sociologro, Logrono.")
Martorelli, Ing. P. I., electric light contractor, Bureau Technique de Representations, Piazza dei Martiri 58, Naples. (Telegrams: "Ingegnere Martorelli, Naples.")
Martos, Victor, A.M.I.E.E., consulting electrical & mechanical engineer, VII. Erzsebetkorut 44, Budapest. (Teleph. No. 83-38.)
Marxen, H., electrical engineer, 55III., Varrentrappstr., Bockenheim, Frankfort-on-Main.
Mary & Fils aîné, lead wire manufacturers, 16, rue Delaitre, Paris.

Marziali, C., & Figli, tower & electric clocks manufacturers, via S. Spirito 30, Florence.

Maschinen-und Armaturenfabrik, vorm. H. Breuer & Co., electric light pole manufacturers, Höchst-a.-M. (Telegrams: "Breuer, Höchstmain." Telephone No. 3.)

Maschinenbau Actiengesellschaft, vormals Breitfeld, Daněk & Co., steam engines & boilers, Carolinenthal, Prague, & Blansko, Mähren, Austria.

Maschinenbau-Actiengesellschaft vorm. Ph. Swiderski, steam engine builders, Leipzig-Plagwitz. (Telegrams: "Swiderski, Leipzig-Plagwitz." Telephone No. 5514.)

Maschinenbau Anstalt und Eisengiesserei, A. Borsig, Tegel, nr. Berlin.

Maschinenbau-Anstalt Humboldt, Engineering Works, Kalk, nr. Cologne. (Telegrams: "Humboldt, Kalk.")

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., cable machinery manufacturer, Coepenick, nr. Berlin. (Telegrams: "Felsing, Coepenick.") *See advt., page* 14.

Maschinenbau Gesellschaft, München, Germany. (Telegrams: "Maschinenbau, München." Telephone No. 1393.)

Maschinenbau-Gesellschaft Basle, makers of steam engines, turbines, &c., Basle, Switzerland. (Telegrams: "Watt, Basle.")

Maschinenbau Gesellschaft Karlsruhe, makers of high-speed steam engines, Karlsruhe, Baden. (Telegrams: "Maschinenbau Karlsruhe." Telephone No. 27.)

Maschinenfabrik Bruchsal Akt.-Ges., vorm. Schnabel & Henning, electrical & mechanical engineers, Bruchsal, Germany. (Telegrams: "Maschinenfabrik Bruchsal." Telephone No. 43.)

Maschinenfabrik Buckau, Ltd., makers of steam engines for electric lighting, Magdeburg-Buckau, Germany. (Telegrams: "Maschinenbau, Magdeburg-Buckau.")

Maschinenfabrik "Deutschland," manufacturers of electric tramway apparatus, Dortmund, Germany.

Maschinenfabrik, E. Franke, Waldestr. 24, Berlin, N.W.

Maschinenfabrik Esslingen, Abtheilung für Elektrotechnik, makers of dynamos, electric motors, electric locomotives, electrically driven cranes, spills, hoists, turn tables, &c., Cannstatt. (Telegrams: "Electron, Canstatt." Telephone No. 148.) Head office: Esslingen.

Maschinenfabrik Esslingen, Platzl. 4, Munich. (Telephone No. 3334.)

Maschinenfabrik Gans & Co. (G. m. b. H.), engineers & electric pump makers, 25–29, Hauptstr., Berlin-Reinickendorf.

Maschinenfabrik Geislingen, turbines & water wheels, Geislingen, Württemberg. (Telegrams: "Maschinenfabrik, Geislingensteig." Telephone No. 17.)

Maschinenfabrik Karges, Hammer & Co., Dircksenstr. 40, Berlin.

Maschinenfabrik Oerlikon, makers of electrical machinery of all kinds & steam turbines, Zürich, Switzerland. (Telegrams: "Usine, Oerlikon.")

Maschinenfabrik Prometheus, G. m. b. H., Hauptstr. 25–29, Reinickendorf, Berlin.

Maschinen Fabriks Actien Gesellschaft, vorm. Tanner, Laetsch & Co., turbine wheel & machine makers, Linzerstr. 150/154, Vienna 13/2. (Telegs.: "Tanner 89, Vienna." Teleph. No. Hielzing, 34.)

Maserati, Giovanni, telephone maker & contractor, via St. Antonio, Piacenza.

Maslennikoff, M., engineer, Armiansky p. 2, h. Mikini, Moscow.

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Massin, —, telegraph engineer, Depôt de l'Administration des Postes et Télégraphes, Paris.

Masson, L. N., engineer, 22, rue Alphonse-de-Neuville, Paris XVIIe. (Teleph. No. 570–99.)

Masson & Cie., publishers of scientific books, 120, boul. Saint-Germain, Paris VIe.

Masson, L., & Cie., manufacturing engineers, 6, rue St. Vincent de Paul, Paris. Works: Louvres (Seine-et-Oise), France. (Telegrams: "Tundicion, Paris." Telephone No. 412–72.)

Masson, Marcel, & Cie., manufacturing electricians, 25, rue de Seulis, Asnières, France. (Teleph. No. 111.)

Masson-Lorrain, electrician, place du Pilori, Angers, France.

Massoni, Gregoire, director of Posts & Telegraphs, Nice.

Matabon, J. L., electrical apparatus, 124, rue Chaponnay, Lyon (Rhone), France.

Matecki & Obrembowicz, heating & ventilating engineers, 39, Siennastr., Warsaw. (Telegrams: "Ventilator, Warsaw." Telephone No. 192.)

Mathe, G. & H. B. de la, cable mfrs., St. Maurice (Seine), France. Depôt: 84, rue Réaumur, Paris.

Mathelin & Garnier, electrical contractors, 94, rue de Douai, Lille (Nord), France.

Mathelot & Gentilhomme, electrical installations, 3, rue Meissonier, Paris. (Telephone No. 549–48.)

Mathieu, Captain, electrician, Brest, Finistère, France.

Mathieu, Emile Leopold, electrician, rue d'Ypres, Menin, Belgium.

Mathieu, Louis, engineer, Cie. Électro-mécanique, 11, avenue Trudaine, Paris.

Mathieu, Péronne & Humbert, manufacturing electricians, 2, rue de Mulhouse, Reims (Marne), France.

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Matthes, G. (engineering instructor), electricity schemes projected, contractor for installations, patents, &c., director of "Technikum Berlin," Koniggrätzerstr. 90, Berlin, S.W. 11.
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Matthes, H., & Co., electrical engineers, 12, Koblankstrasse, Berlin, C.
Matucci, A., practical electrician, via Brunelleschi 2, mezzanino, Florence, Italy.
Mauckut, F., electrical contractor, 99, rue Colbert, Lille, France.
Maugras, Hubert Louis Henri, electrical engineer, 7, rue Le Chatelier, Paris.
Maury, P., electric clock bells, 21, rue du Chateau d'Eau, Paris (Xe Arrondt.). (Teleph. No. 438-47.)
Max Electric Accumulator Co., 33 & 35, rue Perrier, Levallois-Perret (Seine), France. (Tel. No. 585.78.)
Maul, Otto, electric telegraphs & telephones, 52, Colonnenstr., Schöneberg-Berlin.
Maurer, H., manager Usines Hydro-Electriques de Montbovon, Romont, Switzerland.
Max Sieverts Fabriks Aktiebolag, manufacturers of silk-covered copper wire & the well-known Sieverts soldering lamps & butts, Smålandsg. 30, Stockholm, Sweden.
Maxant, L., dynamo & electric machine manufacturer, 64, rue de Saintonge, Paris, France.
Maxim Accumulatorenwerke G. m. b. H., 79, Kommandantentstr., Berlin, S.W. 19.
Maxwell, H. H., officer-in-charge, Eastern Telegraph Co., Villa Real Santonio, Algarve, Portugal.
Mayer, Edmond, electrical engineer, 12, rue Roquépine, Paris.
Mayer & Moller, cable wax manufacturers, Reichsrathstr. 29, Vienna I. (Telegs.: "Maymoller, Vienna." Teleph. No. 16429.)
Mayer & Wolf, electro-medical apparatus manufacturers, 12, Van Swietengasse, IX., Vienna. (Telephone No. 14200.)
Mayrhofer, George, electric light engineer & contractor, Brigittenauerlande 18, Vienna XX.
Mazières, J., electrician, rue Henri-Deffes 21, Bordeaux (Gironde), France.
Mazo, E., optician & electrician, 8, boul. Magenta, Paris.
Mazzola, Francesco, electrical engineer, via dei Mille 52, Turin, Italy.
Mechwart & Co., agents for electrical engineers, & sole representatives for Italy for the sale of Ganz & Co.'s manufactures, via Solferino 15, Milan, Italy.
Meert, D. J., electric fixtures, 27, rue Rempart des Moines, Brussels.
Megerle, Franz, speciality: Lacquer for insulating purposes, Friedberg, bei Frankfurt-am-Main, Germany; & Vienna, Austria.
Mégevand, F., et Co., screw & small detached accessories manufacturers, rue Richemont, Geneva.
Mehne, I. G., electric bells & indicators, Schwenningen (Württemb., Schwarzwald). (Telegrams: "Elektriker Mehne, Schwenningen." Telephone No. 58.)
Meier, Wilhelm T., A.I.E.E., 4, B. Gereonshof, Cologne, Germany.
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Meinecke, H., jun., electrical installations, Ohlauerstr. 43, Breslau, Germany. (Telephone No. 3007.)
Meinich, P., electrical engineer, director for N. A. Siemens-Schuckert, Kirkeg 20, Christiania, Norway.
Meirowsky & Co., mica manufacturers, Ehrenfeld-Köln, Germany.
Meiser & Mertig, scientific & electrical apparatus makers, 27, Kurfürstenstr., Dresden, N. (Telephone No. 5470.)
Meissner, A. M., electrical engineer, Sweelinckstraat 2, The Hague, Holland.
Meissner, Carl, metal & bronze ware manufacturer, Feldschlœsschenstr. 10, Dresden A. (Telephone No. 1275.)
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Melms, Gustavus J., electrical engineer, Melms & Pfenninger, Ltd., Munich, Germany.
Meloncini, Sante, electrical & sanitary engineering steam works, St. Canciano Campo Birri 5394, Venice, Italy. (Telegrams: "Meloncini, Venice." Telephone No. 54.)
Mélotte, Felix J. L., M.I.E.E., Technique des Ateliers Jaspar, 2, rue Jonfosse, Liége.
Melzer & Neuhardt, fittings makers, Stolzenthalergasse 6, VIII., Vienna. (Telephone No. 18089.)
Melzow, Otto, driving band & oil manufacturer, Andreasstr. 32, Berlin, O.
Mende, Wilhelm, electrical engineer, Waldenburg-i.-Schl., Germany. (Telephone No. 75.)
Mendel, G., cinematographs & films, 10 bis, boul. Bonne Nouvelle, Paris. (Telegrams: "Photociné, Paris." Telephone No. 213-11.)
Mendelejeff, D. Jh., H.M.R.S., professor of chemistry, Sabalkansky 19, St. Petersburg.
Menet, E., crystal fittings for electric light, 20, rue Nollet, Paris.
Meng, G., electric light wires & cables, 80, rue Bolivar, Paris. (Telephone No. 401-88.)
Meng, Walter, chief engineer of the City Electric Works, Strehlenerstr. 72, Dresden. (Telephone No. 7166.)
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Menges, C. L. R. E., electrician, 82-84, Balistraat, The Hague, Holland.

Ménier, Gaston, membre fondateur de la Société des Electriciens, 61, rue de Monceau, Paris.
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Mentasti & Chiesa, electrical engineers, 16, via Broletto, Milan.
Meran Frères, manufacturers of porous cells, 155, faub. Poissonnière, Paris.
Mercadier, E., M.I.E.E., Director, Études de l'École Polytechnique, 21, rue Descartes, Paris.
Mercanton, Paul L., electrical engineer, professor at the University, La Provence, Lausanne, Switzerland.
Mercy, H. de, & Cie., electric light engineers, 2, rue des Templiers, Lyons, France.
Merizzi, Giacomo, electrical engineer, director Tecnomasio Italiano Brown Boveri, via Pace 10, Milan. (Telegrams: "Brown, Milan." Telephone No. 1405.)
Merkel, E., electrical engineer, 298, Georgengasse, Augsburg, Bavaria. (Telegs.: "Eginhard Merkel, Augsburg.")
Mermet, Achille, electrician, 8, quai Henri IV., Paris.
Merola, Vincenzo & Co., electric light contractors, Cassino, Caserta, Italy.
Mertens, H., electrician, rue St. Laurent 102, Antwerp, Belgium.
Mertsching, Fr., director of the Rheinische Elektricitäts und Kleinbahnen Aktiengesellschaft, Kohlscheid, Germany.
Merzagora, Luigi, electrical engineer, 9, via San Dalmazio, Milan.
Messter, Ed., maker of electrical goods, Schiffbauerdamm 18, Berlin, N.W.
Mestern & Co. (Nachf.), ventilating engineers, 6, Oranienstr., Berlin, S.O. 26.
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Metalisteria Francisco Comas, electric pushes & indicators, Basea 9, Barcelona, Spain.
Metallurgique, La (Soc. Anon.), manufacturers of tramway plant, &c., 1, place de Louvain, Brussels. (Telegrams: "Metal, Brussels.")
Metallwerke Bruno Schramm, G. m. b. H., arc lamp makers, Erfurt-Ilversgehofen, Germany. (Telegrams: "Metallwerke, Erfurt-Ilversgehofen." Telephone No. 208.)
Metzeler & Co., indiarubber & asbestos manufacturers, Kaufingerstr. 11 & 12, Munich, Germany. (Telephone No. 532.)
Meulen, P. H. Ter, & Co. *See* Haarlemsche Machinefabrick.
Meunier, H., electrical apparatus manufacturer, 206, quai Jemmapes, Paris.
Meunier, L., electrical contractor, 79, boul. Malesherbes, Paris.
Meurer, Gebr., oil manufacturers, Städelstr. 57, Frankfurt-am-Main; warehouses in Antwerp, Hamburg, Stettin, Dusseldörf, Köln, Mainz, Riesa a. d. E., Chemnitz, Breslau, Beuthen O.S., & Bodenbach a. d. Elbe. (Telephone No. 204.)
Meurling, L. A., electrician & superintendent of telegraphs, Swedish State Railways, Stockholm.
Meusser, Herrmann, publisher of electrical books, 58, Steglitzerstr., Berlin, W. 35.
Meyer, Dr. O. E., professor of physics, the University, Breslau.
Meyer, Dr. Paul., Actiengesellschaft, engineers; specialty: electrotechnical instruments & apparatus, Lynarstr. 5–6, Berlin, N.W. (Telegrams: "Spezialfabrik, Berlin." Telephone No. 2602, Amt. II.)
Meyer, Ferd., engineer of bridges & roads, director of the Cie. Edison, 28, rue de Châteaudun, Paris.
Meyer, Georges, electrical engineer, Cie. Continentale Edison; & 4, boul. de Courcelles, Paris.
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Meyer, H. H., machines & electrical agent, Riga, Russia. (Telegs.: "Meyer, Riga." Teleph. No. 498.)
Meyer, Hans S., M.I.E.E., managing director Norddeutsche Automobil & Motoren A. G., Bremen.
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Meyer, J. F., electrical instrument maker, 37, Clausiusstr., Zürich IV.
Meyer, Marcel, chief engineer, Compagnie générale de travaux d'éclairage et de force, 90, rue du faub. Poissonnière, Paris.
Meyer, N. R., director of the Danish Government telegraphs & telephones, Copenhagen.
Meyer, Sigmund, chief engineer to the Town Electric Works, Isartalstr. 48, Munich. (Teleph. No. 7880.)
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Meyer-Frey, H., battery salt manufacturer, Friedberger Landstr. 32, Frankfurt-am-Main. (Telephone No. 3710.)
Meyer-May, Albert, Société industrielle des téléphones, 18, ave. Niel, Paris. (Telephone No. 508–60.)
Mica Insulating Works, Ltd., insulating material manufacturers, Breitenbach, nr. Basle, Switzerland. A. Borer, director.
Michaelis & Eggerding, manufacturers of electrical apparatus, 8 & 9, Andreastr., Hanover, Germany.
Michalke, Dr. C., electrical engineer, 13, Rönnestr., Charlottenburg, Berlin.
Michaud, A., electrical installations & supplies, 7, rue Paul Bert, St. Etienne (Loire).
Michaud, E., electrician, 89, avenue de la République, Aubervilliers, Seine, France.
Michaud, P., electrical engineer, 8, rue Lafon, Marseilles.
Michel, E., electrical contractor, 5, rue de Paris, Lisieux (Calvados), France.
Michel, J., electrician & electrical engineer, 9, place de la Bourse, Marseilles, France.
Michel, Léon, electrical instrument maker, 111, rue St. Antoine, Paris.

Michel & Cie., makers of electric meters, 16, boul. de Vaugirard, Paris.
Michelet, J., publisher of electrical & scientific books, 25, quai des Grands Augustins, Paris.
Michelin, A., manufacturer of electric light fittings, 115, rue de Bagnolet, Paris. (Telephone No. 904-66.)
Michelin & Cie., driving bands for dynamos, Clermont-Ferrand; & 105, boul. Pereire, Paris. (Telephone No. 502-08.)
Midoz, C., manufacturing electrician, 8, rue Gambetta, Besançon (Doubs).
Mielentz & Dalchow, engineers, Kothenerstr. 17, Berlin, W. (Telephone Amt. 6A. No. 10184.)
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Miet, M. E., director of the works of the Cie. du Secteur Electrique de la Rive Gauche de Paris, 39, Quai d'Issy, Issy les Moulineaux (Seine), France.
Migeon, Raoul et Fils, manufacturing electricians, 10, rue de l'Arsenal, Angoulême, Charente, France.
Mignot, Albert, electric light central station, rue de la Blanchisserie 18, Brussels.
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Mijois & Cie., electrical apparatus manufacturers, 10, ave. de l'Alam, Paris. (Telephone No. 545-12.)
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Milinaire Frères, electric bell manufacturers & contractors, 151, boul. Ney, Paris.
Miller, Oscar von, electrical engineer, 3, Ferdinand Millerplatz, Munich, Germany. (Telegrams: "Oscar Miller, Munich." Telephone No. 8094.)
Millet, F. T., manufacturer of batteries & induction coils, Persan (Seine-et-Oise), France.
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Minary, —, practical electrical engineer, 9, rue Morand, Besançon, France.
Minerini, Demetrio, electric light & telephone contractor, via Farini 29A, Bologna.
Minerve, La (Soc. Anon.), makers of electric cars, 30, rue du Point du Jour, Billancourt (Seine), France.
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Minghetti, Silvio, electric light contractor, Bologna, Italy.
Minner, Wilhelm, manganese, Arnstadt, Thüringen, Germany. (Telegrams: "Wilhelm Minner, Arnstadt." Telephone No. 151.)
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Minué, Joaquim, electrician, Don Jaime I. 27, Zaragoza, Spain.
Minuth, Herm., electrical apparatus manufacturer, 90, Ritterstr., Berlin, S.
Miramon, C., electrician, 48, Praça de D. Pedro, Lisbon.
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Mjölby Electric Power Station (Aktb. Kundsbro Kraftstation). Director, W. Edlund, Mjölby, Sweden.
Mocomble, C. de, electric cranes, 83, boul. Magenta, Paris. (Telephone No. 100-04.)
Moda, A., & Co., electric light works, Giaveno, Turin, Italy.
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Moegling, L., telephone maker, Gitschinerstr. 82, Berlin, S. 42.
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Mois Scientifique et Industriel, Le (price 2 frs.), 8, rue Nouvelle, Paris 9e; & 7, passage Lemonnier, Liége, Belgium.
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Monduit Fils, electric light fittings, 31, rue Poncelet, Paris. (Telephone No. 506–01.)
Monge, G. & A. de, electric measuring instruments, 85, rue du Progrès, Brussels.
Mongin, A., dynamo & motor manufacturer, 3, rue du Theâtre-Français, Marseille. (Telegrams: "Wattmateriel, Marseille." Telephone No. 803.)
Mongin, Ed., engineers' tool manufacturer, 40, ave. Philippe Auguste, Paris. (Telephone No. 910–78.)
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Mongini, Luigi, electric bell fitter, via Tritone, 78, 79, Rome.
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Moniotte, jeune, steel, iron, copper & brass foundry, Ronchamp (Haute-Saône).
Moniteur Industriel (weekly; ann. sub., U. K., 32*s.*), 16, rue de Berlin, Paris; 18, rue Antoine Dansaert, Brussels.
Monitore Tecnico (published the 10th, 20th & 30th of every month; ann. sub., 15 frs.), via Conservatorio 26, Milan. (Telegrams: "Monitore Tecnico, Milan." Telephone No. 1883.)
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Montandon, Alf., rolled steel, main springs for telegraphs, 15, rue Debelleyme, Paris.
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Moreau, L., fils, electrical & civil engineer, 34, rue de Mérode, Brussels.
Moreau Fils, Frédéric, electrician, 22, ave. de la Grande Armée, Paris.
Moreau-Hubert, Ed., white glass jars for accumulators, Fresnes-sur-Escaut (Nord), France.
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Motorwagen, Der, Zeitschrift für Automobil-Industrie und Motorenbau (three times a month), Kurfürstenstr. 11, Berlin, W. 57. (M. Krayn, publisher.)
"Motor," Aktien Gesellschaft für angewandte Elektricität, electrical engineers & contractors, Baden, Switzerland. (Telegrams: "Motor, Baden-Schweiz.")
Motorenfabrik "Protos," G. m. b. H., Berlin-Remickendorf. (Telegs.: "Protos, Remickendorf, Berlin." Teleph. No. 71.)
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Mottay, A., & Pisart, oil refiners, 267, rue de Cologne, Brussels. (Telephone No. 2252.)
Mottheau, E., artistic bronze fittings for electric light, 50, rue des Tournelles, Paris.
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Mougé, A., electric toys, 1, impasse St. Claude, Paris.
Mougin, les Fils d'Adolphe, manufacturers of detached accessories, Héricourt, Haute-Saône, France.
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Mouton, fils, dealer in electrical supplies, 15, cours du Chapitre, Marseille. (Telegrams: "Mouton, Electricien, Marseilles." Telephone No. 747.)
Moutonnet, G., E.M.E., director of Usine Electrique de Saumur, Saumur (Maine-et-Loire).
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Moysan Frères, general supplies, 231, faub. St. Martin, Paris.
Mozzanini, P., electrician, 10, rue Vavin, Paris. (Teleph. No. 720–16.)
Mühle, R., & Sohn, micrometer & gauge makers, Glashütte-i-S., Germany.
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Muller, Émile & Co., conduits for electricity, Ivry-Port, près Paris.
Müller & Preussger, telegraph & telephone apparatus maker, 1, Bergstr., Zittau, Saxony, Germany.
Muller et Roger, phosphor bronze & aluminium bronze manufacturers, 108, ave. Philippe Auguste, Paris.
Müller & Syrbe, dealers in electrical supplies, 17, Emilienstr., Leipzig.
Müller-Uri, R., electrical & physical instrument maker, Brunswick.
"Multiplex" Int. Gaszünder G. m. b. H., electrical apparatus for lighting gas, Leipzigerstr. 111, Berlin, W.
Münchener Elektrizitäts Gesellschaft Schmelzle, Lehmann & Co., electrical engineers, Munich.
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Murer & Duroni, scientific instrument makers, piazza S. Carlo, Milan, Italy.
Murgues, H. (Courtois Successor), electrical contractor, 3, rue Ampère, Paris.
Murialdo, Luigi, electric wire manufacturer & piro-ropes for firing mines, Pra (Prov. di Genova), Italy.
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Mustapha Fuad Bey, sub-director-general of Posts & Telegraphs, Constantinople.
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Mütz, J., & Co., manufacturers of electric light fittings, 12, Riemergasse, Vienna I. (Telegrams: "Mütz, Riemergasse, Vienna." Telephone No. 9234.)
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Naamlooze Vennootschap Electrotechnische Industrie voorheen Willem Smit & Co., manufacturers of dynamos, motors, &c., Slikkerveer, Holland. (Telegs.: "Electro, Slikkerveer." Teleph. No. 2786.)
Naamlooze Vennootschap Electrotechnische Mechanische Industrie, Utrecht, Holland. (Telegs.: "Emi, Utrecht." Teleph. No. 432.)
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Naeyer, de, et Cie., steam engine & boiler makers, Willebroeck, Belgium.
Nagel & Herman, electrical engineers, 54–64, rue de Birmingham, Brussels.
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Nalinne & Cie., electric apparatus of all kinds, rue de la Chaussée 80, Mons. (Telegrams: "Nalinne, Mons." Telephone No. 165.)
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Naturaleza, La (3 times a month; ann. sub., P.U., 30 francs = £1 4*s*.), Pasage de la Alhambra 1, Madrid.
Nature, La (weekly), published by G. Masson, 120, boul. Saint Germain, Paris. (Ann. sub., 26 frs.)
Naud, A., maker of lamps, brackets & chandeliers for electric lighting, 14, rue du Faub.-St. Denis, Paris.
Naud, C., publisher of *l'Eclairage Electrique* & technical literature, 40, rue des Ecoles, Paris. (Teleph. No. 807-63.)
Naumann, Ernst, search lights, &c., Gr. Frankfurterstr. 3, Berlin.
Naumann, W. & A., electric wire makers, 11, Luisen Ufer, Berlin, S. (Telephone Amt. IV. No. 885.)
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Nederlandsch-Indische Electriciteit Maatschappij, Keizersgracht 205, Amsterdam (Telephone No. 1685); & Batavia.
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Neue Berliner Messingwerke, brass sheets, brass & copper tubes, &c., 30, Kochstr., Berlin, S.W.
Neue Element-werke Gebr. Hass & Co., G. m. b. H., galvanic elements of all kinds, Lindenstr. 70, Berlin, S.W. 68. (Telegs.: "Enewehass, Berlin." Teleph. Nos. 2339, Amt. 4; & 2528, Amt. 6.)
Neufeldt & Kuhnke, electrical engineers, Kiel, Germany. (Telegrams: "Kuhnke, Kiel." Telephone No. 899.)
Neuhaus, Guglielmo, electrical accessories manufacturer, via Peschiera 5, Milan. (Telegs.: "Neuhaus, Milan." Teleph. No. 8007.)
Neuhaus, L., & Cie., cylindrical screws in all metals, 25, rue de la Cerisaie, Paris.
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NICLAUSSE, J. & A. (SOCIETÉ DES GÉNÉRATEURS INEXPLOSIBLES, "Brevets Niclausse"), makers of inexplosible boilers, for electrical installations & all industries, 1,000,000 H.P. in the various navies, Hors concours, membres des Jurys Internationaux Expositions Universelles, Paris, 1900; St. Louis, 1904; Grands prix: St. Louis, 1904; Liége, 1905; 24, rue de Ardennes, Paris (XIX. Arrt.). (Telegs.: "Générateur, Paris.")
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Nolet, Paul, M.I.E.E., 25, boul. Militaire, Bruxelles-Ixelles.
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Noodt, Allut & Meyer, G. m. b. H., electric supplies, Nollendorfstr. 13, Berlin, W. 30.
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Norddeutsche Affinerie Actiengesellschaft, refinery for metals by electricity, Hamburg, Germany.
Norddeutsche Maschinen- und Armaturenfabrik (G. m. b. H.), electrical & mechanical engineers, Bremen. Hans S. Meyer, engineer & manager of Electrical Department. (Telegs.: "Steph-elektro, Bremen." Teleph. No. 725.)
NORDDEUTSHE SEEKABELWERKE, AKTIENGESELLSCHAFT, manufacturers of submarine telegraph cables, layers & repairers of cables by own cable steamers, Nordenham o/Weser. (Telegs.: "Kabelwerke, Nordenham.")
Nordhäuser Maschinenfabrik u. Eisengiesserei, Schmidt, Kranz & Co., engine makers, Ulrichstr. 1/2, Nordhausen, Germany.
Nordische Electricitäts & Stahlwerke Act. Ges., Schellmühl by Danzig, Germany. (Telegs.: "Stahlwerke, Danzig.")
Nordisk Elektrisk Ledningstraad & Kabelfabrik, P. Prior, proprietor, manufacturers of electric wires & cables, Ryesgade, No. 105, Copenhagen, O.
Nordwark's Electric Power Co. (elektr. Kraftaktb.). Manager, P. E. Dahlgren, Jaberg, Sweden.
Norrmén, Hermann, electrical & city engineer, Helsingfors, Finland, Russia.
Norshus, Ole, inspector Bergens Telegraph & Telefon-Kompagni, Bergen, Norway.
Norsk Elektrisk Aktiebolag, 23, Övre Slotsgade, Christiania, Norway.
Norsk Elektrisk Lyscompagni, electric light engineers & contractors, 23, Övre Slotsgade, Christiania, Norway.
Norsk Elementfabrik, Ltd., manufacturers of wet & dry primary cells, Tordenskjoldsgade 6B, Christiania. (Telegrams: "Elementen, Christiania." Telephone No. 3639.)
Northoff, —, electrical installations, 73, ave. de Villiers, Paris.
Norwegian Mica Co., mica merchants, Dronningens Gade 24, Christiania, Norway.
Nostitz & Koch, electrical apparatus manufacturers, Zwickauerstr. 3, Chemnitz.
Notte, J., electrician, 12, rue d'Accolay, Brussels.
Nottebohm & Co., electrical fittings makers, Lüdenscheid, Germany.
Nouvelet, F., manufacturing engineer, 111, quai d'Asnières, Asnières, Seine. (Telegrams: "Nouvelet, Asnières.")
Nouzillet, E., electric light apparatus maker, rue de Rome 78, Paris.
Nowak, Oskar, electrician, I. Spiegelgasse 21, Vienna VI.
Nuovo Cimento, Il, Organo della Società Italiana di Fisica, piazza S. Simone, Pisa.
Nurnberger Feuerlöschgeräte & Maschinenfabrik, Justus Christian Braun, Act. Ges., manufacturers of machines for making carbons, Nürnberg, Germany. (Telegrams: "Justus Braun, Nürnberg." Telephone No. 996.)
Nyberg, A. W., electrical bureau, Sundsvall, Sweden.
Nyrop, Camillus, electro-medical instruments & appliances, Kjöbmagergade 43, Copenhagen.
Nyssens, Em., engineer, 11, rue Van der Maelen, Brussels, Belgium.
Nyssens Frères, importers of American tools, pumps, &c., rue des Peignes 38, Antwerp, Belgium.
Nyström, W., director Karlstad's Electrical Works, Mundus, Karlstad, Sweden.

Oastler, J. R., electrician, rue Lozane 44, Antwerp.
Oberdahn & Beck, electric light fittings makers, Bauhofstr. 2, Mainz. (Telegs.: "Oberdhan Mainz." Teleph. No. 290.)
Oberschlesische Eisen-Industrie Act.-Ges., mining & metal works, Gleiwitz. (Telegs.: "Drahtwerke, Gleiwitz.")
Ochandarena, Viuda de, electrical engineer & contractor, Esparteros 12 & 14, Madrid, Spain.
Ochs, J. J., winches for arc lamps, Lenaustr. 61, Frankfort-a.-M. (Teleph. No. 6660.)
Ockert, H., telegraph contractor, Jüdenstr. 15, Nordhausen, Germany.
"Octrooibureau Nederlandsch," director & engineer, A. Doyer, Heerengracht 194, Amsterdam, Holland. (Telephone No. 2891.)
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Odile, Albert, electrician, 8, ave. Fontaine Argent, Besançon (Doubs).
Oechelhäuser, Ph. O., electrical engineer & contractor, 23, Kleinbeerenstrasse, Berlin, S.W.
Oederlin, E., & Co., manufacturers of electrical accessories, Baden, Switzerland.
Oehlmann, Karl, G. m. b. H., electrical apparatus makers, Knesebeckstr. 79, Rixdorf, Berlin.
Oehmicke & Schröder, electrical apparatus makers, Waldemarstr. 51, Berlin, S.O.
Oeking & Co., dynamo steel, Düsseldorf.
Oertel & Pruemm, electrical engineers & contractors, Petersstr. 43, Cologne. (Teleph. No. 2288.)
Oesterreicher, Edmund, electrical agent, 12, Wollzeile, Vienna I. (Teleph. No. 8075.)
Oesterr. Alpine Montan-Gesellschaft, speciality: railway construction, engines & boilers, Kärntnerstr. 55, Vienna I. (Teleph. Nos. 322 & 323.)
Oesterreichische Gasglühlicht und Elektrizitätsgesellschaft, IV. Schleifmühlgasse 4, Vienna. (Teleph. No. 9324.)
Oettel, Hermann, telephone engineer & contractor, 31, Schmidstr., Berlin, S.O.
Oettli, Albert, electrical engineer & manager, Siemens-Schuckert Cia. An. Española de Electricidad, Huertas 11.2°, Madrid.
Oettli, E., director of the Russische Gesellschaft A. E. G., Alexanderpforte 19, Riga, Russia. (Telegrams: "Algemfab, Riga.")
Officina Cooperativa Manfredini, electric light fittings makers, via Melzo 13, Milan, Italy. (Telephone No. 8012.)
Officina del Genio Militare, electrical & experimental work, Pavia.
Officina Elettrica, telephone & telegraph engineers & contractors, via Vittoria Colonna 9, Milan, Italy. (Telephone No. 550.) Emilio Gerosa, manager.
Officina Elettrica per Illuminazione Pubblica, via Cortevecchia, Ferrara, Italy.
Officina Elettrica Volta, electrical apparatus makers, Divisi 88–90, Palermo, Italy.
Officina Elettro-Meccanica Veronese di G. G. Frassoni & Co., Verona, Italy.
Officina Galileo, general instrument & electric lighting machinery makers, via della Regina Vittoria 46, Florence, Italy.
Officina idro-elettrica di Paderno d'Adda.
Officina Luce Ellettrica, Osimo (Ancona).
Officina Luce Elettrica, Jesi (Ancona).
Officine Elettriche dei Bacini di Carenaggio, Genoa.
Officine Elettriche Genovesi, electric light & power contractors, via del Campo 12, Genoa, Italy. (Teleph. No. 912.)
Officine Elettroferroviarie, S. Cristoforo, Milan.
Officine Elettrotecniche Torinegi, Vesme e Bellone, via Baretti 28, Turin, Italy. (Telephone No. 1338.)
Officine Manfredi, Mondovi, Italy.
Officine Meccaniche gia Miani e Silvestri, Grondona & Comi & Co., carriage, locomotive & electric tram & railway works, Fuori P^a Vigentina, Milan.
Ohl, G. E., incandescent lamps & electric light apparatus, fittings, &c., Hamburg, Germany. (Telegrams: "Gohlus, Hamburg.")
Ohl & Dieterich (Inh. K. E. Ohl), electrical engineers, Hanau a/M., Germany. (Telegrams: "Ingenieur Ohl." Telephone No. 234.)
Ohlinger, F., incandescent lamp maker, 65, Faubourg St. Denis, Paris. (Telephone No. 259–68.)
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Oliva, Ing. Luigi, Impresa Callegari-Margara-Oliva, Voghera, Italy.

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Olivari, Mario, & Co., specialty in measuring apparatus, agents for electrical manufacturing companies, Milan & Genova, Italy.
Olivet, G., electrical apparatus, 6, cours de Rive, Geneva. (Telegrams: "Dynamo, Geneva." Telephone No. 1130.)
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Olivier, C., & Cie., electrical apparatus manufacturers, Ornans (Doubs); & at Besançon, France.
Oliveri, J. G., A.I.E.E., Caltanissetta, Sicily, Italy.
Olland, W. C., registering instruments & indicator maker, Biltstr. 71, Utrecht, Holland. (Telephone No. 452.)
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Örebro Central Electric Station (manager, K. Bohnstedt), Örebro, Sweden.
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Orth, Dr. L. v., manufacturer of overhead trolley omnibuses, Ludwigskirchstr. 9, Berlin, W. 15.
Ortigosa, Andreu, Garvayo & Co., electric light engineers & contractors, Pamplona, Spain.
Ortiz de Lanzagorta, T., general representative in Spain of the "Société Industrielle des Telephones," Atocha 27, Madrid.
Osman Ramiz Bey, Le Colonel, directeur des Ateliers d'Electricité de Pamirante Imperiale Ottomane, Constantinople.
Osnabrücker Kupfer- und Drahtwerk, telegraph & electrical wire manufacturers, Osnabrück, Germany. (Telegrams: "Drahtwerk, Osnabrück." Telephone No. 11.)
Ossadtshy, P. S., engineer, professor at the Emperor Alexander III. Electrical Institute, member of the technical committee, & head of the technical department of the general post & telegraph administration, Pesotschnaya 5, St. Petersburg, Russia.
Ossowski, C. v., patent attorney, Potsdamerstr. 3, Berlin. (Telegrams: "Labyrinth, Berlin." Telephone Amt. VI. No. 384.)
Ostende Gaz et Electricité (Soc. Anon.) (L. Haumont, director), electric light installations, 6, rue de Stockholm, Ostende.
Österreichische Siemens-Schuckert-Werke, Engerthstr. 150, Vienna XX/2, Austria. (Teleph. No. 12550.)
Osterreichische ungar. Jandus Elektr. Gesellschaft, manufacturers of arc lamps, Schottenfeldg. 53, Vienna VII. (Teleph. No. 6580.)
Osteuropäische Telegraphengesellschaft, Cologne. (Telegrams: "Eurosta, Cologne." Telephone No. 2542.) Directors: H. Pfitzner & C. W. Guilleaume.
Östmo, O., electrical engineer, Akersg. 47, Christiania. (Telegrams: "Östmo, Christiania.")
Östre Electricitesverk (manager, O. Engholm), Östre-brogade 37, Copenhagen O.
Otten, J. D., PH.D., electrical engineer, director Batavia Electrische Tram-Maatschappij. Office: 259, Heerengracht, Amsterdam. (Telegrams: "Baeltram, Amsterdam." Telephone No. 2938.)
Otten, Mag., professor of chemistry, Sololakskaja, Tiflis, Russia.
Otto, Alfred, lightning conductor installer, Lauchstädterstr., Merseburg, Germany.
Otto, W. Gg., phosphor & aluminium bronze, &c., Darmstadt, Giesserei. (Telegrams: "Otto, Giesserei." Telephone No. 99.)
Otto, gas & petroleum motors, 155, rue Croix Nivert, & 15, ave. de l'Opéra, Paris.
Otzen & Thorstenson, electrical engineers, Vesterbrog 24, Copenhagen, B.
Ouachée, —, electrical toy maker, 156, rue de Rivoli, Paris.
Oudet, —, electrical engineer, Ateliers de Mohon, Mohon (Ardennes), France.
Ougrimoff, B., electrical engineer, Imperial Technical Institute, 330, Sadovaya, Moscow.
Oulie & Sörensen, electrical agents, 32, Dronn-gade, Christiania.
Oumoff, Nicolas, LL.D., UNIV. OF GLASGOW, professor of physics, The University, Moscow.

Ouvrard, G., electric light fixtures, Parvis St. Gudule, Brussels.
Ouvrard, C., & P. Mestayer, reflectors & shades, 24, rue de la Douane, & 41, quai de Valmy, Paris.
Ouy, director of State telegraphs, 25, rue de Loigny, Orléans, Loiret, France.
Overhoff, Julius, water purifying apparatus & water cooling towers, Lerchenfelderstr. 75-77, Vienna VII. (Telegrams: "Julhoff, Wien." Telephone No. 1537.)
Ozmidoff, Nikolai, consulting electrician, professor at the Polytechnikum, 3, Elisabethstr., Riga, Russia. (Telegrams: "Ozmidoff, Riga.")

Pabst, Ernst, electric machine & apparatus maker, Cöpenick bei Berlin. Office: Schillerstr. 16, Hanover.
Paccard Frères, electrical engineers, 182, boul. de la Villette, Paris. (Telephone No. 401-48.)
Pack, E., electrical engineer & contractor, Kl. Flurstr. 8, Barmen, Germany. (Telegrams: "Ernst Pack, Barmen." Telephone No. 764.)
Pacinotti, Prof. Antonio, HON. M.I.E.E., electrician, director of the Technological Physical Cabinet, R. University, Pisa, Italy.
Paduch, A. H., Nachf., electrical engineer & agent, 2A, Fichtegasse, Vienna I.
Paechter & Schulze, electrical engineers, Wallstr. 55A, Berlin, S. 14.
Paege, B., & Co., makers of insulting varnishes & enamel porcelain acid-resisting paints, Kaiserin Augusta Allee 14, Berlin. (Telegs.: "Isolirpaege, Berlin." Teleph. No. 2993, Amt. II.)
Paetsch & Co., electricians, Wipperstr. 6, Rixdorf, Berlin.
Paevsky, K., engineer to the Odessa Municipality, Odessa, Russia.
Paffrath, H. R., electric light engineer & contractor, Solingen, Germany.
Page, M. A., superintendent Eastern Telegraph Co., Larnaca, Cyprus.
Page y Blake, Luis, consulting electrical engineer, 5, Plaza de la Independencia, Madrid, Spain.
Paggi, Giustino, scientific & electrical instrument dealer, via de Martelli 7, Florence, Italy.
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Palacios, Nicolás, electrical machinery, Orellana 9, Madrid.
Palaz, Adrien, consulting electrical engineer, Lausanne, Switzerland. (Telegrams: "Apalaz, Lausanne.")
Pallisen, H. J., agent Black Sea Telegraph Co., St. Petersburg, Russia.
Palm, Emil, electrical goods, Kurzestr. 19, Berlin.
Palm, F., glow lamps for illuminations, Nürnberg, Germany.
Palm, H. (Michalecki & Co.), patent agents, Bäckerstr. 1, Vienna, I., Austria. (Telegrams: "Patent, Vienna." Telephone No. 16895.)
Palma, Ing. De Domenico, electric light contractor & instrument maker, Istituto Casanova, Naples.
Palmcrantz & Co., manufacturers of dynamo machines, Telegraf gr. 1, Stockholm, Sweden.
Palme, E., electroliers, 15, Alte Jacobstr., Berlin, S.W.
Palme, Christoph, & Co., glass chandeliers & lamps for electric light, &c., Parchen-Schelten, Bohemia.
Palme, Reinhold, Söhne, glass chandeliers, Haida, Bohemia.
Paltzer, Ernst, electrical supplies & agent, Niddastr. 41, Frankfurt-a.-M. (Teleph. No. 5071.)
Pampana, Vitaliano, electric light contractor, via S. Paolo 17, Pisa, Italy.
Pandiani, E., electrical engineer, contractor & agent, via Boccaccio 23, Milan, Italy. (Telegs.: "Ingegnere Pandiani, Milan." Teleph. No. 6107.)
Pannenberg, Julian, minerals & mineral products, Arnstadt, Thur. (Telegs.: "Pannenberg, Arnstadt.")
Pannke & Co., electroliers, Fürstenstr. 5, Berlin.
Panzarasa, Ing. A., electrical & consulting engineer, Foro Bonaparte 42, Milan, Italy.
Paolucci, E., & Grandi, electrical instrument makers, 7, via Barberia, Bologna.
Pape, M., maker of lampholders for incandescent lamps, Pallisadenstr. 49, Berlin, N.O.
Papini, Carlo, electrical engineer (agent for Società Esercizio Bacini Officina Elettrica), via Nazionale 4, Florence, Italy. (Telephone No. 233.)
Paquot, J., electrician, rue Minières 49, Verviers.
Paratore, G. & C., electrical engineers, via Boscogrande, Palermo, Italy.
Parazzoli, Ing. Cav. Attilio, electrical engineer, 14, via Principe Amedeo, Rome. (Teleph. No. 8640.)
Parent, —, dynamo manufacturer, Villefranche (Rhône), France.
Parent, C., electrical engineer, 1, rue du Saule-Fleuri, Ile St. Denis, Seine.
Pareyn, C. J., electric heating apparatus & electrical agent, 36, rue Van de Weyer, Brussels. (Telegs.: "Pareyn, Brussels.")
Paris, Ch., et Cie., crystal manufacturers, 49, rue de Paradis, Paris; & Bourget, Seine, France.
Parisot, F., & Ch. Baudry, manufacturing electricians, rue de Guérande 3, Nantes (Loire-Inférieure). (Telephone No. 673.)
Parisse, Eugène, electrical engineer, 6, rue Deguerry, Paris.
Parkinson, J. A., telegraph engineer, Eastern Telegraph Company, Cadiz, Spain.
Parsons, Frederic-Jennings, electrical engineer, Sous-Directeur de la Compagnie Française pour l'Exploitation des Procédés Thomson-Houston, 10, rue de Londres, Paris.

Parvillée, Achille & Louis, constructing engineers, 67, rue d'Amsterdam, Paris (8e). (Telegrams: "Parvillée, Paris." Telephone No. 259.50.)
Pascal, L., ivory, bone, horn, ebonite & fibre accessories for electricians, 117, rue du Temple, Paris.
Pascalis, Georges, manufacturing electricians, 5, rue Chapon, Paris. Works: Saint Denis, France.
Paschkoff, electrical engineer, Krestorsky ostr. Nicolaevskaya 12, St. Petersburg, Russia.
Pascual, Alfredo, electrician, Pizarro 19, Valencia, Spain.
Pasko, R., electrical engineer, Electric Light Co., Sapernoi 10, St. Petersburg.
Pasqualini, Prof. Luigi, electrician, Officina Galileo, Florence, Italy.
Passburg, E., mfr. of vacuum drying plants for electric cables, &c., 33, Brücken-allee, Berlin, N.W.
Passelecq, Alb., electrical engineer, 54, rue du Haut Bois, Mons. (Telegrams: "Passelecq, Mons." Telephone No. 167.)
Pastore, Guiseppe, electrical engineer, via Montebello 21, Turin. (Telephone No. 522.)
Pataky, Hugo, patent & trade marks & registration agent, Joachimsthalerstr. 10, Berlin, W.
Patureau, electrician, 19, boul. Solférino, Rennes, Ille-et-Vilaine, France.
PATZ, LOUIS, manufacturer of dynamo brushes & electrical specialities, Kyffhäuserstr. 26, Dresden, A. 19. (Telegrams: "Patzlotelefon, Dresden." Telephone No. 908); Kirchengasse 43, Vienna VII./2 (Telegrams: "Patzlotelefon, Vienna." Telephone No. 8298); & Perczel Mor-Utcza 4, Budapest V.
Paucksch, H., Act. Ges., electrical & mechanical engineers, Landsberg-a.-W., Germany; & Neustädtische Kirchstr. 15, Berlin, N.W.
Paulsen, C., electric light, dynamos, &c., Naestved, Denmark.
Pausa i. V. (Act. Ges. Körting's Elektricitäts Werke, Hannover-Linden), electric light station.
Pautier Frères, electrical accumulators, 9, place du Parc, Angoulême (Charente), France.
Pavesi, Urbano, electrical engineer, Pavia, Italy.
Pavesi, V., di R. Radaelli & C., electric light brackets & electrolier manufacturer, via Vittoria Colonna 2, Milan. (Telegrams: "Pavesi, Gaz, Milan." Telephone Nos. 590 & 387.)
Pavoux, Eug., manufacturer of indiarubber & gutta-percha, 21, rue de Spa, Brussels. (Telegrams: "Pavoux Caoutchouc, Brussels." Telephone No. 264.)
Payand, Gabriel, electrical engineer & contractor, Montélimart (Drôme), France.
Payot, Henri, electrical engineer, Tramway Electrique Vevey-Montreux, Montreux, Switzerland. (Telegrams: "Electrique, Switzerland.")
Paz, E., & Silva, "Les signes Electriques," 55, rue Ste. Anne, Paris. (Telephone No. 273-11.)
Peartree & Co., electric light fittings manufacturers, 90, Ritterstr., Berlin, S. (Telephone No. 421, Amt. IV.)
Pech, Lucien, electrical engineer, 25, rue du Drogmanat, Constantinople.
Pech, M., G. m. b. H., electro-medical apparatus, 15, Am Karlsbad, Berlin, W.
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Peilitz, C. H., engineer, Telephone Office, Malmö, Sweden.
Peintures Minerales Françaises (Soc. Anon.), insulating material manufacturers, 11, rue Curton, Clichy (Seine), France.
Pekrun, H., manufacturer of electrical apparatus & automatic machines, Gluhöfen, Coswig, Saxony, 46, Germany. (Teleph. No. 26.)
Pelgrims, R., manufacturer of motor cars, axles & springs, boul. Régent 22, Brussels; 97, rue St. Maur, Paris; & 12, Hart-st., Bloomsbury, London, W.C.
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Pelletier, G., Fils, electric bell manufacturers & contractors, 157, rue de la Pompe, Paris.
Pellin, Philibert, electrical engineer & optician, 21, rue de l'Odéon, Paris. Works: 30, rue Monsieur le Prince, Paris.
Pellissier, G., consulting electrician, 16, rue Singer, Paris.
Peloguin, A., electrician, 39, Grande Rue (place de l'Egliree), Barjols (Var.), France.
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Pelz, Alfred, & Co., installation contractors, Steindamm 160, Königsberg-i.-Pr. (Telephone No. 1951.)
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Pender, W. E., electrician, Eastern Telegraph Co., Carcavellos, Portugal.
Pennequin, Ch., insulating material, rue Gallai 88, Brussels.
Penotti, Cav. Giovanni, erecter of lightning conductors, via Lagrange 24, Turin. (Telegrams: "Penotti, Turin." Telephone Nos. 479 & 1677.)

Penzig (Oberlausitz) (Elektricitäts Act. Ges. vorm. Schuckert & Co., Nürnberg), electric light station.
Perceval et ses Fils, mechanical & electrical engineers, 9, passage St. Sébastien; & 86, rue Amelot, Paris.
Perci & Schacherer, Ltd., makers of telegraph wire & cable, Haüptpostfach 4, Budapest. (Telegs.: "Kabel, Budapest.")
Perdu & Cie., electrical engineers, Avallon (Yonne), France.
Pereira, Alfredo, director-general of Portuguese Posts & Telegraphs, Lisbon.
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Persicaner & Co., electrical agents & dealers in electrical supplies, Liebenberggasse 7, Vienna I. (Telegrams: "Persicanco, Vienna." Telephone No. 704); Kemnitzergasse 7, Budapest VI. (Telephone No. 2389); & 57, Bülowstr., Berlin, W.
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Pertus, Charles, insulators, covered wire, &c., 10, rue St. Antoine, Paris.
Pervazian, A., electrical importer, 283, Zindan Capou, Constantinople.
Pervenko, W., electrician, Kiew, Russia.
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Pescht, B., electric stores, Smolnaya 5, Warsaw, Russia.
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Petit, Paul, engineer of arts & manufactures, Schneider et Cie., 42, rue d'Anjou, Paris.
Petit Frères Lebocey & Cie., electrical engineers & contractors, Troyes (Aube), France.
Petit, L., & Cie., manufacturing electricians, 6, rue Notre Dame de Nazareth, Paris.
Petit-Dupont, electrician, Cambrai, Nord, France.
Petri & Dalheim, electrical apparatus manufacturers, Wilhelmstr. 44, Berlin, W.
Petrilli, —, electric light contractor, Monte San Savino, Arezzo, Italy.
Petrucci, Luigi, & Co., electric light contractors, Forli, Italy.
Petsche, Albert, electrical engineer & manager, Société Lyonnaise des Eaux et de l'Eclairage, 73, boul. Haussmann, Paris.
Peugeot Frères, Les Fils de, magnetic steel manufacturers, Valentigney, Doubs, France. (Telegrams: "Peugeot Frères, Valentigney.")
Peukert, Dr. Prof. W., electrician & director of the Electrical Laboratory of the Herzogliche Technische Hochschule, Brunswick, Germany.
Peuning, Alfons, maker of electro-medical apparatus, &c., Rheinwerft 24, Bonn a. Rhein, Germany. (Teleph. No. 714.)
Peyer, Favarger et Cie. *See* Fabrique de Telegraphes et Appareils Electriques.
Peyrard, E., electric light & power contractor, 9, rue des Bons-Enfants, Grenoble, France.

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Pfanhauser, Wilh., nickel & electro-platers supplies, 69, Schottenfeldgasse, VII., Vienna; & S.W. 13, Alte Jakobstr. 5, Berlin. (Telephone Nos. 2554, 9789 & 2554, Amt. IV.)
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Pfankuch & Reinhardt, lightning conductor erectors, 12, Rubensstr., Cologne, Germany.
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Pfister & Streit, electrical instrument makers, Seilerstr., Berne, Switzerland.
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Philippe, Viallav & Cie., succrs. Blazy Frères, wood for electrical purposes, 21, rue Etienne Marcel, Paris. (Telephone No. 129.92.)
Philips & Co., incandescent lamp makers, Eindhoven, Holland. (Telegrams: "Philips, Eindhoven." Telephone No. 16.)
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Picard, L., succr. de P. Fayet, telephone manufacturer, 8, rue St. Claude, Paris.
Picard & Picard, electrical accessory manufacturers, 12, rue des Ecluses, St. Martin, Paris.
Piccard, Pictet & Co., turbine makers, 105, route de Lyon, Geneva, Switzerland. (Telegrams: "Picpic, Geneva." Telephone No. 1490.)
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Pichery, Lucien, engineer, director of the Sté. Anon. de Ardoisière & la Renaissance, Angers, Maine-et-Loire), France. (Telegrams: "Renaissance, Angers." Telephone No. 24.)
Pickhardt, G., manufacturer of technical wire specialities, dynamo brushes, &c., Kölner-Chaussée 149, Bonn-on-the-Rhine, Germany.
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Pieper, Carl, civil engineer & patent agent, 3, Hindersinstrasse, Berlin, N.W. (Telegrams: "Patents, Berlin." Telephone Amt. II. No. 1301.)
Pieper, Henry, managing director of the Cie. Internationale d'Electricité, Liége, Belgium.
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Pierquin, H., telegraph engineer, 7, rue de Mulhouse, Paris.
Pierret et Quellier, electric bell founders, 37, rue Meslay, Paris.
Pierson, J. & O. G., makers of gas plants (suction & pressure). Show-room: 47, rue Lafayette, Paris; offices: 54, faubourg Montmartre, Paris. (Telegrams: "Luns, Paris." Telephone No. 117-41.) Works: 12, rue d'Alsace, Levallois, nr. Paris.
Pierucci, Luigi, electrical instrument maker, via S. Frediano 22, Pisa, Italy.
Piétri, V., electrician, 2, rue St. Siagre, Nice, France.
Piette, Prosper, electrical engineer and manufacturer, Freiheit, Bohemia.
Pifre, Abel, lifts of all systems, 174-176, rue de Courcelles, Paris. (Telephone Nos. 509-38 & 509-40.) Works at Albert (Somme).
Pignolet, A., bronze fittings for electric light, 106, rue Vieille du Temple, Paris.

Pilate, J. A., manufacturer of electric light fittings, 29, rue du Marché, Brussels.
Pillet, F. J., engineer & draughtsman, special installations of electric light for panoramas, &c., & special production of optical & electric illusions, boul. Garibaldi 38, Paris.
Pillet, Vuida de, electrical apparatus, San Fernando 26, Alicante, Spain.
Pilleux, Ludovic, electrician, 103, ave. Parmentier, Paris.
Pillivuyt & Co., porcelain & insulators, Mehun-sur-Yèvre, Cher, France; & 46, rue de Paradis, Paris.
Pillot, E., electric light fittings maker, 38, rue de Turenne, & 16, rue des Minimes, Paris.
Pillot & Vallin, electricians, rue de l'Obélisque, Châlon-sur-Saône, France.
Pilter, steam engine & boiler maker for electrical purposes, 24, rue Alibert, Paris. (Telegrams: "Pilter, Paris." Telephone No. 422.09.)
Piltschikoff, Nicolas, professor of physics, Technological Institute, Kharkov, Russia.
Pinette, G., maker of electric mining machinery, Chalon-sur-Saône, France.
Pingeoz, Edouard, directeur de la Station Centrale d'Electricité, Kowno, Russia.
Pinguely, A., electric light contractor, Lyons, France.
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Pintsch, Gebrüder. *See* Glühlampen-Fabrik Gebrüder Pintsch.
Pintsch, J., manufacturer of the Gülcher Thermobatteries, &c., 72 & 73, Andreasstr., Berlin. (Telegrams: "Pintschgas, Berlin." Telephone No. Amt. VII. 5744.)
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Pirelli & Co., manufacturers of electric cables, gutta-percha, & indiarubber, 21, via Ponte Seveso, Milan, Italy. (Telegrams: "Gomma, Milan." Telephone No. 817.)
Pirlet, F., dealer in electrical sundries, rue de la Province (Nord), 40/12, Antwerp.
Piroul, P., electric bell installations, rue d'Angleterre 39, Brussels.
Piroul & Paternoster, electric apparatus, lightning conductors, &c., rue aux Laines 35, Brussels.
Piumatti, Enrico, manager for Ercole Marelli & Co. of Milan, via S. Quintino 11, Turin.
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Place, Louis Pierre Henry, Marquis de, electrician, au Château de Rochebelle, Alais (Gard), France.
Placet, P. E., electrical engineer, 18, rue Denfert Rochereau, Paris.
Planas, Flaquer y Co., machine makers & electricians, Plaza de Cataluña 12, Barcelona, Spain. (Telegrams: "Planas Flaquer, Barcelona.")
Planche, V., electrician, 33, rue de Rivoli, Paris.
Planchon, Jean, electrical engineer, 2, rue de St. Petersbourg, Paris.
Plania Werke Aktien Gesellschaft, manufacturers of galvanic carbons, Ratibor, Germany.
Planiawerke Aktiengesellschaft für Kohlenfabrikation, Dorotheenstr. 45, Berlin, N.W. 7.
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Plechati & Co., incandescent lamp makers, Florastr. 39, Berlin-Pankow.
Plesoianu, V., engineer, representative of l'Union de Berlin (Thomson-Houston), 22, Strada Sârindar, Bucharest, Roumania.
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Pochet, G., et Cie., glass cell manufacturers, 121, quai Valmy, Paris. (Telephone No. 403–02.)
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Podobedoff, M., & Co., dealers in wires & cables, Fontanka 65, St. Petersburg, Russia. (Telegs.: "Parodymmo, St. Petersburg." Teleph. No. 344.)
Poehl, Dr. A. V., professor of chemistry, Wassilievsky Ostrow 7th line, 18, St. Petersburg. (Telegrams: "Docteur Poehl, Petersburg." Telephone No. 3710.)
Poesio, Joseph, electrical apparatus, corso Principe Oddone 19, Turin, Italy. (Telephone No. 86.)
Pogliaghi, R., electrical apparatus manufacturer, 29, via S. Sofia, Milan.
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Pohle, Otto, electrical engineer, Kaitzerstr. 82, Plauen, bei Dresden A. (Telephone No. 8497.)
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Poirier, A., electrician, 10, rue Auguste Brizeux, Nantes.
Poirier, M., consulting electrician, 61, rue de l'Hôtel de Ville, Lyon, France.

Pokorny & Wittekind, makers of steam engines for electric lighting, Bockenheim, Frankfort-on-the-Main, Germany. (Telegrams: "Pokorny, Bockenheim." Telephone No. 20.)
Poll, P. A. van der, electrical engineer, P. C. Hooftstr. 83, Amsterdam.
Pollak, Carl, electrical engineer & director, A.E.G. Thomson-Houston Co., 22, via venti Settembre, Milan, Italy.
Polte Armaturen- und Patronen-Fabrik, mechanical engineer, Magdeburg-Sudenburg, Germany. (Telegrams: "Poltewerk, Magdeburg." Telephone No. 230.)
Poluzzi, Giuseppe, electric bell dealer & installer, via Rizzoli 16A, Bologna, Italy.
Polyphos Electricitäts Gesellschaft, makers of Roentgen apparatus, Schillerstr. 16, Munich. (Telegrams: "Polyphos, Munich." Telephone No. 7055.)
Pomey, J. B., telegraph engineer, 140, boul. Raspail, Paris VIe.
Poncet & Lacroix, electric bell manufacturers & contractors, 31, rue de l'Hotel de Ville, Lyon, France.
Pongs & Co., electrical agents, Oeverstr. 18A, Arnhem, Holland. (Telephone No. 1069.)
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Ponsolle, —, electrician, 5, rue Montauban, Angers, France.
Pontardant, A., electrician, 15, rue du Soleil, Niort (Deux-Sèvres), France.
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Poock & Hermann, electrical supplies, 10, rue du Canal, Brussels. (Telegrams: "Pookmann, Brussels." Telephone No. 6149.)
Poplavsky, A., engineer, Wladikavkase Railways, Rostow-on-Don, Russia.
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Popp, Dr., & Dr. Becker, analytical & electro-chemical laboratory, Frankfort-on-the-Main. (Telegrams: "Poppbecker, Frankfort Main." Telephone No. 222.)
Popular Gijonesa de Alumbrado, electric lighting, Gijon, Spain.
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Porgès, Charles, president of the "Compagnie Continentale Edison," 25, rue de Berri, Paris.
Pornon, —, electrician, rue de Grammont 28, Paris.
Porsgrund Elektricitetsvark (manager, Harald Alfsen), Porsgrund, Norway.
Porta, Vedova, e Figlio, aerial ladder manufacturer for telephone, telegraph & electric light lines erection & maintenance, 13, Aug Anfossi, Milan.
Porta, Carlo & C., manufacturers of apparatus & brackets for electric light, corso Lodi, Strada alla Carità, Milan, Italy.
Porta & Co., electric light contractors, Vicolo Ballerino, Brescia. Works: Corso Genova 9, Milan. (Telegrams: "Porta, Brescia.")
Porte, L., electrician, 9, rue Ancelle, Neuilly-sur-Seine, France.
Portella, Julio Pinto da Costa, chief engineer, rua da Alegria 488, Oporto, Portugal.
Porto, V., & figli, electric bell fitters, corso Umberto 2172, Vicenza, Italy.
Porzellanfabrik Hentschel & Müller, Meuselwitz (S.-A.), Germany; & 72, Turmstr., Berlin, N.W.
Porzellanfabrik Hermsdorf, makers of insulators, Hermsdorf, Sachsen Altenburg, Germany. (Telegrams: "Porzellanfabrik Hermsdorf S.A.")
Porzellanfabrik Kloster Veilsdorf, Akt. Ges., makers of lamp sockets & insulators, Kloster Veilsdorf, Sachs-Meiningen, Germany. (Telegs.: "Porzellanfabrik, Veilsdorf." Teleph. No. 13, Hildburghausen.)
Porzellanfabrik, Ph. Rosenthal & Co., A.-G., insulator makers, Selb, Bavaria.
Porzelt, P. Ludwig, maker of marble slabs for switchboards, &c., Adalbertstr. 63, Bockenheim, Frankfurt-a.-M. (Telephone Amt. II. No. 65.)
Pöschmann & Co., electric installations, Grosse Zwingerstr. 8, Dresden, A.I. Saxony. (Teleph. No. 1518.)
Postel-Vinay, A. (Sté. des Etablissements), electrical sundries manufacturer, 41, rue des Volontaires, Paris.
Pot, Adr., chief electrical engineer & managing director Electrotechnische Industrie, Slikkerveer, Holland.
Potron, E., electric light apparatus & fittings maker, 40, ave. de la Republique, Paris. (Telephone No. 925-37.)
Potzelt, C., electrical engineer, 4, Barfüsserstrasse, Halle a. d. S., Germany.
Pouchain, P., electrician, La Chapelle d'Armentières (Nord), France.
Poulain, A., et Fils, makers of accumulators of electricity, Charleville (Ardennes), France.
Poulianovsky, J., engineer, rue Chopin N. 1, Warsaw, Russia. (Teleph. No. 3039.)
Purtier, E., wire covering machine maker, 14, rue Morand, Paris.
Poussin, Alexandre, electrician, 7, rue Henri-Barbet, Rouen (Seine-Inférieure), France.
Pouzol, —, electrician, 15, Grande Rue, Montpellier (Hérault), France.
Pouzol, —, electrician, 19, place du Marché, Nîmes, France.

Poyet, A., batteries, bells, &c., rue de Vaugirard 313, Paris.
Pozzi, Fr., engineer, Società Napoletana per Imprese Elettriche, Naples.
Pozzy & Cie., ventilators, 29, rue Riquet, Paris. (Telephone No. 403–30.)
Pozzo, Ditta Attilio, & Co., electrical supplies & machinery, piazza Fossatello 8, Genoa, Italy. (Telegs.: "Apozzo, Genoa." Teleph. No. 1615.) Branch house: piazza Castello 1–3, Milan.
Pradera Hermanos y Ca., electric cable manufacturers, Bilbao, Spain.
Praticien Industriel (monthly), 15, rue des Halles, Paris. (Ann. sub., P.U., 7 frs.) (Telegrams: "Casalonga, Halles, Paris I°." Telephone No. 281–92.)
Präzisions Werksttäten Mittweida, dynamo & motor makers, Mittweida, Saxony. (Teleph. No. 29.)
Pressspanfabrik Untersachsenfeld Actienges. vorm. M. Hellinger, insulating materials, Post Neuwelt, Saxony. (Telegrams: "Pressspan, Schwarzenbergsachsen.")
Pretzel, Franz, & Co., makers of belting & leather, Gr. Hamburgerstr. 32, Berlin, N. (Telegrams: "Pretzel Comp, Berlin." Telephone No. 625, Amt. III.)
Preuss, Ferd., electrical apparatus manufacturer, 7, Wassergasse, Vienna, III./1.
Preuss & Wittich, celluloid plates, Stallschreiberstr. 21, Berlin, S. (Teleph. No. 3666, Amt. IV.)
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Prince, F., electrical measuring instrument maker, 7, rue Réaumur, Paris.
Prior, H. P., A.M.I.E.E., electrician, general manager Aktieselskabet Nordiske Kabel-Ogtraadfabriker Ryesgade, No. 105, Copenhagen, O.
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Promayet, G., magnetic steel manufacturer, 82, rue de la Folie-Méricourt, Paris.
"Prometheus" Gesellschaft m. b. H., electric heating & cooking apparatus manufacturers, Bockenheim, Frankfort-on-Main (Telegrams: "Prometheus, Frankfurtmain-Bockenheim." Telephone No. 5510); & at Vienna, Paris, &c.
"Promotcus" Wièrss & Co., electrical heating & cooking apparatus makers, Liestal, près Basle, Switzerland.
Promper, Franz, & Rudolf Ferner, electrical & mechanical engineers, V. Steinbauergasse 22, Vienna. (Telephone No. 7269.)
Prytz y Campos, S., electricians, Alicante, Spain.
Puccinelli, Salvadore Figli, electric light contractors, Pisa, Italy. (Telegs.: "Puccinelli, Pisa.")
Puech, F., & Guin, electricians, 80, rue Taitbout, Paris.
Puente Campano, Indalegio de la, electrical apparatus manufacturer, Bembibre (Léon), Spain.
Puig, Eusebio, electrician, Hernani 25, San Sebastian, Spain.
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Quack & Gilles, engineers, Pfälzerstr. 46, Cologne.
Quaedvlieg, C. F., electrician, rue des Grands Halles 11, Courtrai, Belgium. (Telegrams: "Quaedvlieg, Courtrai.")
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Quarck, Ernst, electrical engineer, Müllerstr. 44, Munich.
Quarena, G., electrical engineer, Gavardo, Brescia, Italy.
Queirolo, Federico, electrical supplies dealer, via Cavour 10, Parma.
Quétard & Cie. (Soc. Anon.), electrical engineers, Neuville-sur-Orne, par Revigny (Meuse), France.
Queva, H., & Co., machine & turbine makers, 5, Pilse, Erfurt, Germany.
Quévreux, R., electrician, 87, ave. Malakoff, Paris.
Quincke, Emil Aug., metal pushes, Warschauerstr. 61, Berlin, O. (Telegrams: "Druckcontact, Berlin." Telephone No. VII. 4881.)
Quintana Morell, Juan, electrician, Industria 33, Seville.

R. Museo Industriale Italiano, via Ospedale 32, Turin.
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Raacke, Gebr., electrical engineers, 12, Adalbertsteinweg, Aachen. (Telegrams: "Raacke, Aachen." Telephone No. 744.)

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Rabut, Charles, chief engineer of bridges & roads, to the Service de la Voie et des Travaux à la Compagnie des Chemins de fer de l'Ouest, 77, rue Duplessis, Versailles. (Telegrams: "Rabut, Versailles." Telephone No. 140.)
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Raclot & Cie., consulting engineers & patent agents, 24, rue de l'Evêque, Brussels. (Telegrams: "Raclot, Brussels." Telephone No. 3341.)
Rademacher, Carl, & Co., chemical manufacturers, Carolinenthal, bei Prague, Austria. (Telegrams: "Rademacher, Prag-Carolinenthal." Telephone No. 1379.)
Radi, L., electric bell manufacturer & contractor, 84, boul. St. Michel, Paris.
Radiguet & Massiot, X-ray apparatus manufacturers, 44, rue du Château d'Eau, & 15, boul. des Filles du Calvaire, Paris.
Radium, Le (monthly), 91, rue Denfert Rochereau, Paris. J. Danne, editor.
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Rae Fratelli, manganese mine owners, via Polastrini 3, Leghorn, Italy.
Raetsch & Co. (Hohlglas-Hüttenwerk), accumulator cell & globe manufacturers, Muskau, Germany. (Telegrams: "Raetsch Compagnie, Muskau." Telephone No. 5.)
Raffai, Gaetano, optical & electrical instrument maker, via Magistrato 32, Mantua, Italy.
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Raingo Frères, makers of electric light fittings, 102, rue Vieille-du-Temple, Paris.
Rakenius, Carl, & Co., electric lamp manufacturers, 98, Zimmerstr., Berlin, S.W. (Telegrams: "Rakenius, Berlin.")
Rambeaud, René, electrician, 4, Grande Rue, Parthenay (Deux-Sèvres), France.
Ramberg & Bauer, electric bells, &c., St. Badhusgatan 28, Gothenburg, Sweden.
Ramel, Geo. F., mechanical consulting engineer & furnisher of hydraulic & electric lifts, 37, Nordstr., Unterstrass, Zurich, Switzerland. (Telegrams: "Rameleo, Zurich." Telephone No. 4254.)
Ramos & Silva, electrical instruments, rua Garrett 63 & 65, Lisbon.
Ramperti & Rastelli, makers of condensers, mirrors, & reflectors, via Cerva 36, Milan.
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Rapaz & Décosterd, electricians, Evian-les-Bains (Haute-Savoie), France.
"Rapid" Accumulatoren und Motoren Werke, G. m. b. H., Hauptstr. 149, Schöneberg-Berlin.
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Rasmussen, Conrad, telegraph superintendent, Rönne, Bornholm.
Rasmussen, Einar, M.I.E.E., superintendent State Railway Telegraph, Christiania, Norway.
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Rassmus, Fr., electrical apparatus maker, Magdeburg, Germany.
Rast, K., electrical engineer, 28, Geiststr., Halle, Germany.
Rastelli, A., & Co., electrical engineers, via Belvedere 4, & via dei Mille 23, Turin, Italy. (Telegrams: "Ingegnere Rastelli, Turin." Telephone No. 255.)
Rastoul, —, electric bell manufacturer & contractor, 11, place Lucas, Toulouse, France.
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Rather Maschinenfabrik, Cl. Bonnenberg, Dusseldorf-Rath. (Telephone No. 413.)
Rattner, agent for "Helios," Karavanaya 14, St. Petersburg.
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Rausch, Alb., electrician, Potsdamerstr. 126, Berlin, W.
Raut, Alfred, electric light engineer & contractor, Elberfeld, Germany.
Ravené, Wilh., induction coils, Ritterstr., Berlin, S. 42.
Ravené, Jacob, Söhne & Co., iron, metal & steel merchants, 5–8, Wall-str., Berlin, C. (Telegrams: "Eisenravené, Berlin.")

Ravet, —,' manufacturing electrician, 83, rue Nationale, Lille, France (Telegs.: "Ravet, Electrician, Lille." Teleph. No. 240); & 13, Coutour St. Martin, Roubaix, France. (Teleph. No. 409.)
Ravioli, Carlo, electrical engineer, corso Vitt. Em. II. 1 oltre Po., Turin, Italy.
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Raymond, G., superintendent, Eastern Telegraph Co., Corfu.
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Rebeyrotte & Cie., electro-medical apparatus manufacturers, 48, rue Monsieur le Prince, Paris.
Rebicek, Gust., maker of thermo-electric batteries, 333, Krocingasse, Prague I., Austria.
Rebikow, W., engineer, Twanowskaja 24, St. Petersburg.
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Reddoway, F., & Co., agents for the Jandus arc lamp, Moscow.
Redier, O., & Cie., electrical instrument makers, 324, rue St. Martin, Paris.
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Regina Bogenlampen Fabrik, G. m. b. H., Köln-Suelz, Germany.
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Reich, S., & Co., makers of glass globes, &c., for electric lighting, Czerningasse 3, 5 & 7, Vienna II. (Teleph. No. 14469.)
Reichard & Co., patent & trade marks registration agents, III. Marxergasse No. 17, Vienna.
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Reimbold, Gebr., manufacturers of compressed steel shafting, Kalk-Köln a. Rh.
Reimer & Seidel, electricity meters, Gentzgasse 34, & Rieglergasse 4, Vienna XVIII.
Reinach, Ernesto, oils & lubricants, via Lario 71c, Milan.
Reinacher & Ott, electric light contractors to the town of Arezzo (G. Reinacher, director), Arezzo, Italy.
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Reiner, F., electric bell manufacturer & contractor, Jahnstr., 38, Munich, Germany. (Telephone No. 60.)
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Reinhold, R., & Co., electrical engineers, Görlitz, Germany. (Telegs.: "Elektron, Görlitz." Teleph. No. 902.)
Reiniger, Gebbert & Schall, makers of electro-medical apparatus, & manufacturers of dynamos & motors, Erlangen, Bavaria (Telegrams: "Elektromed, Erlangen." Telephone No. 27); 131c, Friedrichstr., Berlin, N.; 13, Sonnenstr., Munich; Buschstr. 12, Hambourg; 12, Universitätstr., Vienna IX.; & O.-utcza 42, Budapest.
Reiss & Klemm, small motors & ventilators, Stallschreiberstr. 18, Berlin, S. 14. (Teleph. Amt. IV. 8069.)
Reisser, Wilhelm, electric light engineer & contractor, contractor by appointment to his Majesty the King of Wurtemburg, 13A, Wilhelmsplatz, Stuttgart, Germany. (Telegrams: "Electron, Stuttgart." Telephone Nos. 116 & 6316.)
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Renaud, Texier & Co., insulating paper makers, 5, rue Nicolas-Flamel, Paris.
Renaudin, —, electrical installations, 21, rue des Charretiers, Orléans, Loiret, France.
Renaudot, T., electrical engineer, 91, rue Jouffroy, Paris.
Renault Frères, makers of electric carriages, &c., 139, rue du Point du Jour, Billancourt (Seine), France.

Rendahl, Raynar, wireless telegraph expert, Gesellschaft für Drahtlose Telegraphie (m. b. H.), 3, Lindenstr., Berlin, S.W. 68.

Rene, L., & Co. (R. Collin, agent), insulators, volt & ampere meters, &c., 49, rue de Miromesnil, Paris. (Telegs.: "Micollin, Paris." (Teleph. No. 513.97.)

Renoir, —, electrician, rue Héry, château-Gaillard, par Maisons-Alfort, Seine, France.

Renoitre, F., electric apparatus, rue Charles II., 8, Charleroi, Belgium.

Renon, Vve. & Fils, bronze & electric light fittings, 13, rue Payenne, Paris.

Renou & Cie., electricians, 45, rue St. Aubin, Angers, France.

Renouf, —, manufacturer of electric clocks, alarms, bells, &c., 30, rue Noël Ballay, Chartres (Eure et Loir), France. (Telegrams: "Renouf, Chartres." Telephone.)

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Reuters Telegram Co., 8, place des Martyrs, Brussels.

Reutlinger, B. C., maker of electro-plating dynamos, 197, Röderbergweg, Frankfort-on-the-Main.

Reval, Louis, accumulator maker, Thury-Harcourt (Calvados), France.

Réveilhac, Suppot & Cie., electricians, 3, ave. de la République, Paris. (Telephone No. 263–14.)

Revista Minera, Metalúrgica y de Ingenieria (weekly; annual subscription £1), 3, Villalar, Madrid, Spain.

Revue de Chimie Industrielle (monthly: price 1*s.*), 53 bis, quai des Grands-Augustins, Paris. (Telephone No. 275–00.)

Revue de l'Electricité (twice a month; P.U., 8 frs.), rue Pepinet 3, Lausanne. (Telephone No. 1339.)

Revue de l'Ingenieur et Index Technique (monthly; price 2 fr. 50), Musées Royaux, 1, rue du Musée, Brussels.

Revue des Eclairages (twice a month; ann. sub. 8 frs.), 104, boul. de Clichy, Paris.

Revue Électrique, La (twice a month; 1.50 fr. each; ann. sub., Paris, 25 frs.; France, 27.50 frs.; P.U., 30 frs.) Editor, M. J. Blondin, 171, faub. Poissonnière, Paris (9e); publishers, Gauthier-Villars, 55, quai des Grands-Augustins, Paris (6e).

Revue Gaz et Electricité (bi-monthly), 42, rue Maubeuge, Paris.

Revue Générale des Sciences pures et appliquées (twice a month; annual sub., Postal Union, 25 frs. = £1). Director, L. Olivier, D.SC., 22, rue Général Foy, Paris; Armand Colin & Cie., publishers, 5, rue du Mezières, Paris.

Revue Industrielle (weekly: ann. sub., 30 frs.), 17, boul. de la Madeleine, Paris, 1e.

Revue Mineralurgique (monthly; ann. sub., 6 frs.; abroad, 8 frs.), 31, rue de la Victoire, Paris IXe (Teleph. No. 319–04.)

Revue Pratique de l'Electricité (*formerly Sciences et Commerce*) (semi-monthly), 9, faub. Poissonnière, Paris. (Telegrams: "Mercator, Paris." Telephone No. 155.77.) (Ann. sub., P.U., 15 frs. = 12*s.*)

Revue Scientifique, 41, rue de Châteaudun, Paris.

Revue Universelle des Mines, &c. (soc. anon.) (ann. sub., 40 frs.), 18, rue Bonne-Femme, Liége, Belgium.

Rey, J. A., civil, electrical & mining engineer (Sautter, Harlé & Cie.), 26, ave. de Suffren, Paris.

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Rey Frères, electricians, 56–60, rue Veeweyde, Brussels.

Reye, G. W., & Söhne, infusorial earth for covering boilers, &c., 28, Frankenstrasse, Hamburg. (Telegrams: "Reyes, Hamburg.")

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Rheinische Schuckert Gesellschaft für Elektrische Industrie A.-G., Mannheim, Germany. (Telegrams: "Schuckert, Mannheim.")

Rheinische Westfälisches Elektrizitätswerke A.-G., Essen, Germany.

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Riccomanni & Socini, electric light contractors, Siena, Italy.

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Richard, J., electrical manufacturing engineer, 25, rue Mélingue, Paris.
Richard, Radisson, & Cie., electricians, gold & silver refiners, 7, rue de la Préfecture, Lyon, France.
Richermoz, Hippolyte, bronze fittings, 74 & 76, rue Amelot, Paris.
Richez, —, electric bells, 54, rue du Pont-neuf, Brussels.
Richez & Co., consulting electricians & patent agents, rue Pont-Neuf 64, Brussels.
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Richter, Gustav, maker of porcelain insulators for telegraph purposes, Charlottenburg, bei Berlin. (Telegrams: "Isolatorrichter, Charlottenburg." Telephone No. 115.)
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Richter, Dr. Weil, & Co., electrical engineers, Frankfort-on-Main.
Ricker, —, publisher of electrical & scientific books, Newsky prosp. 14, St. Petersburg. (Teleph. No. 776.)
Rickler, Enrico, iron gauze manufacturer, corso Palestro 8, Turin, Italy.
Rickmann, Dr. R., electrical engineer & manufacturer, Cologne.
Rickmann, Dr., & Rappe, chemical manufacturers, Kalk, bei Cologne, Germany. (Telegrams: "Rickmann, Kalk." Telephone No. 61.)
Ricquier, Georges, electrical engineer, 75, avenue Marinville, Parc St. Maur (Seine), France.
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Riebe, Söhne, Wilh., electrical sundries, 185 & 186, Breiteweg, Magdeburg.
Riecke, Prof. Eduard, electrician, The University, Göttingen, Germany.
Ried Electricitätswerk, Ried, Austria.
Riedel, Jos., lamp shades for electric light, Polaun, Bohemia.
Riedinger, L. A., electro-bronzers, Augsburg, Bayern, Germany. (Telegrams: "Riedingerfabrik, Augsburg." Telephone Nos. 25, 739 & 740.)
Rieter, Joh. Jacob (Société Anonyme ci-devant), installations & machines for electric light, via Monte di Pietà 24, Milan, Italy.
Riga Electric Tramways Act. Ges., 31, Alexanderstr., Riga, Russia. (Telegrams: "Tramway, Riga." Telephone No. 1338.)
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Rigaux, Ch., constructing electrician, rue Destouvelles 34, Brussels.
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Righini & Finetti, electrical apparatus manufacturers, via Ospedale 14, Milan.
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Rigonnaux, P., gas & electricity, 35, rue de la Bourse, Lyon (Rhône), France.
Rigual, P., artistic bronze fittings for electric light, 13, rue des Arquebusiers, Paris.
Rijn Willem van, agency for electric lighting apparatus & fittings, cables & wires, 181, Keizersgracht, Amsterdam. (Telegrams: "Wilvanryn, Amsterdam." Telephone No. 2621.)
Rikli-Kehlstadt, H., electrical engineer, Seebach, Switzerland.
Riley & Co., electrical engineers & contractors, San Bernardo 7, Madrid. (Telegrams: "Riley, Madrid.")
Rinaldi, Marco, dealer in electrical supplies, Spezia, Italy.
Rindskopf's, Josef, Söhne, glass & crystal goods for electric lighting, Teplitz, Bohemia. (Teleph. No. 337.)
Ringer, — v., director-general of posts & telegraphs, Munich.
Ringsdorff, P., manufacturer of dynamo brushes. Specialities: brushes of metal or metal-carbon or carbon, Essen a. d. R., Germany. (Telegs.: "Ringsdorff, Essenruhr." W.U. Code. Teleph. No. 258.)
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Risacher & Hebert, electrical apparatus, 58, boul. Pasteur, Paris. (Teleph. No. 708–25.)
Risse & Schöneberg, electric wire makers, Iserlohn, Germany.
Risso, D., electric light fitter, 51R, via S. Sebastiano, Genoa.
Ritter, Franz, telephones & telegraph maker, Sebastianstr. 4, Berlin, S.
Ritter & Uhlmann, electric light, Clarastr., Basle.
Rittershaus & Blecher, wire & cable machinery mfrs., Barmen, Germany. (Teleph. Nos. 59 & 514.)
Ritz, A., wood turners for electrical purposes, 34, rue Godefroy-Cavaignac, Paris.
Rivière, A., battery jar manufacturer, 36, rue de la Roquette, Paris, France.
Rivière & Baelde, electrical engineers, Libourne (Gironde), France.
Rivista Scientifico-Industriale (twice a month; ann. sub., 9*s.* 6*d.*), Lungarno Zecca 2, Florence, Italy.
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Robert, P., electrical engineer, 23, rue Faidherbe, Tourcoing (Nord), France.
Robert Frères, electrical engineers, Cambrai (Nord), France. (Telephone No. 80.)
Robertson, Davy, electric light engineer & contractor, & oil engine works, Gothenburg, Sweden. (Telegrams: "Davy, Gothenburg.")
Robinson & Co., dynamo & motor manufacturers, 3, chaussée de Turnhout, Borgerhout, Antwerp. Works: 62, rue des Agneaux, Antwerp.
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Röder & Grube, electrical engineers, Kirchrode, nr. Hanover. (Telegrams: "Grube, Kirchrode." Telephone No. 4000.)
Rodet, screws & detached accessories manufacturers, 26, passage d'Angoulême, Paris.
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Roffo & Cie., lubricator makers, 8, place Voltaire, Paris. (Telephone No. 900-30.)
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Roger, H., electric light apparatus, 168, rue St. Maur, Paris. (Teleph. No. 938-67.)
Roger, Marcel, electrician, 12, rue Urbain IV., Troyes (Aube), France.
Rogers, R., & Co., engineers (agents exclusive, Westinghouse High-Speed Machine Company (of Pittsburgh, U.S.A.) for France, Belgium & Italy), 1, rue St. George, Paris. (Telegrams: "Rogwest, Paris.")
Rogier, Smagghe & Co., electrical engineers, incandescent lamp manufacturers, Breda, Holland. (Telephone No. 159.)
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Romier & Bouladon, electricians, 42, rue d'Arcole, St. Etienne, France.
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Rondet, M., maker of electric cranes, &c., 25, rue du Banquier, Paris.
Ronneaux, jeune, maker of globes for electric lighting, 7, rue Daval, Paris.
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Röntgen, Prof. W. C., professor of physics, The University of Munich. (Telephone No. 4212.)
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Rörstrands, Aktiebolag, maker of stoneware insulators & battery jars, Körstrandsg. 10, Stockholm, Sweden.
Rosa, Ernest, general & electrical engineer, rue Van Schoonbeke 64, Antwerp, Belgium.
Rosa, Prof. V., electric light contractor, via Schiarini, Alessandria.
Rosada, G., & Co., electric light contractors, Treviso & Venice.
Rosati, Ferdinando, maker of electric bells, annunciators, &c., via del Gambero 16, Rome, Italy.
Rösch, Aug., installation contractor, Kranichstr. 27, Nordhausen, Germany. (Teleph. No. 142.)
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Rosenbaum, J., dry cells, &c., Friedrichstr. 16, Berlin, S.W.
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Ross & Kühne, electrical agents, Cologne.
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Rossi, G. di G., & Ing. Ed. Schmidt, electric light installers, speciality: ship lighting, via St. Luca 1, Genoa. (Telegrams: "Rossi Schmidt, Genoa." Telephone No. 320. A.B.C. Code.)
Rossignol, E., clockwork fittings for electricians, avenue Parmentier 29, Paris.
Rössler & Baumbach, engineers & patent agents, Neue Mainzerstrasse 71, Frankfurt-a.-Main. (Telephone No. 1475.)
Rost, H., & Co., insulating material (gutta-percha) manufacturers, Alter Wall 62, Hamburg; & Harburg, Germany. (Telegrams: "Rostico, Hamburg." Telephone Nos.: Harburg 4, Hamburg I., 936.)
Rost, Rud. & Aug., electrical instrument makers, 7, Märzstrasse, Vienna, XV.
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Rothe & Luft, electrical engineers, Mannheim, Germany. (Telephone No. 1655.)
Rothert, Alexander, A.M.I.E.E., Cie. Centrale d'Electricité, Moscow.
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Rouart, Alexis, electrician, 34, rue de Lisbonne, Paris.
Roubeaud, —, electrician, 209, ave. de Neuilly, Neuilly-sur-Seine (Seine), France.
Rouchaud & Cie., constructors, 11, rue du Petit Tour, Limoges, France.
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Rouget, Paul, electrician & assistant manager, Cie. Continentale des Compteurs, 9, rue Pétrelle, Paris.
Rougier fils, electrician, 5, boul. Louis Blanc, Limoges, France.
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Rouschmeyer, G., carbons for batteries, quai Jemmapes 176, Paris.
Roussakoff, S., electrical engineer, Bolschaya Loubianka, Moscow.
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Rousseau, E., electrician, professor of physics at Brussels University, 20, rue Vautier, Brussels.
Rousseau & Cie., electricians, 93, rue de Provence, Paris.
Rousselle & Tournaire, manufacturing electricians, 52, rue de Dunkerque, Paris.
Roussilhe, Marie Louis, electrician, Castelnaudary, Aude, France.
Routin, J. L., consulting engineer, expert to the Tribunaux of Lyon, 15, rue Emile Zola, Lyon (Rhône), France. (Telephone No. 18.89.)

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Rouvroy, Ed., electric light installations, rue Catalogue 1bis, Ghent. (Teleph. No. 1290.)
Roux, Edmond, electrical engineer & chemist, 59, rue de Nièvre, Nevers (Nièvre), France.
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Roux, Combaluzier et Cie., makers of electric & hydraulic lifts, 22, rue de Passy, Paris.
Roux & Viarengo, technical publishers, Piazzi Solferino 20, Turin, Italy.
Rowe, W. G., superintendent Direct Spanish Telegraph Co., Ltd., Marseilles.
Rowland Telegraphic Co., 39, boul. Haussmann, Paris.
Royal Telegraph Works & Telephone Bureau (manager, Alb. Alström), Gothenburg, Sweden.
Roycourt, magneto & electrostatic machines, 69, ave. d'Orléans, Paris.
Royer, A., manufacturer of electric light fittings, 29, boul. des Capucines, Paris.
Royer Fils, L., electricians, Jarnac, Charente, France.
Royer & Joly, turbines, Epinal, Vosges, France.
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Rudén, E. G., manufacturer of electrical instruments, Vasagatan 9, Stockholm.
Ruelle, H., chemical manufacturer, 38, rue de Sévigné, Paris. (Telephone No. 144–22.)
Ruhstrat Gebrüder, electro-medical & electric resistance & measuring apparatus maker, Göttingen, Germany.
Ruiz, Sebastian, electrical sundriesman, Luis Mitjans 2, Madrid.
Ruiz Falcó, Juan, (S. en C.) constructing electrical engineers, Madrid. Office: Los Madrazo 14. Works: Costanilla San Andrés 7. (Telegrams: "Falcó, Madrid." Telephone Nos. 255 & 259.)
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Ruoff, F., & Delafon, manufacturers of telephones, 16, rue Popincourt, Paris, XIe. (Teleph. No. 925–11.)
Ruozi & Camellini, electric light contractors to the town, via Emman. a S. Pietro, Reggio Emilia, Italy.
Rupp, Dr. H., chief electrician, Brown, Boveri & Co., Baden, Switzerland.
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Ruspini, Giovanni, scientific apparatus dealer, via Carlo Felice 66, Genoa, Italy.
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Russian Tudor Accumulator Co., Gorochowaja 5, St. Petersburg. (Telegs.: "Akumulator, Petersburg." Teleph. No. 3066.)
Russiche Elektrotechnische Werke Siemens & Halske Aktien Gesellschaft, St. Petersburg. (Teleph. No. 20727.)
Russische Gesellschaft Schuckert & Co., electrical plant contractors, 25, Ekaterine Canal, St. Petersburg (Telegs.: "Schuckert, Petersburg." Teleph. No. 2900); & Moscow, Kieff, Riga & Tiflis.
Rust, —, electric light contractor, 15, rue d'Aboukir, Paris.
Ruthen, Wilh. aus den, electrical contractor, Fedelhören 34, Bremen, Germany. (Telegs.: "Ausdenruthen, Bremen." Teleph. No. 3521.)
Rylander & Rudolph, speciality: carbon brushes for dynamos, Henriksborg pr., Stockholm, Sweden.
Rychnowski, Franç, dynamo & electric machine manufacturer, 15, Platz Chorozernyzna, Lemberg, Austria.

Saacke, A. C., exporter & importer of minerals & chemicals for batteries, Hamburg, Germany.
Saarbrücker Elektrizitäts Aktien Ges., St. Johann-a-S., Germany. (Telegrams: "Dynamo, St. Johann-a-S." Telephone No. 72.)
Sabater, Salvador, agent Eastern Telegraph Co., 5, Calle del Pez, Madrid.
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Sachsenwerk, Licht-und Kraft Aktiengesellschaft, dynamo & electric motor makers, Niedersedlitz bei Dresden. (Telegs.: "Sachsenwerk, Niedersedlitz." (Teleph. Amt. Niedersedlitz No. 939,949.)
Sächsische Baugesellschaft für Elektrische Anlagen m. b. H., electric light plants, Laugesstr. 6, Leipzig. (Telegs.: "Sbea, Leipzig." Teleph. No. 4045.)

Sächsische Serpentinstein Gesellschaft zu Zoblitz G. m. b. H., manufacturers of insulators, Zöblitz (Erzgebirge), Saxony.
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Sack, Daniel, & Cie., electrical instrument manufacturers, 55, rue Legendre, Paris. (Telephone No. 503–52.)
Sack & Kiesselbach, Maschinenfabrik G. m. b. H., Rath, bei Düsseldorf.
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Sacré, Edm., electric light & bell apparatus, 56, chaussée de Wavre, Brussels.
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Salih Zéky Bey, telegraph engineer, Pera, & director of the Observatoire Imperial Météorologique et Seismique, Constantinople.
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Salmoiraghi, Stucchi & Co., makers of searchlights & projectors, via St. Siro 9, Milan.
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Salmson, E., & Co., high speed steam engines (agent for E. S. Hindley & Sons), 55, rue de la Grange aux Belles, Paris. (Teleph. No. 417–61.)
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Salvatori, Le Commandeur Fedele, M.I.E.E., Villa Cercola, Capri, Italy.
Salviati & Co., electrical apparatus & glass manufacturers for chandeliers, Venice.
Salzburger Electrizitätswerke, electrical engineers, Salzburg, Austria. (Telephone No. 152.)
Salzer & Thie, electrical engineers, Neubaugasse 57, Vienna VII., Austria. (Telephone No. 6471.)
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Salzmann, Dr. F., electrician, manager Società Generale per la Cianamide, Rome.
Samain et Cie., electric lifts, rue Saint Amand 12, Paris. (Telephone No. 712–62.)
Samson, fittings for electric light, 7, rue Béranger, Paris. Branch: 30, avenue de l'Opéra, Paris. (Telephone No. 100–1.)
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Sander, W., electric light installations, Zurich, V.
Sandick, R. A. van, general secretary to the Royal Institution of Netherland Engineers, & editor of *De Ingenieur*, The Hague, Holland. (Telephone Nos. 2170 & 1581.)
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Santerne, G., fils, mouldings, casings, &c., 55, rue Rennequin, Paris. (Telephone No. 502–04.) Works: 12, quai de Seine, Courbevoie (Seine), France.
Santoro, Ing., Impresa Illuminazione Elettrica, Salerno.
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Sara, Ed., & Co., electrical installations, via Polacchi, Palermo, Italy.

Sarasola, Juan M., slates free from metallic veins for electrical purposes, Isasondo, Guipuzcoa, Spain. (Telegs.: "Sarasola, Villafranca (Guipuzcoa).")

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Sasso Fratelli, lead & tin, sheet & tube manufacturers, San Pier d'Arena, Italy.

Sassot, —, electrician, 5, rue de Provence, Paris.

Sauce, E. de la, & Kloss, makers of electric lifts, Herzbergstr. 140A, Lichtenberg bei Berlin.

Sauerbrey & Kostorz, telegraph & electric light apparatus manufacturers, Polierstr. 21, Dresden, A. (Telephone No. 4245.)

Sauermann & Co. G. m. b. H., electric light engineers, Kochstr. 3, Berlin, S.W.

Saulnier, A., electrical contractors, 81, rue du Cherche Midi, Paris. (Teleph. No. 702–60.)

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Sautter, Harlé et Cie., electrical & mechanical engineers, 26, ave. de Suffren, Paris. (Telegs.: "Sautter Harlé, Paris." Teleph. No. 711–55.)

Sauvage, F., wood turner for electrical purposes, rue de l'Harmonie 4, Brussels.

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Savelieff, W., & Co., electrical apparatus makers & dealers, Ekaterinen canal, 164, St. Petersburg, Russia. (Teleph. No. 1740.)

Savitzky, N. N., electric station, Poltava, Russia.

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Schächter, A., electrical apparatus, Nykjöbing, Falster, Denmark.

Schachwerdoff, Nicétas, practical electrician, Simpheropol, Russia.

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Schaefer, C. A., electrical engineer, Raschplatz, Hanover. (Teleph. No. 1984.)

Schaefer & Hauschner, electrolier manufacturers, 233, Friedrichstrasse, Berlin, S.W.

Schæfer & Montanus, electric alarms, burglar, fire, safe, ship, &c., 12, Hammelsgasse, Frankfort-on-the-Main, Germany. (Telephone Nos. 285 & 6005.)

Schaeffer, Aug., all kinds of electrical installations, Moselstr. 40, Frankfort-a.-M. (Telephone No. 2230); & Saalgasse 1, Wiesbaden. (Telephone No. 2729.)

Schæffer, Louis, electrical & heating & ventilating engineer, 54, place de Meir. Works: rue Rudolph 46–48, Antwerp.

Schaeffer & Budenberg, speed counters & registering apparatus makers, 105, boul. Richard Lenoir, Paris; & rue Grétry, Liége.

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Schäfer, C., exporter & importer of electrical & telegraph apparatus, 11, Schweizergasse, Zurich I. (Telegrams: "Sulzero, Zurich." Telephone No. 60.)

Schäfer, Rud., jun., light, telegraph & telephone contractor, Sandstr. 2, Nordhausen, Germany.

Schaffhausen Strassenbahn, Schaffhausen, Switzerland. H. Geiser, director.

Schäffler, O., electric appliance maker, VII. Payerlgasse 12–14, Vienna. (Teleph. No. 5277.)

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Schanzenbach, G., & Co. (Kom. Ges.), electrical apparatus manufacturers, Bockenheim, Frankfort-on-Main.

Schappel, Jacob, glass globe manufacturers, Schillerstr. 28, Frankfort a/M., Germany.

Scharrer, E., & Co., battery makers, Bernburgestr. 31, Berlin, S.W. 11.

Scharrer & Gross, steam engine & boiler makers, Nürnberg.

Schauer, Emil, electrical apparatus, Bernardgasse 26, Vienna VII. (Teleph. No. 3158.)

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Scheibe, R., & Söhne, electrical supplies, 15, Hohestr., Leipzig (Teleph. Nos. 3183 & 13329); & 41, Bahnhofstr., Erfurt. (Teleph. No. 554.)
Scheiber & Kwajsser, electrical engineers, V. Sonnengasse 4, Vienna.
Scheinig & Hoffmann, electric railway apparatus manufacturers, Museumstr. 4, Linz-a.-D., Austria.
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Scherler, Emil, screws & terminals manufacturer, Holzmarktstr. 5, Berlin, O.
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Schiefelbusch, A. J. W., electrical installations, Arnhem & Breda, Holland.
Schiemann, Max, & Co. *See* Ges. F. Gleislose Bahnen.
Schierbeck, Emil. Guill°, electrical engineer & installation contractor, 287, Aragon, Barcelona. (Telegrams: "Schierbeck, Barcelona." Telephone No. 1405.)
Schierloh & Knüppel, electrical apparatus manufacturers, 75, Rödingsmarkt, Hamburg.
Schiersteiner, Metallwerk (G. m. b. H.), electricity meter makers, Schwerinstr. 3, Berlin, W. 30. (Teleph. Amt. 6 No. 8501.)
Schiff & Co., manufacturers of arc lamp carbons, carbon blocks for carbide of calcium & electrolytical processes, also carbon brushes, Schwechat, nr. Vienna. (Telegs.: "Schiff, Schwechat." Teleph. No. Simmering, 38.) Sole agents: H. G. Mayer & Co., 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." Teleph. No. 12367, Central.)
Schiller, P., installation contractor, Hannover am Marstalt.
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Schimpfermann, H., & Co., electric light engineers, Gerichtsweg 16, Leipzig.
Schlaepfer, Ed., & Co., electric light installers, Zurich II.
Schlag & Berend, telegraph & lightning conductors, 34, Alexanderstr., Berlin, C.
Schlatter, F. W., installer of electric lights, Zurich I.
Schlatter, Prof. A., chief electrician at "Magyar Vill. R. T.," V. Vaczi út 72, Budapest.
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Schlesinger, Aurel, electric supplies, 10, Zietenstr., Berlin, W.
Schlesische Elektricitäts und Gas Actien Gesellschaft, Breslau, Germany. Works: Gleiwitz; Beuthen; Kattowitz; Chorzow; & Zaborze.
Schlettstadt i. Els., electric light works of the town, Schlettstadt i. Els, Germany.
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Schmahl & Schulz, electric light fittings manufacturers, Barmen, Germany. (Teleph. No. 177.)
Schmaltz, M. F., electrical agent, Huseter 9, Hamburg. (Telephone No. IA. 207.)
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Schmid, Albert, M.AM.I.E.E., director Société Anonyme Westinghouse, Le Havre, France.
Schmidmer, Dr., & Co., manufacturers of patent wire couplings, Nürnberg. (Telegrams: "Drahtbund, Nürnberg.")
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Schmidt, Fritz, agent for electric cables, &c., Stockholm. (Telegrams: "Copper, Stockholm.")
Schmidt, J. Albert, maker of tools & tool-knives for electricians, Solingen, Germany. (Telegrams: "Brillant, Solingen.")
Schmidt, Robert R., patent agent, Königgratzerstr. 70, Berlin, S.W. (Telegrams: "Patentschmidt, Berlin.")
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Schmidt, Anton, & Sohn, insulating materials, Düsseldorf.
Schmidt, B., Maschinenfabrik, Lützner str. 2, Halle-a-S., Germany.
Schmidt & Co., manufacturers of batteries & electric novelties, 82, Chausseestr., Berlin, N.
Schmidt, Georg, & Co., electrical contractors (Maschinenfabrik), Ilmenau, Germany.

Schmidt, J. H., Söhne, makers of electric light apparatus & fittings, Iserlohn, Germany.
Schmidt, Kranz & Co., makers of electric lifts, Nordhausen, Prussia.
Schmidtgen, Emil, telegraph, telephone, wire & cable maker, Winckelmannstr. 11, Dresden, Saxony. (Telephone No. 1575.)
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Schmitz-Jérôme & Co., manufacturers of insulating tubes & dynamo belting, Hanover. (Telegrams: "Jerome, Hanover." Telephone No. 753.)
Schmoulevitsch, K., electrical agent, Moscow.
Schmuck, W., engineer & director Allg. Elek. Ges., Am. Kosthor 2, Munich. (Telephone No. 492.)
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Schneider & Co., manufacturing engineers, dynamos, 42, rue d'Anjou, Paris. (Teleph. No. 157.19.) Works: Creusot & Champagne (Seine-et-Marne), France.
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Schott & Schildorter, electric light fittings makers, 13, Leitha-str., Vienna XX.
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Schröder, Smidt & Co., electrical engineers & agents, Bremen.
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Schubbert, Paul, engineer, Leerbachstr. 62, Frankfurt-a.-M. (Telegrams: "Schubbert, Frankfurtmain." Telephone No. 4851.)
Schuch, Adolf, electric watertight fittings, Worms-a-Rh., Germany.
Schuch, Julius (late Schuch & Wiegel), telegraph apparatus maker, Holzmarktstr. 34, Berlin, O.
Schuchard, J. O., machinery exporter, Barmen, Germany. (Teleph. No. 752.)
Schuchhardt, F., manufacturer of telegraph instruments, 9, Rungestrasse, Berlin, S.O.
Schuhler, Paul André, engineer, Cie. Continentale Edison, 7, avenue Trudaine, Paris.
Schuleit, G., supplies for telephones, Bethanien Ufer 8, Berlin, S.O.
Schüler, W., & Co., fans, converters, Waldemarstr. 27, Berlin, S.O. 26. (Teleph. Amt. 4 No. 5039.)
Schulmeister, Louis, electro-medical apparatus manufacturer, 5, Spitalgasse IX./2, Vienna. (Telephone No. 16085.)
Schultz, Chr., manager, Slagelse Elektricitetswerk, Slagelse, Denmark.
Schultz, Dr. G., professor of technical chemistry, Kgl.-Techn. Hochschule, Munich. (Teleph. No. 6505.)
Schultz, Giorgio, electrical engineer, via Arsenale 21, Turin.
Schultze, Wilhelm, maker of mica goods for electrical purposes, Admiralstr. 36, Berlin, S.O. (Telephone No. IV. 415.)
Schulvater, M., electrical engineer, 91, Gitschinerstr., Berlin, S.W. 61.
Schulz, C., electrical apparatus dealer, 10, Kamekestr., Cologne.
Schulz, O. R., patent agent, Hedemannstr. 5, Berlin, S.W. 11.
Schulze, F. F. A., reflector maker, 47, Fehrbellinerstr., Berlin, N. (Telegrams: "Beleuchtung, Berlin." Telephone Amt. III. Nos. 1265 & 3778.)

Schulze, A., & Eicke, electrical engineers, Oranienstr. 3, Magdeburg. (Teleph. No. 3503.)
Schuman, F., electrical engineer, & agent for Messrs. Crompton & Co., Ltd., Walkendorffsgade 12, Bergen, Norway. (Telegrams: "Electric, Bergen.")
Schumann, Friedrich, electrical engineer & apparatus dealer, 25, Ungargasse, Vienna III.
Schumann's Elektrizitätswerk, electricians, dynamo & motor manufacturers, &c., Leipzig, Plagwitz, Germany. (Telegrams: "Energie, Leipzig." Telephone No. 5430.)
Schuster & Baer, Akt. Ges., electric light fittings, Prinzessinnenstr. 18, Berlin, S. (Telegs.: "Lampenaktien, Berlin.")
Schütz, C. W., electric light engineer & contractor, 22, Rathausstr., Hamburg.
Schwaan, Ernst, & Zimmermann, manufacturing electricians, 5, Grüner Weg, Berlin, O. 27.
Schwabe, Otto, electrical engineer, 8, Rosenthalerstrasse, Berlin, C. (Telephone Amt. III. 6119.)
Schwabe & Co., manufacturing electricians, electrical outfits for theatres, &c., 55, Wallstr., Berlin, S.
Schwabe, Franz, & Co., pushes, wood cases for bells, indicators, &c., Langewiesen i/Thür., Germany.
Schwade, Otto, & Co., electric pump makers, Erfurt, Germany. (Telegrams: "Automat, Erfurt." Telephone No. 289.)
Schwarberg, E. G., electrical engineer & manager, Compagnie Electro-Mécanique, Le Bourget (Seine), France. (Teleph. No. 24.)
Schwarz, August, arc lamp manufacturer, Ziegelhüttenweg 39, Frankfort-on-the-Main. (Telegrams: "Bogenlampe, Frankfortmain." Telephone No. 3586.)
Schwarz, J. von, insulator manufacturer, Nürnberg-Ostbahnhof.
Schwarz, R., dynamo & motor manufacturer, 41, Reisnerstr., Vienna III. (Teleph. No. 2044.)
Schwarz, Hans & Co., machine tools, Konradstr. 62, Zürich, Switzerland. (Telegs.: "Schwarzhans, Zurich." Teleph. No. 3564.)
Schweder, G., engineer, Woskresensky 13, St. Petersburg, Russia.
Schweiz Glühlampenfabrik A. G., makers of electric incandescent lamps, Zug, Switzerland. (Telegrams: "Gluhlampen, Zug.")
Schweizerische Akkumulatorenwerke Tribelhorn A.-G., Olten, Switzerland.
Schweizerische Bindfadenfabrik Schaffhausen, electric transmission of power, Flurlingen, Schaffhausen. (Telegs.: "Bindfadenfabrik, Flurlingen.")
Schweizerische Blätter für Elektrotechnik. See *Révue de l'Électricité.*
Schweizerische Druckluft & Elektricitäts-Gesellschaft, manufacturing electrical engineers, 18, Amthausgasse, Berne, Switzerland.
Schweizerische Elektrotechnische Zeitschrift (monthly; ann. sub., 12 frs.), 72, Stampfenbachstr., Zurich IV. S. Herzog, editor.
Schweizerische Gesellschaft für Elektrische Industrie, 96, Freiestr., Basel, Switzerland.
Schweizerische Gesellschaft für Elektochemische Industrie, Bern, Switzerland.
Schweiz. Isola-Werke Act. Ges. Breitenbach, manufacturers of micanite & moulded pieces, Breitenbach b. Basel, Switzerland.
Schweizerischer Elektrotechnischer Verein, technical inspectors, Zurich III., Switzerland. (Telegrams: "Starkstrom, Zurich.") (Chief engineers, H. Vaterlaus, A. Filliol & Vatrat.)
Schwieger, Heinrich, director Siemens-Schuckert-Werke G. m. b. H. & Siemens & Halske A.-G., Askanischer Platz 3, Berlin.
Schwintzer & Gräff, makers of electroliers, 18, Sebastianstr., Berlin, S.
Sciama, Gaston, director Maison Bréguet, 19, rue Didot, Paris.
Science illustrée, La (weekly; price 25 centimes), 8, rue St. Joseph, Paris.
Sckeyde, Julius, electrical supplies, Ohlauerstr. 21, Breslau, Germany.
Scola, Fratelli, electric light engineer & contractor, Vercurago, nr. Lecco, Italy.
Scuola di Arti e Mestieri, electro-technical section, Siena, Italy.
Seaux-Damman, electric bells, Roulers, Belgium.
Secteur Electrique de Chaumes, electrical works, Chaumes (Seine-et-Marne), France.
Sedlmayr, Andreas, engineers' tool manufacturer, 20, Unteranger, München, Germany. (Telegrams: "Andreas Sedlmayr, München." Telephone No. 745.)
Sednik, Eugen, manager, Städt. Elektrizitäts-werks, Weipert, Bohemia.
Sée, E. & A., engineers, 15, rue d'Amiens, Lille (Nord), France. (Telegrams: "Sée, 15, Amiens, Lille." Telephone No. 304.)
Seefeldt, Adolph, & Co., arc lamps, &c., Neue Schönhauserstr. 11, Berlin, C.
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Seeligmann, Eugene, electrical apparatus maker, 2, rue des Pétites Écuries, Paris; & Cologne.
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Ségrétier, E., managing director Cie. des Accumulateurs Elec. Blot, 32 bis, rue de Châteaudun, Paris.
Séguin, Léon, directeur de la Société d'Eclairage par le Gaz et par l'Electricité, Mans (Sarthe), France.
Seidl, Willy, Schiff & Co., Schwechat, electric carbons, Walfischg. 4 & I. Maxmilianstr. 3, Vienna I. (Telegs.: "Ship Carbons." Teleph. No. 8736.)
Seidel, C., electrical engineer, manager, Gebr. Körting Electricität. G. m. b. H., Dorotheenstr. 43 & 44, Berlin, N.W.

Seidelmann & Co., accumulator makers, 9 & 10, Ritterstr., Berlin, S. 42.
Seidener, Joseph, general secretary of the Elektrotechnischer Verein, I. Nibelungegasse 7, & editor of *Zeitschrift Elektrotechnik und Maschinenbau*, Vienna.
Seifert, W. R., medical apparatus manufacturer, Neuegasse 20, Dresden. (Telephone No. 6173.)
Seifert, K. M., & Co., bronzeware, electrical engineers, Chemnitzerstr. 28, Dresden, A. (Teleph. No. 1208.)
Seifert, Rich., & Co., installation contractors & makers of electrical apparatus, Behnstr., Hamburg. (Telephone 322 & 333; office IV.)
Seigneurie, detached accessories, 50, rue d'Angoulême, Paris. (Telephone No. 939-01.)
Seiler Frères, electrical engineers, 17, rue Martel, Paris. (Teleph. No. 258-56.)
Selbstschalter (Gustav Pinoff), electric apparatus, Friedrichstr. 16, Berlin, S.W. 48. (Telephone IV. No. 9216.)
Sellari, Andrea, electric light contractor, corso Carlo Alberto, Grosseto, Italy.
Sellick, S. S., electrical engineer, Allgemeine Elektricitäts Ges., Foreign Dept., Berlin, Germany.
Selve Fratelli, electric wire manufacturers, Donnaz (Valle Aosta), Italy.
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Semmler & Ahnert, accumulator makers, Regis bei Leipzig.
Semů, Jacob, electric light contractor, Belgrade.
Senator, Severin, electrical engineer & contractor, Neue Winterfeldtstr. 17, Berlin, W. (Telegrams: "Severin Senator, Berlin." Telephone No. 1057, Amt. VI.)
Sendtner, Michel, electric alarms, burglar, fire, &c., 22, Schillerstr., Munich, Germany.
Senftleben Gebr., medical electricians, 53, Waldemarstr., Berlin, S.O. 26. (Telephone No. Amt. IV. 8253.)
Sengel, A., professor of electrical engineering at the Technischen Hochschule, Darmstadt, Germany.
Sensenschmidt, Max, electrical apparatus, 44, Taunustr., Frankfort-a.-M.
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Seppo Teknisk Byrå, dealers in electrical supplies, 48, Kaserngatan, Helsingfors, Russia.
Serafini, A., & Figli, electrical instrument makers, via Vitt. Emmanuele 7, Bergamo, Italy.
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Serres, Jean, telegraph engineer, Mont-de-Marsan, Landes.
Serrin, Henri, M.I.E.E., electrical apparatus maker, Neuilly-en-Thelle (Oise); et 13, boul. du Temple, Paris. (Teleph. No. 254-38.)
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Service d'Electricité de la Commune de Boudry, Canton de Neuchatel, Switzerland. Director, E. E. Girard.
Service d'Electricité de la Commune de Landeron, Canton de Neuchatel, Switzerland.
Service d'Electricité de la Commune de St. Blaise, Canton de Neuchatel, Switzerland.
Service des Travaux, Antwerp Electric Tramways, 100, rue du Grand Chien, Zurenborg, Antwerp, Belgium.
Service Electrique de la Commune de St. Imier, Jura Bernois, Switzerland. (Telegrams: "Electricité, St. Imier (Suisse).")
Services de l'Electricité de la Ville de Lausanne (A. de Montollin, chief engineer), Lausanne. (Telegs.: "Service Electricité, Lausanne." Teleph. No. 794.)
Services Industriels, light & power, Chaux-de-Fonds, Switzerland. Director, H. Mathys; chief electrician, Ch. Amez-Droz.
Services Industriels (Eau, Gaz, Electricité), electric light & power central station (director, P. de Meuron; electrical engineer, L. Martenet), Hôtel de Ville, Neuchatel, Switzerland. (Telegrams: "Eau, Neuchatel.")
Services Industriels de la Ville de Genève, water, gas & electricity, Geneva, Switzerland.
Servus, Prof. Dr. H., electrician & privat docent, Technische Hochschule, 9, Spandauerstr., Charlottenburg, Berlin.
Sesia, Carlo, electric bell maker & dealer, via Bellezia 3, Turin, Italy. (Telephone No. 1356.)
Sevastianoff, M., Director-General of Posts & Telegraphs of Russia, St. Petersburg.
Séverin, —, electrician, La Louvière, Belgium.
Seyfarth, C. H., & Co., insulating material manufacturers, Altona, Germany. (Telegs.: "Kautschuckin Fabrik, Altona a/d E." Teleph. No. 501.)
Seyffert, —, electrical engineer, Waldenburg-i-Schl, Germany.
Seyfried, F., Watch Factory, anti-magnetic watches, Nürnberg.
Seypel & Cie., glassware for electric light fixtures, &c., rue Gaucheret 84, Brussels.

Shephard, T. F., electrical engineer, Ekaterinodar Krasnid, Dom Nasaroffa, South Russia.
Sidot, A., electrician, 12 & 14, rue Bridaine, Paris. (Telephone No. 505-02.)
Sieber, Dr. B., chemical manufacturer, Attisholz, Solothurn, Switzerland.
Siebert, G., refiner, smelter & manufacturer of platinum, Hanau-on-the-Main, Germany. (Telegrams: "Platina, Hanau." Telephone No. 48.)
Siecke & Schultz, steel for magnets, Oranienstr. 120, Berlin, S.W.
Siedle, S., & Söhne, telegraph & telephone manufacturers, Furtwangen, Badischer-Schwarzwald, Germany.
Siedle Söhne, dealers & manufacturers in electrical supplies, Hamburg, Germany. (Telephone Amt. I. No. 7196.)
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Siegel, Feodor (engineer), maker of steam engines & boilers, Schönebeck a Elbe, Germany.
Sieger, F., electric bells, Hohenstaufenstr. 21, Frankfort-a.-M.
Siemens, Arnold von, M.I.E.E., Wernerwerk, Askanischer Platz 3, Berlin, S.W. 11. Local hon. secretary & treasurer of the Institution of Electrical Engineers.
Siemens, Friedrich, maker of glass globes, &c., for electric lighting, IX. Alserstr. 20, Vienna. (Teleph. No. 16104.)
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Siemens Electrische Betriebe Berlin, calle de la Purificacion 2, Malaga, Spain.
Siemens Elektrische Betriebe Aktiengesellschaft, Askanischer Platz 3, Berlin. (Telegrams: "Fiatlux, Berlin." Telephone No. 4885, Amt. VI.)
Siemens, Gebrüder & Co., manufacturers of carbon rods, plates, &c., Salzufer 2 & 3, Charlottenburg, Germany.
Siemens & Halske Aktien Gesellschaft, electrical engineers, &c., Askanischer Platz 3, Berlin, S.W. (Telegrams: "Werneriat, Berlin." Telephone No. 4402, Amt. VI.); III. Apostelgasse 12 & 14, Vienna (Telegrams: "Wernerwerk, Vienna." Telephone No. 1793); Niddastr. 76, Frankfurt-a.-M.; via Rizzoli, Bologna, Italy; & Technisches Bureau in Karlsruhe, Baden.
Siemens & Halske Teknisk Byra, electrical engineers, 5, Mikaelogatan, Helsingfors, Finland.
Siemens-Schuckert, Huertas 11, Madrid.
Siemens-Schuckert Dansk Aktieselskab, Palaisgade 6, Copenhagen.
Siemens-Schuckert Norsk Aktieselskab, electrical engineers & importers of electrical appliances, Kirkegd. 20, Christiania, Norway. (Telegs.: "Siemenschuckert, Christiania." Teleph. Nos. 7698 & 2954.)
Siemens-Schuckert Werke, G. m. b. H., electrical engineers, &c., Technisches Bureau, Waisenhausstr. 10/I., Dresden, Germany (Telegrams: "Bureaudyn, Dresden." Telephone Nos. 3274 & 1657); Wilhelmstr. 130, Berlin (Telegrams: "Wernerdyn, Berlin." Telephone Amt. VI. No. 4885); Nürnberg (Telegrams: "Dynamowerk, Nürnberg"); Bingerstr. 2, Mainz; Technisches Bureau, Prannerstr. 15A, Munich (Telephone Nos. 1271, 1272 & 1273); St. Annastr. D. 215, Augsburg (Telegrams: "Bureaudin, Augsburg." Telephone No. 237); Gartenstr. 51, Breslau V., Germany (Telephone No. 1085); Bismarckstr. 4, Posen, Germany (Telephone No. 142); & Niddastr. 86, Frankfurt-a.-M.; & Holzmarkt 12/14, Danzig.
Siempelkamp, G., & Co., electrical engineers, 115, Louisenstr., Crefeld, Germany. (Telegrams: "Siempelkamp, Crefeld." Telephone No. 831.)
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Sierra Hijos de I., telephone engineers & contractors, calle Mayor 20, Madrid.
Siertsema, Dr. L. H., professor at the Technical University, Delft, Holland.
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Silayeff, A., electrical agent, Miasnitzkaya, h. Obidine, Moscow.
Silva, Ing. Angelo, electrical engineer, piazza Garibaldi, Parma.
Simmen, A., electrical sundries manufacturer & dealer, 55, rue Dombasle, Paris.
Simonet & fils, bronze for electrical purposes, 60, rue des Archives, Paris.
Simonetti, Riccardo, civil & electrical engineer, Cagliari, Italy.
Simonis & Co., electrical agents, via S. Eufemia 23, Milan, Italy. (Telegrams: "Simonis, Milan.")
Simundt, F., electric light & power contractor, 106, Lützowstr., Berlin, W. (Teleph. No. 4020, Amt. VI.)
Sinell, Emil, electrical agent, 16 & 17, Lindenstr., Berlin, S.W. 68. (Telegrams: "Sinell, Lindenstr., Berlin.")
Singels, N. J., director Municipal Electrical Service, Waldeck Pyrmortkade 139, The Hague. (Teleph. No. 2614.)
Singer, Felix, engineer & general contractor for electric tracks, 26, Regensburgerstr., Berlin, W.
Singrun Frères, makers of the "Hercules-Progrès" turbine, Epinal (Vosges), France. (Telegrams: "Singrun, Epinal.")
Sinigaglia, S., & Cia., electrical apparatus, via Andrea Doria, N. 8, p. 1°, Turin, Italy.
Sinson St. Albin, A., et Fils, electric light contractors, 27, rue de Dunkerque, Paris.
Sippel, H., telegraph contractor & lightning conductor erector, Schmalestr. 5, Merseburg, Germany.
Sirazac, J. O., electrician, 200, rue Sainte Catherine, Bordeaux (Gironde), France.

Sironi, Giovanni, electric light & power contractor, Treviso, Italy. (Telegrams: "Sironi, Treviso." Telephone No. 71.)
Sirtaine, E., supplier of electrical sundries, rue de la Colline 1-3, Brussels, Belgium.
Siry, Etienne, manager, Compagnie Française pour l'Exploitation des Procédés Thomson-Houston, 31, rue Claude-Vellefaux, Paris.
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Skiens Telephone Co. (Telefonselskab), Skien, Norway. Eugen Abrahamsen, manager.
Skrzyński, Cz., electrical engineer, Wassily ostr. Nicolaevskaya nab. 13, St. Petersburg.
Skvortzoff, S., electrician, A. Krassilschikoff Manufacturing Co., Rodniki, Gouvern. Kostroma, Russia.
Slaby, Dr. A., professor of electricity, Technische Hochschule, 33, Sophienstr., Charlottenburg, Berlin.
Slavinsky, N., *Post & Telegraph Journal*, Potschtamtskaya 7, St. Petersburg.
Sloan & Cie., American turbines of all systems, rue du Louvre 17, Paris. (Teleph. No. 264-06.)
Slobodzinsky, N. N. O., Gare du Chemin de Fer Nicolas, St. Petersburg.
Slücki, M., & Co., electrical engineers & contractors, Belgrade, Servia.
Sluski, M., agent for Ganz & Co., Budapest, Miasnitzkaya, dome Sitova, Moscow, Russia.
Smeeliansky, Vladimir S., A.I.E.E., engineer Chinese Eastern Railway, Viborgskaya Nabereshnaya, 35 Log. 1, St. Petersburg.
Smidt, C., electric light contractor, 14, rue Collège, Namur.
Smirnoff, Alexandre, General Major, electrical engineer, Canal Ekatherine 134, St. Petersburg, Russia. (Teleph. No. 733.)
Smirnoff, N. W., engineer & electric light contractor, Wasiliewsky ostrow. 12 line, 15-17, St. Petersburg, Russia. (Teleph. No. 23856.)
Smirnoff, W. A., Engineer of Ways, Perm-Ekaterinenbourg Railway, Ekaterinenbourg, Russia.
Smirnoff Electric Light Co., Vasille Ostroff, 12 linie, No. 17, St. Petersburg.
Smit, W., electrical engineer & managing director, Electrotechnische Industrie, Slikkerveer, Holland.
Smolensk Electric Co., electric lighting contractors, Smolensk, Russia.
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Smulders, A. F., engineer & electric dredges manufacturer, Utrecht, Holland, & Slikkerveer, near Rotterdam.
Snelus, Percy Woodward, A.I.E.E., Konigin Elisabethstr. 2, Berlin-Westend.
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Sociedad Anglo-Española de Motors Gasogenes y Maquinaria General (antes Julius G. Neville & Co.), engineers & electric light contractors, Salon del Prado 14, Madrid; & 11, Plaza de Palacio, Barcelona. (Telegrams: "Anglomotor, Madrid.")
Sociedad Anonima "Alambres del Cadagua," Bilbao.
Sociedad Anonima "Electra Aragon," Tafalla, Navarra, Spain.
Sociedad Anonima Electra de Pamplona, electrical engineers & importers of electrical appliances, Pamplona, Navarra, Spain.
Sociedad Anonima Electra del Besaya, Santander, Spain. (Telegs.: "Belectra, Santander.")
Sociedad Anonima Electra-Recajo, Logroño, Spain.
Sociedad Anonima "Electrica de Vedia," Vedia, Vizcaya, Spain.
Sociedad Anonima Electromotriz Valcarlos, makers of electro-motors, Pamplona, Spain.
Sociedad Anonima Española de Telegrafia y Telefonia sin hilos, makers of wireless telegraph & telephone instruments of the Cervera system in Spain, Martin de los Heros 67, Madrid.
Sociedad Anonima Hidro Electra (Logroño), Najera. Engineer, Juan Oñate.
Sociedad Anonima Instaladora de Alumbrado, Cartagena, Spain.
Sociedad Anonima La Electrica de la Vega de Armijo, de Luz Electrica, Montoro, Cordoba, Spain.
Sociedad Anonima "La Rosa" Tarancon (Cuenca), Spain.
Sociedad Anonima Española del Contador de Energia Electrica "Vatimetro B. y B.," calle Bravo Murillo 26, Madrid, Spain. (Telegrams: "Vatimetro, Madrid." Telephone No. 2356.)
Sociedad de Cables Electricos de Algorta, Algorta, Bilbao, Spain.
Sociedad Electrica Gallega (Laforet y Co.), Vigo, Spain.
Sociedad Electrica, Lerida, Spain. Emilio de la Cuadra, manager.
Sociedad Electrica Moderna de Jerez de la Frontera, Spain.
Sociedad Electrica Vitoriana, Vitoria, Spain. (Telegrams: "Electrica, Vitoria." Telephone No. 61.)
Sociedad Electricista Castellana, Valladolid.
Sociedad Electro Quimica de Flix, electro-chemical factory, Flix, Prov. de Tarragona, & calle Trafalgar 14, Barcelona. (Telegrams: "Electroquimica, Barcelona.")

Sociedad en Comandita Juan Ruiz Falcó. *See* Ruiz Falco, Juan (S. en C.).
Sociedad Española de Electricidad "Alioth," Victoria 2, Madrid.
Sociedad Española del Acumulador "Tudor," 7 & 9, Carrera de San Jerónimo, Madrid. (Telegrams: "Tudor, Madrid.")
Sociedad Franco-Espanola de Trefileria, Cableria Aereos, steel, wire & cable manufacturers, Bilbao, Spain. (Telegrams: "Cables Desierto Erandio, Bilbao." Telephone No. 3122.)
Sociedad Gallega de Electricidad, Argensola 19, Madrid.
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Sociedad General de Coches Automóviles y Tracción Electrica, Zurbano 53, Madrid.
Sociedad General Gallega de Electricidad, Ferrol, Spain. Engineer, A. Aulet.
Sociedad Hidro-Eléctrica, plaza de Villarrasa 2, Valencia.
Sociedad Metalúrgica Duro-Felguera, electric tramway plant manufacturers, Claudio Coello 44, Madrid.
Sociedad Palentina de Electricidad, Palencia.
Sociedad Técnica, electrical apparatus, Cortes 547, Barcelona.
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Società Anonima Bergamasca per distribuzione di Energia Elettrica, Bergamo, Italy.
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Società Anonima Co-operativa Abbadiese per l'Illuminazione Elettrica, Abbadia Alpina (Torino), Italy.
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Società Anonima Co-operativa Lecchese di Elettricità, Lecco, Italy.
Società Anonima Co-operativa per la Illuminazione Elettrica, Perrero, Turin, Italy.
Società Anonima Co-operativa per l'Illuminazione Elettrica, Perosa Argentina, Turin, Italy.
Società Anonima Co-operativa "Unione Elettrica Gardone-Inzino," Gardone Valtrompia, Brescia.
Società Anonima dei Telefoni, telephone contractors, Pordenone (Prov. di Udine), Italy.
Società Anonima dei Tramways di Torino & Società Torinese di Tramways e Ferrovie Economiche, electric tramways & light railways, corso Regina Margherita 114, Turin, Italy. (Telegrams: "Lauchard, Turin." Telephone No. 1069.)
Società Anonima dei Tramways Napoletani, Naples, Italy.
Società Anonima del Tramvie Sorrentine, via Guglielmo Sanfelice 33, Naples.
Società Anonima di Elettricità A. E. G., Genoa, Italy.
Società Anonima di Elettricista Fulgor, incandescent lamp makers, Genoa, Italy.
Società Anonima Dinamite Nobel, chemical manufacturers, Avigliana, nr. Turin.
Società Anonima Elettrica, Murano, Venice, Italy.
Società Anonima Elettricità Alessandrina, Alessandria, Italy. Director, Ing. Fr. Sacco; Administrator, Cav. Ing. E. B. de Visser. (Telegrams: "Elettricità, Alessandria.")
Società Anonima Elettricità Alta Italia, electric light & power contractors, via Arsenale 21, Turin. (Telegrams: "Elettritalia, Turin." Telephone No. 1162.)
Società Anonima Elettricità Umbra, Perugia. Administrator & director, Cav. Ing. E. B. de Visser. (Telegs.: "Elettrumbra, Perugia.")
Società Anonima Elettrometallurgica Bergamasca, Bergamo, Italy.
Società Anonima Esplodenti & Prodotti Chimici, chemical manufacturers, 3, Piazzi Bodoni, Turin. (Telephone No. 285.) Works: Villafranca, Lunigiana.
Società Anonima per le Forze Idrauliche di Trezzo sull' Adda "Benigno Crespi," 1, Victor Hugo, Milan.
Società Anonima Funicolari e Tramvie Bergamasche, Bergamo.
Società Anonima gia Fratelli Dialto, manufacturers of railway material, via Moncalieri 10, Turin. (Telephone No. 451.)
Società Anonima Italiana dell'Elettro-carbonium, Rome.
Società Anonima "La Prealpina" per Imprese Elettriche, via Vellone 3, Varese, Italy.
Società Anonima "Les Tramways de Bologne," Bologna, Italy.
Società Anonima Livornese d'Elettricità, Leghorn.
Società Anonima "Luce Elettrica," Chiuro, Sondrio, Italy.
Società Anonima Officina Galileo (Ing. G. Martinez & C.), Florence, Italy. (Telegs.: "Officina Galileo, Florence." Teleph. No. 6-07.)
Società Anonima Padovana dei Telefoni ed altre Applicazione i Elettriche, St. Bernardino, Padua, Italy.
Società Anonima Parmense di Elettricita, electric light contractors, via Cavour, Parma, Italy.
Società Anonima per Azioni, Montichiari, Brescia, Italy.
Società Anonima per Azioni "Elettricità Toscana," Pisa, Italy. (Telegs.: "Elettricità, Pisa.") Ing. G. Baduel, manager; Cav. Ing. E. B. de Visser, administrator.
Società Anonima per Imprese Elettriche Conti Impianto di Monza, Monza, Italy.
Società Anonima per Imprese Pubbliche, Pordenone, Italy.
Società Anonima per Industrie Elettriche "L'Agognetta" (consulting engineer, Ing. Oliva Luigi), Sannazzaro di Burgondi, Prov. di Pavia, Italy; & via Depretis 9, Voghera, Italy.

Società Anonima per la Ferrovia Funicolare Superga, 114, corso Regina Margherita, Turin. (Telegrams: "Lauchard, Turin." Telephone No. 1069.)
Società Anonima per l'Illuminazione Elettrica, electric light contractors, Campodolcino, Sondrio, Italy.
Società Anonima per l'Illuminazione Elettrica ed Esercizio di Molino e Trebbia, San Daniele del Friuli, Udine, Italy.
Società Anonima per l'Industria del Gas ed Illuminazione Elettrica, Ancona.
Società Anonima per la Luce ed Energia Elettrica, Canelli, Alessandria, Italy.
Società Anonima per la Produzione e Distribuzione di Energia Elettrica, Gazzaniga, Bergamo, Italy.
Società Anonima per Prodotti Elettrici, Genoa, Italy.
Società Anonima Piacentina per l'Illuminazione Elettrica (represented by Fratelli Magrini), Piacenza.
Società Anonima Piemontese di Elettricità, via Bogino 9, Turin, Italy.
Società Anonima Telefonica Bresciana, Brescia, Italy.
Società Anonima Telefonica Trevigliese, Treviglio, Bergamo, Italy.
Società Anonima Westinghouse, electrical engineers, 54, Vicolo Sciarra, Rome. (Telegs.: "Sodelec, Rome.")
Società Apparecihiatori Elettricisti, 24, via Bigli, Milan, Italy.
Società Bagni Lido, electric light installations, Venice.
Società Bergamasca per la Distribuzione di Energia Elettrica, viale Stazione 24, Bergamo, Italy.
SOCIETÀ CERAMICA RICHARD-GINORI (limited company, paid-up capital: Lire 8,000,000). Works at Milan, Italy (Telegrams: "Ceramica, Milan"); Doccia, nr. Florence; Pisa; Mondovi; & Vado Ligure. Manufacturers of all sorts of porcelains for electric appliances, battery jars, &c. Speciality: High Tension Insulators. Apply for illustrated catalogues & price lists to the Company's Head Office.
Società Chiavarese per la Cost. e l'Esercizeo di Tramvie e Ferrovie Econ. Comp. Chiavari, Italy.
Società Comense per l'Industria del Gas, Ing. Rossetti & Co., Como, Italy.
Società Cooperativa Alessandro Volta, electrical engineers, via Mazzini, Pavia, Italy.
Società Co-operativa dei Telefoni, Rome, Italy.
Società Co-operativa di Consumo por la Distribuzione Luce Elettrica e Force Motricc, electric light contractors, Ivrea, Italy.
Società Cooperativa di Elettricità, Breno (Prov. di Brescia), Italy.
Società Co-operativa di Produzione e Consumo di Luce Elettrica, Aosta, Italy.
Società Co-operativa Fenestrellese per l'Illuminazione Elettrica, Fenestrelle, Turin, Italy.
Società Cooperativa Telefonica, Rovigo, Italy.
Società Co-operativa Telefonica, Treviso, Italy.
Società Co-operativa Luce Elettrica (F. Marca, manager), electric light contractors, Chiavenna, Italy.
Società Costruzione Macchine-utensili Michele Ansaldi & Co., machinery makers, via XX. Settembre 12, Turin. (Telephone No. 158.)
Società Costruzioni Meccaniche, Treviso, Italy.
Società degli Alti Forni, Fonderie ed Acciaierie di Terni, steel manufacturers, Terni, Perugia, Italy. (Telegrams: "Acciaierie, Terni.")
Società d'Elettricità, Sondrio, Italy.
Società d'Irrigazione Orus Sesia, electric light & telephone installations, Vercelli.
Società degli Acquedotti De Ferrari-Galliera, Genoa, Italy.
Società del Gas, contractors electric light, Varese, Lombardy.
Società dell'Illuminazione, Cesena, Italy.
Società della Luce Elettrica, Delebio (Prov. di Sondrio), Italy.
Società di Illuminazione Elettrica di Venezia (director, Cav. Ing. Filippo Danioni), S. Luca, Corte Morosina 4422, Venice. (Telegrams: "Elettrica, Venezia." Telephone No. 142.)
Società Elettrica Anonima Cooperativa, Bagolino, Brescia, Italy.
Società Elettrica Anonima Co-operativa, Morbegno, Sondrio, Italy.
Società Elettrica Comense A. Volta, Como, Italy. (Telegrams: "Voltiana, Como." Telephone No. 171.)
Società Elettrica di Benevento, Benevento & Milan, Italy. (Director, A. Molitor.)
Società Elettrica di Collio Valtrompia, Collio, Brescia, Italy.
Società Elettrica di Sarezzo, Sarezzo, Brescia, Italy.
Società Elettrica di Vestone, Vestone, Brescia, Italy.
Società Elettrica Ossolana, Intra, Lago Maggiore, Italy.
Società Elettrica Ossolana, Novara, Italy.
Società Elettricità Toscana, Pisa, Italy. Administrator & manager, Cav. Ing. E. B. de Visser. (Telegrams: "Elettricità, Pisa.")
Società Elettrochimica, Pont St. Martin, Turin, Italy.
Società Elettrodinamica, representative of Elektricitäts Gesellschaft Alioth in Italy, & importers of electrical materials, Principe Umberto 28, Milan, Italy.
Società Elettro-Meccanica Veronese, 3–21, Muro Padri, Verona, Italy.
Società Emiliana di Industrie Elettriche, Strada Farini 84, Parma, Italy.

Società Esercizio Bacini, Ltd., dynamo & motor manufacturers, 18, piazza Annunziata, Genoa.
Società Esercizi Elettrici, electric light & power distribution at Lucca, Viareggio, &c., 7, via Chiaravalle, Milan, Italy.
Società Ferrovie e Tramvie Elettriche Varesine, Varese, Italy.
Società Forni Elettrici Stassano, Turin, Italy.
Società Generale Casalese di Elettricita, Casale Monferrato, Italy.
Società Generale Italiana dei Telefoni e Applicazioni Elettriche Agenzia di Venezia, Venice.
Società Generale Italiana di Telefoni ed Applicazioni Elettriche, via de Pecori 6, Florence.
Società Generale Italiana di Telefoni, Agenzia di Bologna, telephone engineers & contractors, via Rizzoli 13, Bologna, Italy.
Società Generale Italiana di Telefoni ed Applicazioni Elettriche, Palermo, Italy.
Società Generale Italiana di Telefoni ed Applicazioni Elettriche, via Crociferi 23, Rome.
Società Generale Italiana Edison di Elettricità, electric light & power distribution & tramway operations in Milan, 2, via Tommaso Grossi, Milan, Italy. (Telegrams: "Edison, Milan.")
Società Generale Italiana e Telefoni ed Applicazioni Elettriche, Piazza delle Borsa, Naples, Italy.
Società Generale per la Illuminazione, via Marina, Naples. (Telegs.: "Illuminazione." Teleph. No. 216.)
Società Generale per la Illuminazione Sedente in Napoli, Agenzia di Siracusa. (Telegrams: "Elettricità, Syracuse, Italy.")
Società Genovese di Elettricita, via Garibaldi 13, San Pier d'Arena, Italy.
Società Impianti idro-elettrico, Valle Imagna, Clenezzo, Bergamo, Italy.
Società Imprese Elettriche, Conti & C., electric light & power distribution, piazza S. Pietro e Lino 1, Milan, Italy.
Società Industriale della Valnerina, electric light contractors, Terni, Prov. di Perugia, Italy.
Società Industriale di Elettricità, Rieti, Umbria, Italy. (Telegrams: "Elettricita, Rieti.")
Società Industriale d'Illuminazione Elettrica, electric light contractors, Battaglia, Padua, Italy.
Società Industriale Elettrochimica Italiana, calcium carbide manufacturers, Pont S. Martin, Milan, Italy.
Società Industfiale Elettrochimica, power contractors, Pont Saint Martin, Piemonte, Italy.
Società Industriali Rinnite, G. Vievisau e C., electrical materials, Largo Cairoli 2, Milan, Italy.
Società Ingegneri, via Galliera 14, Bologna.
Società Italiana dei Forni Elettrici, via Due Macelli 3, Rome, Italy.
Società Italiana dei Telefoni ed Applicazioni Elettriche, Vico Tintori 1, Genova, Italy.
Società Italiana dell' Elettrocarbonium, via due Macelli 3, Rome, Italy.
Società Italiana di Applicazioni Elettriche, via Arcivescovado 10, Turin, Italy. (Telephone No. 468.)
Società Italiana di Elettricità (manager, Alfredo Frilli de Lamorte), electric light & power contractors, Florence, Italy.
Società Italiana di Elettricità Siemens-Schuckert, 2, via Vittor Hugo, Milan; & at Rome.
Società Italiana di Elettrochimica, via due Macelli 66, Rome, Italy.
Società Italiana di Industrie Elettriche, Spezia, Italy.
Società Italiana gia Siry, Lizars, & C. di Siry, Chamon & C., makers of electroliers, &c., Viale Porta Ludovica 21–23, Milan, Italy. (Telegs.: "Sirychamon, Milan." Teleph. No. 204–35.)
Società Italiana Lahmeyer di Elettricità, via Meravigli 2, Milan, Italy.
Società Italiana Lampade ad Arco e Impianti Elettrici Accomandita Semplice, Ing. R. Colombo & Co., arc lamp manufacturers, via Mercede 37, Rome.
Società Italiana, Langen & Wolf, gas motors, Milan, Italy.
Società Italiana Oerlikon, via Principe Umberto 17, Milan. (Telegs.: "Oerlik, Milan." Teleph. No. 1390.) Director, Ing. S. Merrone.
Società Italiana pel Carburo di Calcio Acetilene ed Altri Gas, Rome.
Società Italiana per Applicazioni Elettriche, Turin.
Società Italiana per la Trazione Elettrica, Ing. Meriggi & C., importers of traction material, via Vignola 6, Milan.
Società Italiana per le Forze Idrauliche del Veneto, electrical water-power transmissions, Venice, Italy.
Società Italiana per l'Utilizzazione delle Forze Idrauliche del Veneto (A. Zennari, managing engineer), Montereale Cellina, Udine, Italy.
Società Italiana per lo zinco e bianco-zinco, chemical manufacturers, via Superga 31, Turin. (Teleph. No. 208.)
Società Italiana Siemens, electrical apparatus, via Pietro Micca 8, Turin, Italy. (Teleph. No. 805.)
Società Italo Suizzera per la Illuminazione Elettrica, Sta. Maria, Capua, Italy.
Società Ligure di Elettricità, piazza S. Luca 17, Genoa.
Società Lombarda per Distribuzione di Energia Elettrica (A. Scotti, managing engineer), rue Principe Umberto 17, Milan.
Società Loverese di Elettricità, Lovere, Bergamo, Italy.
Società Luganese Tramvie Elettriche, Lugano, Ticino, Switzerland. R. Schatzmann, manager.
Società Martesana, electric light & power distribution, Erezzo d'Adda, Italy.
Società Meridionale di Elettricità, corso Re d'Italia 22, Naples.
Società Metallurgica Anonima Italiana, manufacturers of copper, brass, bronze, &c., Leghorn, Italy.

Società Monregalese di Elettricità, Ing. Trona Vittorio, Viale Venezia 30, Milan. (Telegs.: "Trona, Milan.")
Società Napoletana per Imprese Elettriche, 11, Piazza Municipio, Naples. (Telegs.: "Sien, Naples." Teleph. Nos. 764 & 1264.)
Società Nazionale della Officine di Savigliano, elec. engineers & contractors, Savigliano; & Turin, Italy.
Società Ottonieri Uniti, lead & tin, sheet & tube manufacturers, piazza Ponte, Genoa.
Società Pavese di Elettricità A. Volta, via Marzini 4, Pavia, Italy.
Società pel Carburo di Calcio, Terni, Italy.
Società per l'Illuminazione Elettrica, Arona (Prov. di Como), Italy.
Società per l'Illuminazione Elettrica, Laveno (Prov. di Como), Italy.
Società per l'Illuminazione Elettrica di Bagni di Lucca, Italy.
Società per l'Illuminazione Elettrica, Castello di Godego, Treviso, Italy.
Società per l'Illuminazione Elettrica, Gavardo, Brescia, Italy.
Società per l'Illuminazione Elettrica, Gavi, Italy.
Società per l'Illuminazione Elettrica di Mendrisio, Mendrisio, Canton Ticino, Switzerland.
Società per l'Illuminazione Elettrica Salò-Gardone, Salò, Brescia, Italy.
Società per l'Impianto dell'Energia Elettrica, Bertalia 60, Bologna.
Società per la Produzione e Distribuzione di Energia Elettrica, electric light contractors to the town, Pordenone (Prov. di Udine), Italy. (Telegrams: "Elettrica, Pordenone.")
Società per la Trazione Elettrica sulle Ferrovie, Rome, Italy.
Società per le Forze Idrauliche dell' Alto Po, corso Duca di Genova 3, Turin, Italy. (Teleph. No. 1508.)
Società per le Forze Idrauliche del Moncenisio, Turin.
Società per le Forze Idrauliche, Tivoli, Rome, Italy.
Società per le Tramvie Elettriche di Terni, Rome.
Società per l'Utilizzazione delle Forze Idrauliche (Sede a Milano), electric light contractors, Domodossola, Italy.
Società per lo Sviluppo delle Imprese Elettriche in Italia, via Victor Hugo 1, Milan, Italy. (Telegrams: "Sviluppo, Milan." Telephone No. 2057.)
Società Picena di Elettricità, Fermo, Ascoli Piceno, Italy. (Telegrams: "Picena, Fermo.")
Società Piemontese per la Fabbricazione del Carburo di Calcioe Prodotti Affini, Turin, Italy.
Società Piemontese per Illuminazione Elettrica, R. Pavio, Turin. (Telephone No. 1170.)
Società Romana Tramways-Omnibus, Rome.
Società Sicula Imprese Elettriche, electric light & tramway contractors, Palermo, Italy. Comm^re E. Piazzoli, director.
"Società Strade Ferrate Meridionali," Bologna, Italy.
Società Telefoni, telephone contractors, via Rigattieri, Pisa, Italy.
Società Tecnico Industriale Italo-Svizzera, arc lamp manufacturers, via Morigi 4, Milan.
Società Telefoni Italia Centrale, via Vecchietti 7, Florence, Italy. (Telegrams: "Microfono, Florence.")
Società Telefonica per l'Alta Italia, telephone engineers & contractors, via Orefici 15 (Palazzo della Borsa), Milan. (Telegrams: "Telefonica, Milan." Telephone No. 653.)
Società Telefonica Bresciana (manager, Antonio Soncini), telephone engineers & contractors, via Torre d'Ercole, Brescia, Italy.
Società Telefonica Comense, Como, Italy.
Società Telefonica di Perugia (manager, Virgilio Vicarelli), Perugia, Italy. (Telegrams: "Telefonica, Perugia.")
Società Telefonica di Zurigo, piazza Garibaldi 2, Parma.
Società Telefonica di Zurigo, telephone contractors, via 42 Septembre 19, Verona, Italy.
Società Telefonica di Zurigo, telephone station, via Tone 3, Modena, Italy.
Società Telefonica di Zurigo, via Prefettura, central telephone station, Ancona, Italy.
Società Telefonica Ligure, telephone engineers & contractors, vico Casana 9, int. 4, Genoa, Italy.
Società Telefonica pel servizio publico & privato, 4, via Nicolò Lionello, Udine, Italy.
Società Telefonica Piemontese, Alessandria, Italy.
Società Telefonica, telephone engrs. & contractors, represented by Silvio Mach de Palmestein, Biella, Italy.
Società Termotecnica Meccanica, già Lod. Tarizzo & C., via Circonvallazione 50, Turin. (Telegrams: "Termotecnica, Turin." Telephone No. 12–35.)
Società Toscana per Imprese Elettriche, via dell' Agnolo 2, Florence.
Società Tramway Elettrici, Florence, Italy.
Società Tramways Napoletani Torretta, Naples, Italy.
Società Veneziana di Elettro-Chimica, Anonima. Capital: £1,000,000 fully paid up. Calcium of carbide, piazza Leoncini, Venice. Branch: Paternion (Carinzia). (Telegrams: "Elettrochimica, Venice." Telephone No. 439.)
Società Vicese di Elettricita, Vicoforte, Mondovi, Italy.
Societatea Română de Electricitate Siemens-Schuckert, Soc. An., Bulevardul Academiei No. 1 colt cu Cal., Bucharest. (Telegs.: "Siemenschuckert, Bucharest.") Electrical office representatives of Siemens-Schuckertmerke, G. m. b. H., Berlin.

Société Aivoire d'Electricité, Aix-en-Provence, France.

Société Alsacienne de Constructions Mécaniques, manufacturing electrical engineers & contractors, cable manufacturers, 4, rue de Vienne, Paris. (Telegrams: "Mecalsac, Paris." Telephone No. 564-68.)

Société Anonyme "Accumulateurs Tudor," 79, rue Joseph II., Brussels. (Telegrams: "Tudor, Brussels." Telephone No. 1410.) Works: Florival, Belgium. (Telegrams: "Tudor, Florival." Telephone No. W. 20.)

Société Anonyme Accumulatorenfabrik Maarssen (directeur, C. E. Wolff), accumulator manufacturers, Maarssen, Holland. (Teleph. No. 7.)

Société Anonyme "Ateliers de Constructions Electriques de Charleroi," Charleroi, Belgium. (Telegrams: "Electricité, Charleroi." Telephone Nos. 76 & 573.)

Société Anonyme Belge d'Electricité, A. E. G.-l'Union Electrique, 156, rue Royale, Brussels. Works: rue Prévinaire (Telegs.: "Elektron, Brussels." Teleph. No. 4511); & 7, rue Kiliaen, Antwerp.

Société Anonyme Belge pour l'Eclairage Public par l'Electricité (Système Tudor), 26, Montagne-aux-Herbes-Potagères, Brussels.

Société Anonyme de Cocq sur Mer, electric lighting station, Clemskerke, Belgium.

Société Anonyme de Construction d'appareils Hydrauliques et d'Eclairage Public, 11, rue du Terrage, Paris.

Société Anonyme de Construction d'Appareils Industriels, material for electrical installations (Edgard Tiberghien, representative), rue de Belle Vue, Gand, Belgium.

Société Anonyme de Construction d'Instruments de Précision, Territet, Vaud, Switzerland.

Société Anonyme de Construction la Métallurgique, railway & tramway engines, &c., 1, place de Louvain, Brussels, Belgium. (Telegrams: "Metal, Brussels." Telephone No. 940.)

Société Anonyme de Construction (Les Ateliers Franco-Russes), railway & tramway material makers, Ekaterinoslau, Russia.

Société Anonyme de Constructions d'Appareils Electriques, electrical apparatus makers, St. Chamond (Loire), France.

Société Anonyme d'Eclairge & de Force Motrice par l'Électricité, electric power engineers, 11, rue d'Alexandrie, & 26, rue Laffitte, Paris.

Société Anonyme d'Eclairage de Belgrade, Siège Social: rue des Palais 22 à Bruxelles; and Belgrade, Servia.

Société Anonyme d'Eclairage et d'Applications Electriques, accumulator makers, Arras (Pas-de-Calais), France. (Telegs.: "Electrique, Arras.") E. Cotte, manager.

Société Anonyme d'Eclairage Electrique, electric lighting, Wevelghem, Belgium.

Société Anonyme d'Éclairage Électrique du Secteur de la Place Clichy, electric light engineers & contractors, 53, rue des Dames, Paris.

Société Anonyme d'Eclairage et de Transport de Force, l'Electrique Peruwelzienne, Peruwelz, Belgium. (Telegrams: "Electrique, Peruwelzienne." Telephone No. 29.)

Société Anonyme d'Electricité, Azay-le-Rideau (Indre-et-Loire), France.

Société Anonyme d'Electricité, Central Station (director, T. de Gryse), Ninove, Belgium.

Société Anonyme d'Electricité (Gregoire Le Roy), electric light contractors, 32, rue Courte de l'Hopitall, Antwerp. (Telegrams: "Leroy, Electricité." Telephone No. 2772.)

Société Anonyme d'Electricité, anciennement W. Lahmeyer & Cie., rue de la Chancellerie 8, Brussels.

Société Anonyme d'Electricité de Bourg St. Andéol (Ardèche), France.

Société Anonyme d'Electricité du Borinage, electric light & power supply, Pâturages, Belgium.

Société Anonyme d'Electricité et d'Automobiles Mors, 48, rue du Théâtre, & 27, rue de la Boétie, Paris. (Teleph. Nos. 710-43 & 563-53.)

Société Anonyme d'Energie Electrique de Grenoble et Voiron, 4, Place de la Gare, Grenoble; & Lyon. M. Dussaugay, engineer & manager.

Société Anonyme d'Entreprise Générale de Travaux, railway & tramway makers & contractors, boul. de la Sauvenière 64, Liége, Belgium. (Telegrams: "Engetra, Liége." Telephone No. 986.)

Société Anonyme d'Exploitation des Procédés Electriques Walker, electric traction, 6, rue Boudreau, Paris.

Société Anonyme de la Foret du Flamand, wood casings & cleats for wires, rue des Tanneries, 9, Bordeaux, France. (Telegrams: "J. B. Biswang, Bordeaux.")

Société Anonyme de la Pile Bloc, 13, rue Raymond, Montrouge (Seine), France. (Telegrams: "Pile-Bloc, Montrouge." Telephone No. 716-02.)

Société Anonyme de Locomotion Electrique, 20, rue Vignon, Paris. (Teleph. No. 211.33.) Works: Colombes, France. (Teleph. No. 34.)

Société Anonyme de Produits Chimiques Établissements Malétra, chemical manufacturers, 140, rue de Rivoli, Paris. (Teleph. No. 106-33.)

Société Anonyme de St. Petersbourg pour la Transmission Electrique de la Force Motrice des Chutes d'Eau, 67, chaussée de Peterhof, St. Petersburg.

Société Anonyme de Téléphone Privée, boul. de la Senne, 115, Brussels.

Société Anonyme de Telephonie Privée (director, A. Faisant), rue des Clarisses 8, Liége.

Société Anonyme de Voitures Automobiles, 71, ave. de la Grande-Armée, Paris.

Société Anonyme des Accumulateurs Chelin Avenue Guillaume Macau 11, Brussels.

Société Anonyme des Accumulateurs Tudor, Florival, Belgium. (Telegs.: "Tudor, Florival." Teleph. No. W 20, Brussels.)

Société Anonyme des Alliages Cothias, accumulator makers, 9, rue Victor Hugo, Ivry-Port (Seine), France. (Telegrams: "Cothias, Ivry-Port." Telephone No. 801–73.)

Société Anonyme des Anciens Ateliers de Construction Van den Kerchove, electrical engineers, 189, Coupure, Ghent, Belgium.

Société Anonyme des Anciens Etablissements Cail, electrical engineers, 21, rue de Londres, Paris.

Société Anonyme des Anciens Etablissements J. B. Torrilhon, insulating material (indiarubber) manufacturers, 10, rue du faub. Poissonnière, Paris. (Telegrams: "Torrilhon, Paris." Telephone No. 161–01.) Works: Clermont Ferrand (Puy de Dôme).

Société Anonyme des Anciens Etablissements Parvillée Frères & Cie., makers of heating apparatus, 56, rue de la Victoire, Paris. (Telegs.: "Céramique, Paris." Teleph. No. 510–72.)

Société Anonyme des Ateliers Carels Frères, constructing engineers, steam & Diesel oil engine makers, 53, Dock, Gand, Belgium. (Telegs.: "Ateliers Carels, Gand." Teleph. No. 232.)

Société Anonyme des Ateliers de Construction, H. Bollinckx (A. Bollinckx, administrateur délégué), 95, chaussée de Mons, Brussels. (Telegs.: "Bollinckx Constructeur, Brussels." Teleph. No. 1070.)

Société Anonyme des Ateliers (Nicaise et Delcuve), La Louvière, Belgium.

Société Anonyme des Cristalleries du Val St. Lambert, manufacturers of glass-ware for electric light fixtures, &c., Val St. Lambert, Belgium.

Société Anonyme des Etablissements S. Grauer & Cie., dynamo makers, 74 & 76, boul. Richard Lenoir, Paris.

Société Anonyme des Etablissements Delaunay Belleville, engineers & boiler makers, Ateliers de l'Ermitage à Saint Denis (Seine), France. (Teleph. No. 407–04.)

Société Anonyme des Etablissements Gratry, 15, rue de Pas, Lille (Nord), France.

Société Anonyme des Etablissements Postel-Vinay, electrical engineers, 38, rue des Volontaires, Paris.

Société Anonyme des Faienceries de Creil et de Montereau, porous cells for electric batteries, 11, rue Bleue, Paris.

Société Anonyme des Forges et Chantiers de la Mediterranée, general engineers & contractors, 1, rue Vignon, Paris. (Telegrams: "Vasco, Paris." Telephone No. 245–43.)

Société Anonyme des Hauts-Fourneaux de Maubeuge, electric welding apparatus, 10, rue Blanche, Paris.

Société Anonyme des Liéges Appliqués à l'Industrie, 13, rue du Delta, Paris.

Société Anonyme des Manufactures de Câbles, Accumulateurs et Appareils Électriques, Seneffe, Belgium.

Société Anonyme des Mines et Fonderies de zinc de la Vieille Montagne, 19, rue Richer, Paris. (Telegrams: "Sincay, Paris." Telephone Nos. 148.20 & 316.12.)

Société Anonyme des Moteurs, general engineers, Sclessin, Liége, Belgium. (Telegrams: "Motor, Sclessin-lez-Liége." Telephone No. 348.)

Société Anonyme des Poteaux Télégraphiques, telegraph poles, &c., Sclessin-les-Liége, Belgium.

Société Anonyme des Tramways Bruxellois (Electric Tramway), 6, Impasse du Parc, Brussels.

Société Anonyme des Tramways de Livourne, Leghorn, Italy.

Société Anonyme des Tramways Est-Ouest de Liége & Extensions, rue Frederic Nyst 30, Liége. (Telegrams: "Traméo, Liége." Telephone No. 410.)

Société Anonyme des Usines à Cuivre et Zinc de Liége, rue Froidmont, Liége. (Telegs.: "Usinecuivre, Liége." Telephone No. 235.)

Société Anonyme du Phœnix pour la Fabrication des Machines et Mécaniques, makers of dynamos, motors, steam engines, &c., Gand, Belgium. (Telegrams: "Phenix, Gand.")

Société Anonyme Egyptienne d'Electricité, electrical engineers, 43, rue du Rocher, Paris.

Société Anonyme, Force et Eclairage (C. Lambert, manager), Anseremme, Belgium.

Société Anonyme française pour la fabrication d'appareils téléphoniques & électriques, 20, rue St. Lazare, Paris. (Telegrams: "Phonowerke, Paris. Telephone No. 241–44.) G. Omnes, director.

Société Anonyme Franco-Belge pour les Applications de l'Electricité, rue du Marais 102, Brussels.

Société Anonyme John Cockerill, mechanical & electrical engineers, Seraing, Belgium.

Société Anonyme l'Electrique, 1, rue Courte du Marais, Gand.

Société Anonyme La Westendaise, electric lighting supply & installation, Westende, Belgium.

Société Anonyme "Le Ferro-Nickel," manufacturers of pure nickel, ferro-nickel, german silver, special alloys, & wire of high resisting power. Depôt at Paris, 17, rue du Pont-aux-Choux; office, 10, rue de Louvois. (Telegrams: "Ferronickel-Paris.") Works at Lizy-sur-Ourcq (S. et M.).

Société Anonyme le Nickel, nickel refiners & manufacturers, 26, rue Lafitte, Paris. (Teleph. No. 108–25.)

Société Anonyme Liegeoise d'electricité, 42, rue Lambert de Begue, Liége.

Société (Anon.) Luxembourgeoise d'Electricité, electrical engineers & agents, Luxembourg.

Société Anonyme pour la Fabrication d'Appareils d'Eclairage, electric light fittings makers, 468, rue St. Léonard, Liége. (Telegrams: "Société Eclairage, Liége." Telephone No. 1065.)

Société Anonyme pour la Fabrication des Charbons à Lumière, arc light carbon makers, Mainbottel, nr. Mercy-le-Bas (Meurthe-et-Moselle), France. (Telegrams: "Charbon, Mainbottel.")

Société Anonyme pour la production d'Electricité, Dinant, nr. Namur.

Société Anonyme Transmission, Transports & Traction, electric light & power contractors, 1, Square Labruvère, Paris.

Société Anonyme Russo-Belge d'Entreprises Electriques, rue Fossé-aux-Loups 37, Brussels.

Société Anonyme Suisse de l'Industrie Electro-chimique Volta, electro-chemists, 5, rue de Granges, Geneva.

Société Anonyme Westinghouse, 2, boul. Sadi Carnot, Le Havre (Telegs.: "Sodelec, Havre." Teleph. Nos. 767 & 892); & 45, rue de l'Arcade, Paris. (Telegs.: "Sodelec, Paris." Teleph. Nos. 273-12 & 273-25.)

Société Anonyme Westinghouse, Brussels Agency, rue Royale 51, Brussels.

Société Belge d'Electriciens (Ed. Lacomblé, secretary), Hotel Ravenstein, Brussels.

Société Belge des Ingénieurs et des Industriels, Hotel Ravenstein, rue Ravenstein 11, Brussels.

Société Belge pour la Fabrication des Cables et Fils Electriques, Société Anonyme, 37, rue St. Lazare, Brussels. (Telegs.: "Fabricable, Brussels." Teleph. No. 5793.)

Société Bruxelloise d'Electricité, Central Station, 22, rue d'Assaut, Brussels.

Société Centrale de Construction de Machines, engine makers, 30, route d'Aubervilliers, Pantin, Paris.

Société Centrale d'Electricité et de Lampes à incandescence (Usines Pulsford), 10, rue Taitbout, Paris. (Telegrams: "Sterling, Paris." Telephone No. 139-06.) Works: 10-12, rue de Normandie, Asnières, Seine, France.

Société Centrale d'Electricité, electrical engineers (M. Pouquet, manager), 196, rue St. Catherine, Bordeaux.

Société Centrale de Produits Chimiques (Ancienne Maison Rousseau), chemical manufacturers, 44 & 42, rue des Ecoles, Paris. (Teleph. No. 807-81.)

Société Chaleur, Force, Lumière par l'Electricité, 37, rue Saussier-Leroy, Paris.

Société Commerciale Belge, Gaz, Electricité, rue des Palais 22, Brussels.

Société Continentale de Traction & d'Eclairage par l'Electricité, 60, rue Caumartin, Paris. (Teleph. No. 278-85.)

Société d'Appareillage Electrique et Industriel, electric fittings manufacturers, La Jonction, Geneva.

Société d'Appareillage Electrique & Industriel (Anciens Etablissements Gardy Frères & Cie.), general electrical apparatus, 13, rue Caumartin, Paris. (Telegrams: "Ydrag, Paris." Telephone No. 277-07.)

Société d'Applications Industrielles (Materiel Electrique Alioth), electrical engineers, 20, rue Lafayette, Paris. (Teleph. Nos. 122-82 & 297-47.)

Société de Commission-Exportation (Delaporte & Roux), electrical agents, 56, rue de la Victoire, Paris. (Telegrams: "Delaroux, Paris.")

Société de Construction d'Appareils Industriels, Accumulateurs Somzée, Petite rue de Bellevue, Gand, Belgium.

Société de Construction Electrique, 67, rue Molière, Lyon, France.

Société de Constructions Electro-mecaniques, electrical engineers & contractors, Lapouchinskaya 8, St. Petersburg, Russia. (Telegs.: "Duflon, Petersbourg Lapouchinskaia 8." Teleph. No. 20626.)

Société d'Éclairage Électrique, electric light engineers & contractors, Nice (Alpes-Maritimes), France.

Société d'Eclairage Electrique de 1886, electric light contractors, 14, rue Gogol, St. Petersburg; & Rauschskaja Naberejnaja, Moscow. (Telegs.: "Elektritschestwo, St. Petersburg;" & "Drehstrom, Moscow.")

Société d'Éclairage Électrique de Bordeaux et du Midi, 26 & 28, rue du Temple, Bordeaux.

Société d'Eclairage Électrique du Secteur de la Place Clichy, 53, rue des Dames, Paris. (A. Soubeyran, chief engineer.)

Société d'Eclairage Électrique Rethelaise, Sault-le-Rethel (Ardennes), France.

Société d'Eclairage "Genappe-Electrique," electric light fittings, Genappe, Belgium.

Société d'Electricité des Galeries Saint Hubert (J. Van Drunen, manager), rue des Bouchers 56, Brussels.

Société d'Electricité Nilmelior, Anciens Etablissements Bassée & Michel, manufacturers of electrical apparatus, 47, rue Lacordaire, Paris. (Telegrams: "Nilmelior, Paris." Telephone No. 722-22.)

Société d'Electricité "Union." *See* Union Elektricitäts Ges.

Société d'Electro-chimie, 2, rue Blanche, Paris; & at St. Michel de Maurienne & Vallorbe, Switzerland.

Société d'Electro-Metallurgie de Dives (M. Secrétan, general manager), 11, place de la Madeleine, Paris. Works: Dives (Calvados). (Telegrams: "Tansècre, Paris." Telephone No. 269-34.)

Société d'Encouragement pour l'Industrie Nationale (M. Mascart, president; MM. Collignon & Aimé Gérard, secretaries), 44, rue de Rennes, Paris.

Société d'Energie Electrique de Grenoble, 164, Cours Berriat, Grenoble, France.

Société d'Entreprise Générale de Distributions et Concessions (anc. Soc. Fortin-Hermann & Cie.), electrical engineers, 83, boul. de Port Royal, Paris.

Société d'Entreprises Electriques, 2, rue Abauzit, Geneva. (Telegrams: "Socentele, Geneva." Telephone No. 3103.)

Société d'Exploitation des Acieries Electriques, Forges et Fonderies de Bèze et de Rome, 26, rue Brunel, Paris.

Société d'Exploitation des Brevets Dolter, electrical engineers, electrometallurgists, &c., 50, rue St. Ferdinand, Paris, XVII°. Arr. (Telegrams: "Bredolter, Paris." Telephone No. 534–23.)

Société d'Exploitation des Câbles Electriques Système Berthoud, Borel & Cie., Cortaillod, Switzerland. (Telegrams: "Cables, Cortaillod.")

Société de Force-Eclairage par l'Electricité, Anseremme-Dinant, Belgium. (Telephone Nos. 35 & 39.)

Société de l'Accumulateur Tobiansky, boul. Charlemagne 70, Brussels. Nominal capital: £20,000.

Société de l'Usine Électrique des Clées, electric light & power contractors, Yverdon, Switzerland.

Société de Matériel Téléphonique (G. Aboilard & Cie.), 46, ave. de Breuteuil, Paris. (Telegrams: "Microphone, Paris." Telephone No. 707–14.)

Société de St.-Gobain, Chauny & Cirey, makers of glass accumulator boxes, insulators, racks, slabs, plates, tassels, &c., 1 bis, place des Saussaies, Paris. (Telegrams: "Glagobain, Paris.") London Agency: 165, Queen Victoria-st., E.C. (Telegrams: "Claritude, London.")

Société de Traction Electrique sur les Voies Navigables, electric boat makers, 28, rue St. Lazare, Paris.

Société des Anciens Etablissements Lacarrière, electrical apparatus manufacturers, 16, rue de l'Entrepôt, Paris; & at Lyons & Naples.

Société des Anciens Etablissements Luc Court & Cie., dynamos, electric motors, Lyons, France.

Société des Applications Industrielles, electrical engineers, 20, rue Lafayette, Paris.

Société des Compagnies reunites du Gaz et de l'Electricité, 27, rue da Boa Vista, Lisbon.

Société des Etablissements Henry-Lepaute, electrical instrument makers, 11, rue Desnouettes, Paris. (Telephone No. 709–28.)

Société des Etablissements Métallurgiques A. Durenne, electric light fittings makers, 26, faub. Poissonnière, Paris. (Telegrams: "Adurenne, Paris." Telephone No. 117–73.)

Société des Etablissements Singrun, turbine builders, Epinal (Vosges), France.

Société des Forces Électriques de la Goule, electric light & power contractors, St. Imier, Switzerland. (Telegrams: "Goule, St. Imier.")

Société des Forces Motrices de l'Avançon, electric light & power contractors, Bex, Switzerland.

Société des Forces Motrices des Alpes Maritimes, electric light & power contractors, Nice (Rhône), France.

Société des Forges & Visseries de St. Hippolyte, makers of telegraph wire, St. Hippolyte (Doubs), France.

Société des Générateurs à Vaporisation instantanée, system Serpollet, makers of the Serpollet boiler, 27, rue des Cloys, Paris.

Société des Ingénieurs Civils de France, 19, rue Blanche, Paris. (Telegrams: "Ingécivils, Paris." Telephone No. 133–82.)

Société des Lunetiers, electrical & scientific apparatus makers, 6, rue Pastourelle, Paris.

Société des Motrices Forces de la Grande Eau, electric light & power engineers & contractors, Aigle, Switzerland.

Société des Sciences, Christiania, Norway.

Société des Télégraphes Multiplex (System Mercadier), 60, rue Caumartin, Paris.

Société des Téléphones de Zürich, Société anonyme pour les applications électriques, telephone engineers, Zürich, Switzerland. (Telegrams: "Electrotechnik, Zurich." Telephone No. 2241.)

Société des Tramways de Sebastopol, electric light & power contractors, Sebastopol, Russia. (Telegrams: "Tralec, Sebastopol.")

Société des Tramways Lausannois, Lausanne.

Société des Usines de l'Orbe, electrical engineers & contractors, Orbe, Vaud, Switzerland.

Société des Usines Electriques de la Lonza, carbide of calcium, &c., Geneva, Switzerland.

Société des Usines Hydroelectriques de Montbovon, Romont (Fribourg).

Société du Familistère de Guise (Colin & Cie.), agents for Messrs. Crompton & Co.'s cooking & heating apparatus, Guise (Aisne), France. (Telegrams: "Fonderies, Guise.")

Société du Gaz et de l'Electricité de Colombier, Canton de Neuchatel, Switzerland.

Société du Tramway Électrique, Aigle-Ollon-Monthey, Aigle, Vaud, Switzerland.

Société du Verre Etire, glass tubes & mouldings for separating accumulator plates, 10, rue Thimonnier, Paris. (Telephone No. 259–07.)

Société Electricité, Gaz & Eau à Moissac (Tarn-et-Garonne), France.

Société Eléctrique d'Aubonne, electrical engineers & contractors, Aubonne, Switzerland. (Telegrams: "Electricité, Aubonne.")

Société Electrique de Bulle, Bulle, Canton de Fribourg, Switzerland.

Société Electrique de Gryon, distributors of electricity, Gryon (Vaud), Switzerland.

Société Electrique de La Côte, Gland (Vaud), Switzerland.

Société Electrique de l'Ouest, electric light contractors, rue Dugommier 6, Nantes, France. (Telephone No. 277.)

Société Electrique du Chatelard, Vallorbe, Vaud, Switzerland.

Société Electrique des Pyrénées, rue des Cordeliers, Pau, France.

Société Electrique du Nord, electric light & power, 14, rue Voltaire, Roubaix (Nord), France.

Société Électrique Genoud, Frères, Châtel St. Denis, Fribourg, Switzerland.

Société Electrique Hydra, battery makers, 60, boul. de Clichy, Paris. (Telegs.: "Hydra, Paris.")

Société Électrique Vevey-Montreux, electrical engineers & contractors, Montreux, Switzerland. (Telegrams: "Electrique, Montreux.")

Société Electro-Chimie, chlorates of potash & of soda, 2, rue Blanche, Paris. (Telegrams: "Trochim, Paris." Telephone No. 141-18.) Works: Vallorbes (Vaud), Switzerland; & St. Michel di Maurienne (Savoy).

Société Electro-Chimique du Giffre St. Jeoire (Haute-Savoie), France. (Telegrams: "Société Giffre, St. Jeoire-Faucigny.")

Société Electro-Mécanique, electrical engineers, makers of the Edison dynamos, 50, Route d'Aubervilliers Pantin, Seine, France; & 11, avenue Trudaine, Paris.

Société Electro-Métallurgique Française, aluminium metal manufacturers, Froges (Isères), France; & (agent, J. Dreyfus) 30, rue du Rocher, Paris. Works: Froges & Champ (Isère); La Praz & St. Michel (Savoie); & Gardanne (Bouches du Rhone).

Société Electrotechnique de St. Pétersbourg, St. Petersburg.

Société Force et Lumière, arc lamp manufacturers, 9, rue de Rocroy, Paris.

Société Française d'Automobiles Electriques (Licence Krieger), 114-116, rue Gravel, Levallois (Seine), France.

Société Française de Constructions Mécaniques et d'Electricité Henri Popp & Cie., 26, rue Vignon, Paris.

Société Française de Distributions et de Constructions Electriques, 29, rue de Mogador, Paris. (Telegrams: "Cégéhess, Paris.")

Société Française d'Electricité A. E. G., agents for the Allg. Elektr. Ges. (Berlin), 42, rue de Paradis, Paris.

Société Française d'Entreprises et d'Exploitation Electriques, 73, boul. Haussmann, Paris.

Société Française de l'Accumulateur Tudor, 48, rue de la Victoire, Paris; 11, rue Alsace-Lorraine, Rouen; & 106, rue de l'Hôtel-de-Ville, Lyons. Works: 39 & 41, route d'Arras, Lille (Nord).

Société Française de Matériel Agricole, electrical engineers & contractors, Vierzon (Cher); & 191, faub. St. Denis, Paris.

Société Française de Physique (M. H. Abraham, secretary), 44, rue de Rennes, Paris VIe.

Société Française de Telephonie privée, telephone apparatus manufacturers, 12, rue du Mont Thabor, Paris. (Telephone No. 256-78.)

Société Française des Accumulateurs Electriques (Système Schulz), 44, rue Taitbout, Paris. (Telegrams: "Acfaure, Paris.")

Société Française des Accumulateurs Phénix, 27, rue Cavé, Levallois (Seine), France.

Société Française des Accumulateurs Tribelhorn, 189, rue Paradis, Marseilles, France. (Telegrams: "Accumulus, Marseilles." Telephone No. 6-23.)

Société Française des Cables Electriques (system Berthoud, Borel & Co.), 11, Chemin du Pré Gaudry, Lyon, France.

Société Française des Noirs de Fumée, special lampblack for carbon rods, Nabécor, près Nancy, France. (Telegrams: "Coloniaruss, Nancy." Telephone No. 142.)

Société Française des Pompes Worthington, 43, rue Lafayette, Paris. (Telegrams: 'Quadruple, Paris." Telephone No. 265-16.)

Société Française des Téléphones, Système Berliner, 29, boul. des Italiens, Paris. (Telegrams: "Induction, Paris." Telephone No. 217-08.)

Société Française de Téléphonie Privée, 12, rue du Mont Thabor, Paris.

Société Française pour l'Exploitation de la Pile, système Million, 29, rue de Sully, Lyon, France.

Société Française pour la Fabrication des Accumulateurs Electriques, accumulator makers, 44, rue Taitbout, Paris.

Société Franco-Suisse d'Electrochimie, carbide of calcium manufacturers, Vernier, près Geneva.

Société Franco-Suisse pour l'Industrie Electrique, rue de Hollande, Geneva. (A. Boissonnas, manager.)

Société Franco-Suisse pour l'Industrie Electrique, 73, boul. Haussmann, Paris.

Société Générale Belge d'Entreprises Electriques (Jules Urban, president), 1, impasse du Parc, Brussels.

Société Générale de Chemins de fer économiques (soc. anon.), 54, rue de Namur, Brussels. (Telegrams: "Economiques, Brussels.")

Société Générale d'Electricité, Escaliers du Grand-Pont 5, Lausanne, Switzerland. (Telephone No. 1444.)

Société Générale Electrique et Industrielle, 4, cite d'Antin, Paris.

Société Générale d'Enterprises, electric light engineers & contractors, Athens, Greece.

Société Générale de Tramways et d'Applications d'Electricité (Soc. Anon.), boul. de la Sauvenière 64, Liége, Belgium. (Telegrams: "Tralec, Liége." Telephone No. 986.)

Société Générale des Industries Economiques, makers of the "Charon" motor, 40, rue Laffitte, Paris.

Société Générale Internationale d'Eclairage par le Gaz et l'Electricité, electric light engineers & contractors, 28, rue de Châteaudun, Paris.

Société Générale pour la Fabrication des Matières Plastiques (Soc. anon.), celluloid for accumulators, 13, rue Caumartin, Paris.

Société Genevoise pour la Construction d'Instruments de Physique et de Mécanique, electricity meters & scientific apparatus, Chemin Gourgas 5–7, Geneva.

Société Gramme (E. Javaux, managing director), 20, rue d'Hautpoul, Paris (Telegrams: "Gramme, Paris." Telephone No. 402–01); & 144, Gray's Inn-rd., London, W.C.

Société Grenobloise de Force et Lumière, Grenoble (Isère), France.

Société Havraise d'Energie Electrique, 52, rue Charles Laffitte, Le Hâvre.

Société Hydro-Electrique, cité Bartissol, Perpignan, France. (Telegs.: "Electricité, Perpignan." Teleph. No. 4–36.)

Société Impériale Ottomane d'Eclairage par le Gaz et l'Electricité, rue des Palais 22, Brussels.

Société Impériale Polytechnique de Russie, 2, rue Panteleimonskaja, St. Petersburg. (Teleph. No. 485.)

Societé Industrielle d'Electricité, electrical contractors, 6, ave. Notre-Dame, Nice. L. Ortolani, director.

Société Industrielle d'Electricité, 45, rue de l'Arcade, Paris.

Société Industrielle d'Electricité Sécheron, Geneva, Switzerland.

Société Industrielle d'Energie Electrique, 60, rue Caumartin, Paris.

Société Industrielle de l'Ozone, 11, rue de Rome, Paris.

Société Industrielle de Parquets de Chêne et d'Energie Electrique, Central Station, Chauvigny (Vienne), France. (Telegs.: "Parquets, Chauvigny.")

Société Industrielle des Téléphones, cable, telephone & light apparatus makers, 25, rue du 4 Septembre, Paris. (Telegrams: "Telephones, Paris." Telephone No. 246–82.)

Société Industrielle du Nord de la France, Lille (Nord), France.

Société Intercomminale Belge d'Electricité, impasse du Parc 1, Brussels.

Société Internationale d'Entreprises & Exploitations Electriques, rue de la Loi 25, Brussels.

SOCIÉTÉ INTERNATIONALE DES ÉLECTRICIENS, 12 & 14, rue de Staël, Paris. (Telephone No. 708–68.) Administrative Committee—Honorary presidents: MM. Georges Berger, ex-directeur de l'exploitation de l'Exposition universelle de 1889, Député, 8, rue Legendre, Paris; Maurice Lœwy, membre de l'Institut, directeur de l'Observatoire de Paris, à l'Observatoire, Paris; E. Mascart, membre de l'Institut, directeur du Bureau Central Météorologique de France, 176, rue de l'Université, Paris. Past presidents: Georges Berger, ex-directeur de l'exploitation de l'Exposition universelle de 1889, Député, 8, rue Legendre, Paris; Maurice Lœwy, membre de l'Institut, directeur de l'Observatoire de Paris, à l'Observatoire, Paris; E. Mascart, membre de l'Institut, directeur du Bureau Central Météorologique, 176, rue de l'Université, Paris; Paul Lemonnier (*Décédé en* 1894); Général H. Sebert, membre de l'Institut, administrateur de la Société des Forges et Chantiers de la Méditerranée, 14, rue Brémontier, Paris; Hippolyte Fontaine, ingénieur électricien, 58, rue Notre Dame des Champs, Paris; J. Joubert, inspecteur-général de l'instruction publique, 67, rue Violet, Paris; J. Carpentier, ancien ingénieur des manufactures de l'État, successeur de Ruhmkorff, 34, rue du Luxembourg, Paris; L. Raymond, administrateur des Postes et des Télégraphes en retraite, 36, rue Washington, Paris; A. Postel-Vinay, 10, place Saint François Xavier, Paris; A. Potier, décédé en 1905; Gaston Sciama, directeur de la Maison Breguet, 19, rue Didot, Paris; Dr. A. d'Arsonval, membre de l'Institut, professeur au Collége de France, 12, rue Claude Bernard, Paris; J. Violle, membre de l'Institut, Maître de Conférences à l'École Normale, 89, boul. Saint-Michel, Paris; R. V. Picou, ingenieur des Arts et Manufactures, 41, rue St. Ferdinand, Paris; A. Hillairet, ingenieur constructeur, 22, rue Vicq d'Azir, Paris; E. Hospitaliér, professeur à l'Ecole de Physique et de Chimie Industrielles, 87, boul. St. Michel, Paris; M. Pollard, directeur du Genie Maritime à Indret (Loire Inf.), France; E. Bouty, professeur à la Faculté des Sciences de Paris, 5, rue du Faubourg St. Jacques, Paris. Président: Maurice Leblanc, 1, ave. Boufflers, villa Montmorency, Paris, 16e. Président pour l'exercice, 1907–1908: H. Becquel, membre de l'Institute, 6, rue Dumont-Durville, Paris. Vice-presidents: A. Blondel, ingénieur du Service central des Phares, professeur à l'École nationale des Ponts et Chaussées, 41, ave. de Labourdonnais, Paris, 7e (1904–1907); Ch.-Ed. Guillaume, directeur-adjoint du Bureau international des Poids et Mesures, Pavillon de Breteuil, Sèvres (Seine-et-Oise) (1904–1907); E. Brylinski, sous-directeur du Triphasé, 5, ave. Teissonnière, Asnières (Seine) (1905–1908); J. Grosselin, ingénieur civil des Mines, 69, ave. Henri-Martin, Paris, 16e (1905–1908); L. Poincaré, inspector général de l'Instruction Publique, 130, rue de Reims, Paris (1906–1909); J. Rey, ingenieur civil des Mines, 76, rue Mozart, Paris (1906–1909). General secretary: H. Armagnat, chef du Bureau des mesures électriques aux ateliers J. Carpentier, 20, rue Delambre, Paris, 14e (1905–1907). Treasurer: Léon Violet, ingénieur, 167, rue de Rennes, Paris. Secretary of the Committee: A. Sabourain, directeur honoraire des Postes et des Telegraphs, 30, rue Bonaparte, Paris. Agent administratif: Ch. Tessier, 14, rue de Staël, Paris. British Committee: Lord Kelvin, F.R.S., The University, Glasgow; Sir William Henry Preece, C.B., F.R.S., M.INST.C.E., Gothic Lodge, Wimbledon, Surrey.

Société "L'Éclairage Électrique," electric light engineers & dynamo manufacturers (Jablochoff's candles, Labour's alternators & transformers, single-phase & three-phase motors, centrifugal pumps, fans, & motors for travelling cranes. Office: 27, rue de Rome, Paris. Works: 364, rue Lecourbe, Paris. (Telegs.: "Léclique, Paris." Teleph. No. 528–50.) Grand prix, Paris, 1900; St. Louis, 1904.

Société l'Éclairage Électrique du Calaisis, electrical engineers & contractors (M. Bertout, president), 9, rue Royale, Calais.

Société l'Electrique, makers of the Julien accumulators, 279, Chaussée d'Anvers, Brussels (Telephone No. 83); & 23, rue du Bac, Paris. (J. Julien, manager.)

Société "Le Triphasé," electric light & power contractors, Asnières (Seine), France.

Société Lilloise d'Éclairage Electrique, electric light engineers & contractors, 85, rue de la Barre, Lille (Nord), France.

Société L^se d'Applications Electriques, 67, rue de Paradis, Marseilles, France. (Telegrams: "Applications Electriques." Telephone No. 1821.)

Société l'Orfèvrerie d'Ercuis, electro-platers & gilders, Ercuis; et 64, rue de Bondy, Paris. (Telegrams: "Couvercuis, Paris." Telephone No. 443-03.)

Société Lyonnaise d'Applications Electriques (Soc. anon.), electrical installations, 7 & 9, rue Stella, Lyon.

Société Lyonnaise de Mécanique et d'Electricité, 43, rue de la Fédération, Paris. (Telegrams: "Mecaliones, Paris." Telephone No. 711-51.)

Société Lyonnaise des Forces Motrices du Rhône, electric light & power engineers & contractors, 37, rue de la République, Lyons, France.

Société Mauraisin Frères, electric graphophones & phonographs, 159, rue de Vauves, Paris.

Société Méridionale d'Electricité, Central Stations, Carcassonne & Narbonne (Aude). (Telegrams: "Meridielectro, Carcassonne.")

Société Meridionale de Transport de Force, Carcassonne. (Telegrams: "Meridielectro, Carcassonne.") Usine Hydroélectrique: St. Georges, près Axat (Aude).

Société Nantaise d'Eclairage et de Force par l'Electricite, electric light & power contractors, 16, rue Lamoricière, Nantes. (Telegrams: "Electricité, Nantes." Telephone No. 7.)

Société Nimoise d'Eclairage, 11 & 13, rue Pavée, Nimes (Gard), France.

Société Normande d'Électricité, 26, rue Aux Ours, Rouen (Seine-Inférieure), France. (Telegrams: "Electricité, Rouen." Telephone No. 613.)

Société Nouvelle de l'Accumulateur Fulmen. Works & offices: 18, quai de Clichy, Clichy (Seine). (Telegrams: "Fulmen, Clichy.")

Société Nouvelle des Accumulateurs B.G.S., 33, rue Pierret, Neuilly-sur-Seine, France.

Société Nouvelle des Etablissements Decauville aîné, dynamos, motors, electric traction, 13, boul. Malesherbes, Paris; & Petit-Bourg, Seine-et-Oise.

Société Officine Elettriche Genovesi, electric light & power contractors, viâ del Campo 12, Genoa.

Société Parisienne d'Electricité, 19, rue Cail, Paris.

Société Parisienne pour l'Industrie des Chemins de Fer et des Tramways Electriques, 31, ave. de l'Opéra, Paris. (Telegrams: "Parelecop, Paris." Telephone No. 234-10.) Works: Jeumont (Nord), France.

Société pour la Fabrication des Compteurs, electrical apparatus manufacturers, 2, place Charles Albert, Nice.

Société pour la Transmission de la Force par l'Electricité, incandescent Lamps, 19, rue Didot, Paris.

Société pour le Travail Électrique des Métaux, electric accumulators, 26, rue Lafitte, Paris. (Telegrams: "Fortrans, Paris." Telephone No. 116-28.)

Société pour les Applications Industrielles d'Electricité. *See* Lombard, Gérin & Cie.

Société Régionale d'Electricité (Reseau Normand) (J. Lecornu, engineer-in-charge), Promenade du Fort (boul. Bertrand), Caen (Calvados), France. (Telegrams: "Electricité, Caen." Telephone No. 1-87.)

Société Romande d'Electricité, Territet, Vaud, Switzerland.

Société Suisse pour la Construction d'Accumulateurs Electriques, Chemin Vinet 29, Lausanne, Switzerland.

Société Toucyeoise d'Eclairage Electrique, Toucy (Yonne), France.

Société Toulousaine d'Electricité, 10, quai Saint Pierre, Toulouse (Haute Garonne), France.

Société Versaillaise de Tramways Electriques et de Distribution de l'Energie, 22 bis, avenue de St. Cloud, Versailles. (Telephone No. 180.)

Socolsky, N. M., elec. engineer, litle Ochta Mariinskaya 19, St. Petersburg, Russia. (Teleph. No. 4364.)

Söderhamns Elektriska Belysningsaktiebolag, Söderhamn, Sweden. (Harald Toresson, director & manager.)

Södra Sparvägarnas Trafik Aktiebolag, electric tramway contractors, Brankyrkag. 82, Stockholm.

Sohier, G., et Cie., galvanized wire makers, 121, rue Lafayette, Paris.

Sokolow, P., director of telegraphs, Privislinsky Railways, Praga, Warsaw, Russia.

Soleau, Eugène, bronze manufacturer, 127, rue de Turenne, Paris.

Soler & Balcells, electricians, Campo Sagrado 22, Barcelona.

Solvay & Co., chemical manufacturers, Dombasle-sur-Meurthe, Meurthe-et-Moselle, France.

Solvay & Cie., soda & ammonia manufacturers, 33, rue du Prince Albert, Brussels.

Sommer & Runge, scientific apparatus manufacturers, Wilhelmstr. 122, Berlin, S.W.

Sonderburg, F., pear switches, quai des Eaux Vives 56, Geneva, Switzerland.

Sonnenthal, E., jun., engineer & tool maker, 6, Neue Promenade, Berlin, C. (Telegrams: "Fraisapparat, Berlin.")

Sonnet, E., electrical engineer, Avenue du Préau 15, Brussels.

Sopkez, S., electrical engineer, 14, Sasutcza V., Budapest.
Sorel, —, electric bell manufacturer & contractor, 20, place Ducale, Charleville (Ardennes), France.
Sorel, Alfred, electrical engineer, 45, rue Boduognat, Brussels.
Sörensen, Ferd. E., & Co., manufactory for electric bells, telephones, &c., Dronn. Tverg. 55, Copenhagen K.
Sorge & Schma, driving-band makers, 18, Schlesischestr., Berlin, S.O.
Sorgue, C., spring maker for pushes, 9, passage Corbeau, Paris.
Soubeyran, A., chief engineer, Société anon. d'Eclairage Electrique du Secteur de la Place Clichy, 53, rue des Dames, Paris.
Souchier, F., electrician, 8, rue de Belgique, Nice (Alpes Maritimes), France.
Soufflet, J., contractor, 193, avenue de la Reine, Brussels.
Soulas, J., wood casing for electric wires, 170, rue de Bagnolet, Paris.
Soulat, J., manufacturing electrician, electricity meters, rue Michel-le-Comte 25, Paris IIIe.
Soulé, D., general supplier of electrical material, wood, boxwood, vulcanized fibre, marble, slate, casing & cabinet work. Paris branch office: 42, rue Fessart. Hydraulic Works at Bagnères-de-Bigorre.
Soulé, L., electric lighting, 13, rue de Thorigny, Paris.
Soulier, Alfred, electrician (secretary de *l'Industrie Electrique*), 110, boul. Aragó, Paris XIVe.
Soulier & Viguier, electrical engineers & contractors, Rodez (Aveyron), France.
Soupart, Paul, wire & cable manufacturer, avenue du Moulin, Forest, nr. Brussels.
Spain, Arthur, A.I.E.E., 46, rue de Strasbourg, Vincennes (Seine), France.
Spakler, A., engineer, Weteringschans 53, Amsterdam, Holland. (Telephone No. 264.)
Spängler, Ludw., electrical engineer & manager, City Tramways, 9, Favoritenstr., Vienna II., 1.
Spano, Cav. Ing. Gaetano, mathematical & electrical instrument maker, Salita S. Sebastiano, Istituto Casanova, Naples, Italy.
Specialfabrik elektr. Maschinen vorm. Albert Ebert, G. m. b. H., Dresden-Pieschen. (Teleph. No. 3918.)
Spezialfabrik für Elektromotoren und Elektrische Antriebe G. Meidinger & Cie., ventilators, Basle, Switzerland.
Spiecker, F. A., director Siemens & Halske A.-G. & Siemens-Schuckert Werke G. m. b. H., 3, Askanischer Platz, Berlin.
Spielmann, Bernhard, electrical engineer, Hessgasse 7, Vienna I. (Teleph. No. 14042.)
Spindler, A., et Cie., magnet manufacturers, 11, rue du Château-d'Eau, Paris.
Spindler & Hoyer, electrical, optical, & physiological instruments, Göttingen, Germany.
Spitzin, A., Schuckert Electric Co., Teatralny Proiesde, h. Chloudoff, Moscow.
Spohr, H. C., telegraph engineer, Baumweg 10, Frankfürt-am-Main. (Telephone No. 1442.)
Sponheimer & Bosshart, electrical requisites, Zurich I., Switzerland.
Sporck & Co., electrical engineers, Trondhjem, Norway.
Spörhase, Leon, electrical engineer, Bolch. Sampsonyevky pz. 70, St. Petersburg.
Sprecher, C., electrical engineer, Sprecher & Schuh, Aarau, Switzerland.
Sprecher & Schuh, electrical apparatus makers, Aarau, Switzerland. (Telegrams: "Fea, Aarau.")
Springael, —, electrician, 26, place de Coninck, Antwerp, Belgium.
Springer, Julius, publisher of technical works, 3, Monbijouplatz, Berlin, N. (Telegrams: "Springer, Monbijou., Berlin." Telephone Amt. III. Nos. 529 & 2430.)
Squindo, Giuseppe, electric light installer, Biella, Italy.
Stabernack, B., telephone maker, 102, Bülowstr., Berlin, W.
Stabernack, Paul, & Co., makers of electric fittings, 81, Leipzigerstr., Berlin, W.
Stabenow, Rudolf, accumulator maker, Husstr. 70, Prag-Zižkow, Austria. (Telegrams: "Stabenow, Prag." Telephone No. 1330.)
Stabrowsky, L., electrical apparatus dealer, Miasnitsckaja dome Promischlennago Museja, Moscow, Russia.
Stacchini, P., agent for electrical manufacturing companies, via Aurelio Saffi 9, Milan, Italy. (Telegs.: "Stacchini, Milan." Teleph. No. 1847.)
Stachow, L., electrical goods, Rosenthalerstr. 51, Berlin, C.
Stadelmann, J., & Co., "Steatite" insulator manufacturers, Nuremberg, Germany.
Städtische Electrizitätswerk, Prague.
Städtische Electricitätswerke Hoher Steg. 4, Strasburg, Germany. (Telephone Nos. 377 & 948.)
Städtische Gas & Electricitätswerke, Brünn.
Städtische Strassenbahnen, Cologne, Germany. (Director, John Wattmann.) (Telephone No. 226.1233.)
Städtisches Elektricitätswerk, Elberfeld, Germany.
Staerke, C. F., maker of screws & terminals, &c., 77, Blumenstrasse, Berlin, O.
Stahl, Th., electrical engineer, au Creusot (Sâone-et-Loire), France.
Stahl, Wilhelm, electrical engineer, technical adviser to the Grossh. Staatseisenbahn, Karlsruhe, Baden.
Stahl und Eisen (semi-monthly), 5, Jacobistr., Dusseldorf, Germany. (Ann. sub., 24 marks, post excl.) (Telegrams: "Stahleisen, Dusseldorf." Telephone No. 449.)
Stamm, Gustavo, electric light contractor, 3, via Bocca di Leone, Rome. (Telegs.: "Stamm, Rome." Teleph. No. 1005.)
Standard Varnish Works, insulating varnish, 41, rue de la Bienfaisance, Brussels. (Telegrams: "Elastica, Brussels." Telephone No. 4821.)

Stanthuysen, E., insulators, 19, rue de Blanchisserie, Brussels.
Stapfer, D., electrical engineer, boul. Maritime, Marseille-Joliette, France.
Stark, Leopold, M.I.E.E., electrical engineer, Ganz & Co., Ltd., Budapest.
Starkmann, E., electrical engineer & agent, Hohenzollernplatz 2, Wilmersdorf, Berlin. (Telegrams: "Telemeter, Berlin.")
Stassart, Simon, electrical engineer, boul. Dolez, 4, Mons, Belgium.
Statham, N., A.M.I.E.E., electro-chemical engineer, Cia. General de Productos, Quimicos del Aboño, Gijon, Spain. (Telegrams: "Sosa, Gijon.")
Station Centrale d'Eclairage Electrique, Auxerre (Yonne), France.
Station Centrale d'Eclairage Electrique, Clamecy (Nièvre), France.
Station Centrale d'Eclairage Electrique de Roybon, Roybon (Isère), France.
Station Centrale d'Electricité, Antoing, Hainaut, Belgium.
Station Centrale d'Electricité, boul. du Port, Amiens, France.
Station Centrale d'Electricité, Autun (Saône-et-Loire), France.
Station Centrale d'Electricité, Bourg (Ain), France. Head office: 45, rue des Petits Champs, Paris.
Station Centrale d'Electricité, Charleroi Electric Light Central Station, Charleroi.
Station Centrale d'Electricité, Dijon (Côte d'Or), France.
Station Centrale d'Electricité, Electric Central Station of Fleurus, Fleurus.
Station Centrale d'Electricité, Manosque (Basses Alpes), France.
Station Centrale d'Electricité, Melun (Seine-et-Marne), France.
Station Centrale d'Electricité, Electric Light Central Station, Merves le Chateau, Belgium.
Station Centrale d'Electricité, Moulins (Allier), France.
Station Centrale d'Electricité, Orléans (Loiret), France.
Station Centrale d'Electricité, Central Station of Ostend, Ostend.
Station Centrale d'Electricité, Poitiers (Vienne), France.
Station Centrale d'Electricité, Saint Brienn (Cotes du Nord), France.
Station Centrale d'Electricité, St. Marcellin (Isère), France.
Station Centrale d'Electricité, Saumur (Maine & Loire), France.
Station Centrale d'Electricité, electric lighting & power (J. Vanturenhout, director), Seraing, nr. Liége, Belgium.
Station Centrale d'Electricité de Notre Dame des Arts, Alisay, Pont de l'Arche (Eure), France.
Station Centrale de Marennes, Marennes (Charente-Inférieure), France.
Station Centrale de Nancy, rue du Tapis Vert, Nancy. (Telegrams: "Electricité, Nancy." Telephone No. 251.)
Station d'Electricité, rue Pierre Sauvage, Compiègne, France.
Station d'Electricité, Guéret (Creuse), France.
Station d'Electricité de Gençay (Vienne), France.
Station d'Electricité de Vinay, Vinay (Isère), France.
Station d'Electricité, rue du Beffroy, Troyes, France.
Station d'Energie Electrique des Boulevards, rue du Ct. Marchand, Bordeaux.
Station Hydraulique d'Éclairage Électrique, 6, rue du Rû, Verdun (Meuse), France. Jules Chatiliez, manager.
Staudt, Wilh., telegraph instrument maker, 6, Königgrätzerstr., Berlin, W.
Steck, Richard, manufacturing electrician, Halleschestr. 22, Berlin, S.W.
Steckel, A., telegraph & telephone contractor, Kylischestr. 33, Sangerhausen, Germany.
Steenlet, Pierre, electrical engineer, 120, rue de la Poste, Brussels.
Steens, E., electric tramway engineer, 182, rue de la Loi, Brussels.
Steflitschek, Franz, electrical educational apparatus, 8, Millergasse, VI., Vienna. (Telephone No. 7743.)
Stegmann, Ferd., electrical engineer, Schwanthalerstr. 40/I., Munich. (Telephone Nos. 6000 & 9000.)
Steiger, Eugen, patent agent, Office des Brevets d'Invention, Zurich III.
Stein, Adolphe, maker of electric wires & cables, Danjoutin (Haut-Rhin-Francais), France.
Stein, G., cable machine manufacturer, Blumenstr. 24, Berlin, O.
Steinbach, A., manganese merchant, König Strasse, 14, Halle an der Saale, Germany.
Steinbach, Georg, electrical engineer, Göttingen.
Steiner, Otto, telegraph wires & cables, indiarubber & gutta percha, Schwechat, nr. Vienna (Telegs.: "Kabelsteiner, Schwechat." Teleph. No. Simmering 40); Breitegasse 26, Vienna VI. (Teleph. No. 3130); Csengery-utcza 39, Budapest VI. (Teleph. No. 820); & Havlieckplatz, Prague.
Steinert & Kentler, electrical engineers, 59, Aachenerstr., Cologne.
Steinweg & Hagemann, electrical engineers, Dortmund.
Stelzig, Carlo, electrical installations, Palermo, Italy.
Stern, Dr. G., managing director at the Internationale Electricitäts Gesellchaft, XIX. Hasenauerstr. 45, Vienna. (Teleph. No. 13098.)
Stern, Gustav, Elektr. Ges. m. b. H., Essen-a.-d. Ruhr (Telegs.: "Sternschaltung, Essen-Ruhr." Teleph. No. 337); & Gelsenkirchen, Germany. (Teleph. No. 107.)
Stettiner Elektricitätswerke, manufacturing electrical engineers, Stettin, Germany.

Stettiner Oderwerke Aktienges. für Schiff und Maschinenbau, steam engine makers, Stettin-Grabow, Germany. (Telegrams: "Oderwerke, Stettin." Telephone No. 98.)
Steuermann, Victor, electrical stores, Mochovaja 10, Moscow, Russia.
Stevens, P., electric light, telephone & bell installations, 6, rue Ransfort, Brussels.
Stewart, W. T., A.M.I.E.E., Lake Copais Co., Ltd., Kribba, Greece.
Stieberitz, Heinr. (Otto Brunn Nachfolger), telegraph apparatus maker, Spenerstr. 6, Dresden, A. 19, (Telephone No. 6537.)
Stieltjes, Fred., & Co., agents for the Sturtevant Engineering Co., Keizersgracht 745, Amsterdam, Holland. (Telephone No. 237.)
Stiepel, Ernesto, galvanic battery manufacturer & importer of electrical appliances, Avemaria 52, Dupl^{do}, Madrid.
Stiepel, R., & Weimann, importers & manufacturers of electrical goods, via Savona 5 & Viale Magenta 70, Milan, Italy. (Telegrams: "Stiepel, Milan.")
Stigler, A., electrical & mechanical engineer, 45, via Galileo, Milan.
Stirnemann & Weissenbach, electrical installers, Gotthardstr. 39 & 41, Zürich, Switzerland.
Stirnimann & Gullino, apparatus makers, Piazza Solferino 16, Turin. (Telephone No. 1122.)
Stobwasser, C. H., & Co., Akt. Ges., electrical apparatus makers, Wilhelmstr. 42A, Berlin, S.W.
Stock, E., & Cie., chemists & electricians, 16, rue des Fossés Saint Jacques, Paris. (Telegrams: "Estock, Paris." Telephone No. 806–57.)
Stocken, Alfred L., A.M.I.E.E., Mazerèo sur le Salat, Haûte Garonne, France.
Stocker, A. L., A.M.I.E.E., electrical engineer, Mazeres sur le Salat, Haute Garonne, France.
Stöcker & Co., telephone & telegraph engineers & manufacturers, Wachsmuthstr. 10, Leipzig, Saxony. (Telegs.: "Stöckerwerke, Leipzig.")
Stockholm Electric Light Co., Ltd., electrical engineers & contractors, Trådgårdsg 4, Stockholm, Sweden.
Stockholmer Allgemeinen Telephone-Actiengesellschaft, contractors, Stockholm.
Stockholms Allmänna Telefonaktiebolag, telephone engineers & contractors, Stockholm, Sweden. (Telegrams: "Allmäntelefon, Stockholm.")
Stockholms Bell Telefon Aktiebolag, telephone engineers & contractors, Malmskilnadsgatan 30, Stockholm.
Stockholms Electrical Lighting Co. (Electriska Belysnings Aktiebolag), Trägärdsgatan 4, Stockholm, Sweden.
Stockholms Elektricitetsverk, Thulegatan 13, Stockholm. (Telegrams: "Gasverket, Stockholm.")
Stockmann, F., telegraph contractor, Steinweg 77, Mühlhausen-i.-Th., Germany.
Stögermayr, A., electric light, telegraph & telephone engineer, 1, Opernring 7, Vienna. (Teleph. No. 1081.)
Stokvis, R. S., & Zonen, electrical engineers, Rotterdam, Holland. (Telephone Nos. 1138, 1168 & 3779.)
Stölzles Söhne, C., glass makers, IV. Freihaus, Vienna. (Telephone Nos. 9977 & 3540.)
Stons, J., lightning conductors, Chaussée de Mons 226, Brussels.
Storari & Lo Cascio, dealers in electrical supplies, via Marco Minghetti 17–22, Rome; & via Municipio, Naples.
Store Nordiske Telegraf Selskab. *See* Great Northern Telegraph Co.
Stork Bros. & Co., engineers & electricians, Hengeloo, Holland.
Storvik's Electric Light Co. (elektr. belysn. aktb.), manager, Joh. Johansson, Storvik, Sweden.
Stotz, Paul, electrical apparatus & electric light fittings maker, Stuttgart, Germany.
Stotz & Cie., Elektricitäts Gesellschaft m. b. H., Mannheim, Germany. (Telegrams: "Elektron, Mannheim." Telephone No. 662.)
Stralsunder Bogenlampenfabrik G. m. b. H., Stralsund, Germany. (Telegs.: "Bogenlampe, Stralsund.")
Stransky frères, electric pianos, 20, rue de Paradis, Paris.
Strassen-Eisenbahn-Gesellschaft, Hamburg.
Strasser & Rohde, electric bell fitters, Glashütte, Saxony, Germany.
Straus, A., electric bell fitter, rue de la Cathédrale 28, Liége.
Strauss, René, & Cie., crystals for fittings, 63, boul. Sebastopol, Paris (Telephone No. 106-62); & Gebirgstr., Gablonz a. N., Bohemia.
Strecker, A., electrician, Jasuninsky Manufacturing Co., Kochma, Gouvern. Wladimir, Russia.
Strecker, Dr. G., managing director, Accumulatoren-Fabrik A.-G., 31A, Luisenstrasse, Berlin.
Strecker, Prof. Dr. Karl, Imperial German Telegraphs, Burggrafenstr. 15, Berlin, W. 62.
Strehler, J. E., electrical engineer & agent Association Suisse des Electriciens, 20, Weinbergstrasse, Zurich I.
Streit, Gebrüder von, glass makers, Alexandrinenstr. 22A, Berlin, S.W.
Strelin, A., consulting electrical engineer, Zurich, Switzerland. (Telegs.: "Strelin, Zurich." Teleph. No. 6920.)
Strohfeldt, —, works manager, Städt. Elektricitätswerk, Würzburg, Germany. (Telephone No. 357.)
Stroink, J., municipal electrical engineer, Overtoorn 200, Amsterdam.
Strömberg, Gottfr., electrical engineer, Helsingfors, Finland, Russia.
Strömsted, K., superintendent & inspector Norwegian telegraphs, Lödingen, Norway.

Stroobant, J., electric bell fittings, rue Botanique, 63, Brussels.
Strube Actien-Gesellschaft, manufacturers of boiler fittings, tachometers & tachographs, Magdeburg-Buckau, Germany.
Strüver, Comm. Giovanni, professor of experimental physics, University, via del Seminario 87, Rome.
Stucchi & Co., makers of dynamos, motors & ventilators, via Tortona 11, Milan, Italy.
Studiengesellschaft für Elektrische Schnellbahnen G. m. b. H., 133, Friedrichstr., Berlin, N. (Telephone No. 2981, Amt. III.)
Studio Elettrotecnico Industriale, electrical engineers, 11, via XX. Settembre, Turin.
Studio Elettrotecnico Industriale, Lugano, Switzerland (Teleph. No. 126); & 2, via Berchet, Milan, Italy.
Stuhl, G., electric bell manufacturer & contractor, Strasburg, Germany.
Stuhl, Max, maker of the Neesen Vacuum pump, Friedrichstr. 130, Berlin, N.
Sturm, Ign., electrical engineer & manufacturer, 14, Dadlergasse, Vienna XIV.
Sturtevant Ventilatoren Fabrik, electrical & mechanical engineers, 138, Friedrichstr., Berlin, N.W. 7. (Telegrams: "Exhaustor, Berlin." Telephone No. 4236, Amt. I.)
Suc, A., & Cie., electric tramway constructors, 35, rue de Bagnolet, Paris.
Successori alla Societa Telefonica Lombarda, electric apparatus dealers, via F. Ballarini, Como, Italy.
Süchting, Fr., engineer & director of City Electricity Works, Bremen.
Suchy, Edmund, electrician, V. Rainergasse 32, Vienna.
Süddeutsche Eisenbahn Gesellschaft, electric tramway contractors, Neckarstr. 5, Darmstadt, Germany. (Teleph. No. 33.)
Süddeutsche Isolierrohr-Werke (G. m. b. H.), insulating tube manufacturers, Lauf, bei Nürnberg, Germany.
Süddeutsche Kabelwerke A. G., Albrechtstr. 11, Berlin, N.W.
Süddeutsche Kabelwerke A. G., Mannheim.
Sudicatis, Ludw., & Co., electrical apparatus manufacturers, 12–14, Alt. Boxhagen, Berlin, O. 112.
Suenson, Commodore E., M.I.E.E., chairman & managing director Great Northern Telegraph Co., Copenhagen, Denmark. (Telegrams: "Storenordiske, Copenhagen.")
Suhner & Co., manufacturer of electric wire & cable, Herisau, Switzerland (Telegrams: "Suhner, Herisau"); & Bale, Switzerland.
Sulzberger, Dr. K., electrical engineer, 46 & 47, Knesebeckstr., Berlin, W. 15.
Sulzburger, Gustav, engineer, Département des Chemins de Fer, Berne, Switzerland.
Sulzer Brothers, high speed engine makers, Winterthur, Switzerland; & Ludwigshafen, Germany.
Sumec, Prof. J. K., electrical engineer, Česká Technika, Brno, Austria.
Sumner, John M., & Co., electrical engineers, 44A, Foro Bonaparte, Milan.
Sundwiger Eisenhütte Maschinenbau-Act. Ges., steam engine makers, Sundwig i. Westf., Germany. (Telegrams: "Eisenhütte, Sundwig i. Westf." Telephone Amt. Iserlohn, No. 113.)
Sundwiger Messingwerke, copper & brass wires & cables, Sundwig, Westphalia.
Supervielle & Pellier, electricians, 20, rue du Luxembourg, Paris.
Supli, A., electrician & contractor, rue de Brabant 149, Brussels.
Supplisson, Ch., & Schmider frères, electric light fittings makers, 13, rue de Paradis, Paris.
Süring, Prof. Dr. R., electrical engineer, 7II, Ringstr., Friedenau, Berlin.
Susse Frères, electric light fittings, 2, place de la Bourse, & 31, rue Vivienne, Paris.
Sutermeister, Carlo, & Co., electric power contractors, Intra.
Svendsen, C. E., general & electrical agent, 12, Stormgade, Copenhagen, Denmark. (Telegrams: "Pulpa, Copenhagen." Telephone No. 4507.)
Svendsen, E. & M., electric apparatus, all kinds of electric work, Christianssand, Norway.
Svenska Aktiebolaget, Siemens & Halske, electrical engineers, V. Trädgårdsg. 7, Stockholm.
Svenska Dynamoborstfabriken, dynamo brush makers, Stockholm.
Svenska Motorvagns Aktiebolaget, Uplandsgatan, Stockholm.
Sventorzetzky, Colonel L., professor of physics, Military Engineering Academy, St. Petersburg.
Swaay, G. J. van, professor of natural philosophy & electrotechnics, Technical University, Delft, Holland.
Swensens, K. N. D., electrical engineer, Gjöviks Elektricitetsverk, Gjövik, Norway.
Swieten, A. van, electrical engineer to the Dutch Railway Co., 513, Heerengracht, Amsterdam.
Syndicat Professionnel des Industries Electriques, 11, rue St. Lazare, Paris. (Telephone No. 238-60.)
Syndicat Professionel des Usines d'Electricité, 27, rue Tronchet, Paris VIIIe. (Telephone No. 225-92.)
Szapiro, B., electrician, Nalewki 2, Warsaw.
Szász, Gyula, electrical engineer, Andrássyút 12, Budapest.
Szirch, Imre, electrical & mechanical engineer, 40, Garay-uteza, Budapest VII. (Telephone No. 56-95.)
Szubert, S., Commandit-Gesellschaft, makers of the Vogt Battery, Kronprinzenstr. 10, Nieder-Schönhausen, Germany.
Szuk, Géza, chief engineer, Ganz & Co., 52, Csalogany-u., Budapest.
Szulc, K., & Ska, electrical engineers & agents, Krolewska 10, Warsaw, Poland.

Taaks, H., electrical & consulting engineer, Filderstr. 55, Stuttgart. (Telegrams: "Ingenieur Taaks, Stuttgart." Telephone No. 1666.)
Tacchi, Giovanni B., wire-gauze manufacturer for dynamo brushes, via Azzone Visconti, Lecco, Como, Italy.
Tacchi, Luigi, electric light contractor, Porta Nuova 18, Pisa, Italy.
Tacchi, P. A., Nachfolger, electrical apparatus, Zeil 44, Frankfort-a.-M.
Tachard, A. P., civil engineer, representative of the "Ste Alsacienne de Constructions Mécaniques," 4, rue de Vienne, Paris.
Taddei, Gerolamo, electrical engineer, via Bogino 35, Turin; & Piazza S. Pantaleo 3, Rome.
Tade, Otto, electric light fittings maker, 92, Adalbertsstr., Berlin, S.O. 26.
Taffe, Alex., electrical engineer, 28, rue Grimaldi, Monaco.
Tager, N. M., engineer & dealer of electrical supplies, Zagorodon prosp. 23, St. Petersburg. (Teleph. No. 23192.)
Tagliaferri, Gaetano, electric bell fitter, corso Vitt. Emmanuele 3, Piacenza.
Taillefer, A., & Cie., manufacturing electricians, 6, cité Riverin, Paris.
Tailleur, —, electrician, lightning conductors, rue Saint-Dominique 101, Paris.
Talbot, A. B., optician & electrical installer, via Chiaja 215, Naples, Italy.
Tamme, E., engineer, Elizavetgrad Municipality, Elizavetgrad, Russia.
Tannenbaum, J., electrical material, Valverde 36, Madrid.
Tanik, F., & Co., electrical engineers & agents, Antonsgasse No. 5, Brünn.
Tapia y Hermano, electrical apparatus, Salmeron 77, Linares (Jaen), Spain.
Tardy de Montravel, Felix Joachim, engineer, directeur de la Compagnie d'Electricité impasse du Jeu-de-Ballon, Montpellier (Hérault). (Telegrams: "Electricité, Montpellier.")
Taroncher, Manuel, electrical apparatus, Poeta Querol 8 & 10, Valencia.
Tart, G., dealer in electrical supplies, 16, rue d'Amay, Liége, Belgium.
Tart, Paul, electrical engineer, Hémixen, nr. Antwerp.
Tartary, G., engineer of arts & manufactures, 7, rue de Naples, Paris.
Taschek & Weiss, agents for the Pollak accumulator, 14, Jerusalemsgasse, Prague, Bohemia. (Telephone No. 2081.)
Tassart, Balas, Barbas & Co., electrical contractors, 21, rue de Chakau-Landon, Paris. (Teleph. No. 410.84.)
Tasté, Albert, electrical engineer, 33, rue David, Verviers, Belgium.
Tauber, P. H., electrical engineer, Maschinenfabrik Oerlikon, Zurich.
Tavarez de Tolentino, Carlos, professor at the Ecole des Mines, State electrical & mining engineer, 23, Villanueva, Madrid.
Taverna, C., electrical engineer, 54, Vicolo Sciarra, Rome.
Tavernier, De, manager Cie. Electrique du Secteur de la Rive Gauche, 124, boul. St. Germain, Paris.
Tavernier-Gravet, maker of mathematical instruments, slide rules, &c., 19, rue Mayet, Paris.
Taylor, M., et Cie., gas plants & engines, 16, rue de la Grange Bateliere, Paris. (Telephone No. 269–48.)
Technikum Mittweida, for the education of electrical & mechanical engineers, Saxony, Germany. (Prof. Alfred Holzt, director.)
Technische Literatur (monthly), Ossterstr. 88, Hanover, Germany. (Price 35 pf.; ann. sub., 3 m.)
Technisches Bureau für Elektrische Licht u. Kraft Anlagen, Barbarossastr. 25, Berlin, W. (Teleph. Amt. VIa. No. 10773.)
Technisches Bureau, Tolzmann & Co., Karlstr. 27, Berlin, N.W.
Tedeschi, V., & Co., covered wire manufacturers, Barriera di Milano 101, Turin, Italy. (Teleph. No. 575.)
Teichmüller, J., Dr. Phil., electrical engineer & professor in the Technische Hochschule, Karlsruhe-i.-B., Germany.
Teisset, Vve, Brault & Chapron, makers of the Fontaine Girard & American turbines, 14, rue du Ranelagh, Paris (Teleph. No. 693–96); & at Chartres (Eure-et-Loir), France.
Teknisk Bureau, Ltd., Walkendaffsgade 12, Bergen, Norway. (Telegrams: "Electric, Bergen.")
Telefon Gesellschaft, Rosenthalerstr. 40, Berlin.
Telefonselskab. Kristianssands (managing director, R. Storm), Christianssand, Norway.
Telefoon Maatschappij Insulinde, Hugo de Grootstr. 61 & 63, The Hague, Holland. (Telephone No. 1790.)
Telegrafia e Telefonia (*Giornale dei Telegrafisti*), 2, Piazzale Venezia, Milan. (Monthly; ann. sub., 5s.)
Telegraph Construction & Maintenance Co., 37, rue Caumartin, Paris. (Telegs.: "Anglorient, Paris.")
Telephon Apparat Fabrik E. Zwietusch & Co., telephone apparatus makers, Salzufer 7, Charlottenburg. (Telegrams: "Mikrophon, Charlottenburg." Telephone Nos. 58 & 64.)
Telephon Fabrik A. G., vorm. J. Berliner, Charlottenstr. 18, Berlin.
Telephon & Telegraphenbau Gesellschaft, Vilberstr. 29, Frankfort-a.-M.
Telephone de l'Etat, State Telephone, rue Jésus, Antwerp.
Téléphone de l'Etat, State Telephone, Place de l'Université, Liége.
Telephone Works, Ltd., late J. Berliner, manufacturers of telephones & microphones, Kniestr. 18, Hanover, Germany (Telephone No. 168); Oranienstr. 120, Berlin; & Vienna.
Téléphonie Nouvelle, La, 85, rue St. Lazare, Paris.
Tellmann, W., electrical engineer, 3, Kaiser Otto Ring, Magdeburg.

Templier, A., & Cie., electricians, 39, rue Lafayette, Rouen (Seine-Inférieure), France. (Telephone No. 2119.)

Tenner, Armin, manufacturer of electric & hydraulic lifts, &c., Zimmerstr. 34, Berlin, S.W. (Telegrams: "Tenner, Berlin, Zimmerstr." Telephone Nos. I. 9150, 9151 & 9152.)

Tennevin & Cie., Ste. Electricité de la Méditerranée, electrical contractors, 31, ave. du Prado, Marseille (Bouches de Rhône), France.

Tentelewsche Chemische Fabrik, platinum manufacturers & refiners, 41, Galernaja, St. Petersburg. (Telephone Nos. 254 & 2289.)

Teodoreanu, L., engineer, Directorul Usinei de Electricitate, Jassy, Roumania.

Teplitzer Electricitäts und Kleinbahn-Gesellschaft, Teplitz, Bohemia.

Ter-Joannesoff, A., electrical engineer, Ekaterinodare, Russia.

Termali, T., transfers for decorating electrical apparatus, Cromo-Typo-Lithographic Works, via Molino Armi 3, Milan, Italy.

Terpitz von Arthur & Co., electro-medical apparatus, Körnerstr. 25, Berlin, W.

Tessari, Domenico, professor in electrotechnics, via Vanchiglia 21, Turin, Italy.

Testuot, —, electric light fittings, 9, rue Mayran, Paris. (Teleph. No. 211.17.)

Thal, Carl L., electrical engineer, Schellinggasse 1, Vienna I. (Telephone No. 8266.)

Thalbitzar, Viggo A., electrical engineer, Ahlefeldtsg. 2, Copenhagen, K.

Thaulow, H. H., electrical engineer, Dronningensgd. 18, Trondhjem, Norway. (Telegrams: "Dynamo, Trondhjem.")

Theinpont, —, electrician, Etichove, Oudenarde, Belgium.

Theofanides, E., chief clerk, Eastern Telegraph Co., Piræus, Greece.

Theunis, G., electrical engineer, rue du Congrès 7, Brussels.

Thévenard, A., electrical engineer, Compagnie Continentale Edison, Directeur de la Station Centrale du Palais Royal, 1, rue de Valois, Paris.

Thévenon, M., dealer in electrical, optical & photographic apparatus, 1, rue de la Préfecture, St. Étienne, Loire, France.

Thibal, Cahen Doyer & Cie., battery mfrs., 22, boul. Richard Lenoir, Paris. (Teleph. No. 921–94.)

Thibaudeau, P. M. J., chef de la canalisation du secteur à la Compagnie Continentale Edison, 19, rue d'Orsel, Paris.

Thiel & Bertling, electric lighting accessories, Neuenburgerstr. 37, Berlin, S.W. 13.

Thiele, F. A., instrument maker, 5, Kjöbmagergade, Copenhagen, K., Denmark.

Thiele, H., electrical engineer, 19D, Alte Poststr., Guben, Germany.

Thiele & Jehnke, electrical engineers, Stallschreiberstr. 52, Berlin, S.

Thiercelin Frères, electrical installations, 35, rue de la Tour d'Auvergne, Paris. (Telephone No. 150.51.)

Thiergärtner, A. E., Technische-Bureau G. m. b. H., electrical engineer & contractor, 5, Merkurstr., Baden-Baden, Germany.

Thierré Fils, insulators & porcelain manufacturers, 47, rue Vieille-du-Temple, Paris. (Telephone No. 144–17.)

Thierry, Ing. J. H., electrical engineer, Illuminazione Elettrica, Bra, Italy.

Thierry, L., dynamo & motor maker, Removille (Vosges), France.

Thierry, Wierre & Co., makers of electric light apparatus fittings, &c., 9, rue des Mathurins, Paris. (Telephone No. 248–70.)

Thiéry, P., electrical engineer, 11, rue Ferrand, Valenciennes, Nord.

Thiis, E. E., electrical engineer, Store-Fröen, Christiania, Norway. (Telegrams: "Ingenior Thiis, Christiania." Telephone No. 5066.)

Thirel, J. (Renard successeur), manufacturing electrician, 41, rue de Bellefond, Paris. (Telephone No. 266–18.)

Thirion, Ch., & J. Bonnet, patent & trade marks registration agents, 95, boul. Beaumarchais, Paris. (Telegrams: "Thirion Brevets, Paris." Telephone No. 251–62.)

Thiry, François, battery maker, Pecq, Belgium.

Thöde, Rud., electrical engineer, 33, Poststr., Bremerhaven, Germany. (Telegrams: "Thöde, Bremerhaven." Telephone No. 220.)

Thode, Albert, & Co., street railway supplies, Hamburg. (Telegs.: "Elektrothode, Hamburg." A.B.C. 4th ed., Lieber's, Standard & own Codes. Teleph. Amt. I. Nos. 6231 & 1558.)

Thoma, Chevalier Max, electrical engineer, Officine Elettriche Genovesi, Genoa, Italy.

Thomann, E., engineer, Railway Department, Brown, Boveri & Co., Ltd., Baden.

Thomas, A., electrical contractor, 57, boul. de Strasbourg, Le Hâvre (Seine-Inférieure), France.

Thomas, L., measuring instruments, 175, rue St. Honoré, Paris. (Teleph. No. 318–65.)

Thomass, W., works manager, Städt. Elektricitätswerk, Bamberg, Germany. (Teleph. No. 202.)

Thompson, D. J. Garcia, agent Western Union Telegraph Co., Llauder 4, Entº., Barcelona.

Thomson-Houston International Electric Co., 10, rue de Londres, Paris. (Telegrams: "Cutout, Paris." Telephone No. 158-23.)

Thorsen, C. F., electric bells, Gl. Kongevej 91A, Copenhagen, V.

Thovez, Hector, electrotechnical & industrial engineer, corso Siccardi 69, Turin, Italy.
Thrane, O. R. V., telegraph engineer, Danish Government Railways, Gjentofte Allé. 14, Holl., Copenhagen.
Thurneyssen, J., electrical engineer, 58, rue Monsieur le Prince, Paris.
Thury, René, chief electrical engineer, 25 bis, route de Florissaut, Geneva.
Thury et Amey, precision instruments, 12, Chemin des Sources, Geneva.
Tiburtius, Ernst, & Co., electrical supplies, Mariannenstr. 31, Berlin, S.O.
Tichmeneff, Grég., dynamo & electric machine manufacturer, Bender, Russia.
Tichonoff, J., electrical apparatus, 71, rue Boursault, Paris. (Teleph. No. 566.09.)
Tietz & Co., manufacturers of electric light fittings, 21, Oranienstr., Berlin, S.O.
Tignol, Bernard, electrical publisher, 53 *bis*, quai des Grands-Augustins, Paris. (Telephone No. 275–00.)
Tihanyi, Nandor, electric light contractor, VII. Csömöri út 8, Budapest, Hungary. (Teleph. No. 60–68.)
Tillberg, Erik, agent for the Svea incandescent electric lamp, Chaussée d'Ixelles 115, Brussels.
Tischendoerfer, F. W., M.I.E.E., consulting electrical engineer, Ottostrasse 11, Berlin, N.W.
Tison, Dr. Edouard, membre fondateur de la Société des Electriciens, 137, rue de Rennes, Paris. (Teleph. No. 733.37.)
Tissot, Dr. Ed., Société Suisse d'Industrie Electrique, Bâle, Switzerland.
Tissot, L., & Raibaud, L., electrical apparatus manufacturers, 25, rue de la République, Marseilles. (Telephone No. 850.)
Titan Co., Ltd., electrical engineers & contractors, Tagensvej 32, Copenhagen, L.
Tlach & Keil, makers of wire & electrical appliances, Nestroygasse 9, Ndlge, Vienna, II. (Teleph. No. 13386B.)
Tobiansky, Léopold, civil engineer & electrician, 41, rue des Comédiens, Brussels.
Tobisch, Gustav, manufacturer of insulated wires & cables, Neustiftgasse 135, Vienna VII/3. (Teleph No. 6517.)
Tobler, Dr. Adolph, M.I.E.E., electrician, Federal Polytechnic School, Zürich, Switzerland.
Tobler, Gustav, engineer, Rathenoverstr. 20, Berlin, N.W.
Togni, —, electrician, 368, rue St. Honoré, Paris. (Teleph. No. 302-29.)
Toldi, Ludwig, electrical engineer, 11, Föutca 2, Budapest.
Tolusso, Guido, sole agent for Italy for Locke Insulators, via Torino 61, Milan, Italy.
Tolzmann & Co., electrical apparatus manufacturers, Karlstr. 27, Berlin, N.W.
Tomassini & Albanesi, electric light contractors, Castelfidardo (Ancona), Italy.
Tonkin, A. B., electrician, Direct Spanish Telegraph Co., Bilbao, Spain.
Tonscheidt, A., electric light contractor, Skalitzerstr. 9, Berlin, S.O.
Töpfer & Schädel, telephone & telegraph apparatus makers, Bernburgerstr. 21, Berlin, S.W.
Tordoir, Ernest, electric clocks, 72, rue Gray Etterbeck, Brussels. (Telegs.: "Tordoir, Etterbeck, Brussels." Teleph. No. 4635.)
Torti & Co., electrical apparatus makers, via Larga 11–13, Milan.
Tossens, Ch., electrician, 25, rue du Vanneau, Antwerp.
Tott & Peters, electrical engineers, 72, Pfefferstadt, Danzig.
Totté, F., electrician (bronzing), 18, rue Marché St. Jacques, Antwerp.
Touanne, G. De la, M.I.E.E., inspecting engineer of State Telegraphs, 103, rue de Grenelle, Paris.
Toubas, —, electrical contractor, 12, rue Gretry, Nîmes (Gard), France.
Touret, Max, electrical engineer & manufacturers' agent, 7, rue Meyerbeer, Paris. (Telegrams: "Maxtouret, Paris." Telephone No. 284–90.)
Tousset, Gaston, electrician, rue des Tanneurs, 35–6, Antwerp.
Touzet, Cl., electrical installations, 20, rue de la Bourse, St. Etienne (Loire), France. (Teleph. No. 367.)
Traction Tangentielle, Soc. Anon., electric traction engineers, Charleroi, Belgium.
Tramway, Le (weekly; ann. sub., P.U., 17*s.* 6*d.*), 74, rue Vondel, Brussels.
Tramway Electriques du Littoral, coast electric tramways, Power Station (Usine Electrique) at Mariakerke, nr. Ostend.
Tramway & Electrizitäts-Gesellschaft, Linz-Urfahr, Austria.
Tramways Provinciali, electric tramways, Naples, Italy.
Tranvias Electricos de Bilbao à Algorta (director, Pablo Callam), Jose, Bilbao.
Trap-Holm, J. P., electrician, Great Northern Telegraph Co., Ltd., Seydisfjord, Iceland.
Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., ebonite & vulcanite manufacturers, Meyerstr. 60, Hamburg, Germany. (Telegrams: "Gummitraun, Hamburg.")
Travailleur, M., electrical engineer, ave. Louise 248, Brussels.
Trémeau, Jambon, manufacturing electrical engineer, Châlon-sur-Saône, France. (Teleph. No. 1.50.)
Tremolaterra, Giov., practical electrician, Sant' Anna dei Lombardi, Naples, Italy.
Trenck, R., electrical engineer & engine manufacturer, Roonstr. 14, Erfurt, Germany.
Treoumoff, A., Treoumoff Manufacturing Co., Kowrow, Gouvern. Wladimir, Russia.
Tresel, —, electric light fittings manufacturer, 15, boul. Davout, Paris. (Teleph. No. 911.27.)
Treuenfeld, R. von Fischer, 111, Reissigerstr., Dresden, A.
Treuer, R., electric apparatus, 41, Mohrenstr., Berlin, W.

Treviliaris, C., electric light engineer, Syra, Greece.
Tricoche, A., electrical engineer, lightning arresters (Système Buchin), 2, rue de Grassi, Bordeaux. (Telegrams: "Tricoche, Electricien, Bordeaux.")
Tripier, Dr. A., electrician, 8, rue Vignon, Paris.
Tripier, H., electrical engineer, 17, rue Alphonse de Neuville, Paris.
Tritzschler, Herm., electric light contractor, Oranienburgerstr. 7, Berlin.
Troll, Georg, works engineer, Hartmann & Braun, Frankfurt-a-Main, Bockenheim, Germany.
Troller, V., Electric Light Central Station, Lucerne, Switzerland.
Trollhättans Elektriska Kraftaktiebolag, Trollhättan, Sweden. (G. Bennick, manager.)
Trona, Vittorio, electrical engineer, Viale Venezia 30, Milan. (Telegs.: "Trona, Milan.")
Tronci, Ing. Vittorio, telephone contractor, Cagliari, Italy.
Trondhjems Electric Light Co. (Elektr. Lyskomp.), Hospitalsgd. 20, Trondhjem.
Trondhjems Elektriske Bureau, electrical engineers (Arne Höeg), Thomas Angell's Gade 13, Trondhjem, Norway.
Trost & Muninger, envelopes & casings for electrical pocket lamps, Landsbergerstr. 11, Berlin, N.O. 18.
Trott, G., engineer & branch manager Brown, Boveri & Co. A.-G., Dresden, Germany. (Teleph. No. 2054.)
Trouillet, A., electrical sundries manufacturer, 112, boul. Sébastopol, Paris. (Teleph. No. 122-09.)
Trüb, Fierz & Co., electric measuring instrument & electricity meter makers, Hombrechtikon-Zürich.
Trüb, R., & Cie., manufacturers of electrical instruments & apparatus, Hombrechtikon, Canton de Zurich, Switzerland.
Trumpy, J., electrician, Jægtevigen 1, Bergen, Norway.
Tschactli, Gust., general agent for Belgium for Société Anonyme d'Electricité de Sarrebruck of St. Johann s/Saar, 7 rue James Watt, Brussels, N.E.
Tscherbakoff, W., electrical & mechanical agent, Loubiansky proesdc 24, Moscow.
Tscherning, J. C., electrician, Great Northern Telegraph Co., Gothenburg, Sweden.
Tschernoucha, S., electrical engineer, South-West Railways, Kiew, Russia.
Tuchband, S., shades, Kommandantenstr. 14, Berlin, S.W.
Tudor Henri, electrical engineer, Chateau de Rosport, Grande duché de Luxembourg. (Telegrams: "Tudor, Rosport." Telephone No. 4.)
Tulpin, A., electrician, 91, rue Dammartin, Roubaix (Nord), France.
Tulpinck, John, consulting electrician & inventor, Burgt-Antwerp, Belgium.
Tulpinck, L., electric bells & telephones, 89, rue St. Bernard, Brussels.
Tuma, Dr., professor of physics & electricity at the Technik, Prägue (Böhmen), Austria.
Turbiaux, Paul, electrician, 29, allees de Tourny, Bordeaux (Gironde), France. (Telephone No. 25-48.)
"Turbinia," Deutsche Parsons-Marine A.-G., steam turbine makers, Friedrichstr. 72, Berlin.
Turneer, J., electric bell contractor, rue Hôtel des Monnaies 53, Brussels.
Turrettini, Theodore, electrical engineer, 6, rue des Granges, Geneva, Switzerland.
Tuxen & Hammerich, mechanical & electrical engineers & manufacturers, Nakskov, Denmark; & head office: Vester Falledvej, Copenhagen V., Denmark.
Tuyn & Co., electrical engineers, electrical installations, Singel 186, Amsterdam, Holland. (Teleph. No. 192.)
Tvermoes & Abrahamson, electrical fittings makers, Raadmandsgade 43, Copenhagen, L.

Ubach, Hermanos, y Campdera, engineers & dealers in electrical supplies, Cortes 586, Barcelona. (Telegs.: "Dinamica, Barcelona." Teleph. No. 1701.)
Uccelli, Icilio, electric light contractor, Leghorn, Italy.
Uddevalla Electric Light Station, Sweden. (Carl Sundling, manager.)
Ufficio Elettrotecnico Industriale con Ufficio Brevetti, electrical & patent experts, 12, Foro Bonaparte Milan, Italy.
Ufficio Tecnico Ministero Poste e Telegrafi, Viale del Re 131, Rome.
Uguccioni, D., & Co., electrical agents, Piazza della Signoria, Florence, Italy.
Ulbricht, Prof. Dr. P. R., electrician, 43, Strehlenerstr., Dresden.
Ullmann, A., manufacturer of electrical apparatus, Bamberg.
Ullmann, Jacques, manufacturer of electric light apparatus, fittings, &c., 16, boul. St. Denis, Paris. (Telegrams: "Ullmann, Electricien, Paris." Telephone Nos. 437-71 & 437-72.)
Ullrich, Johann, manufacturer of all kinds of glass fittings, Röhrsdorf, bei Zwickau, Bohemia.
Umbreit & Matthes, manufacturing electricians, cupron batteries, Ziegelstr. 19, Leipzig-Plagwitz, Germany. (Telegrams: "Umbreit Matthes, Leipzig." Telephone No. 8028.)
Ungarische Metallwaaren und Lampen Fabriks, Akt.-Ges., electriolier manufacturers, Gizellater, Budapest V.; & Gergely-utcza 29, Budapest X.; Erzébet körút 19, Budapest VII.; Ullöi-ut. 2, Budapest VIII.
Ungarische Siemens-Schuckert-Werke Elektricitäts-Akt.-Ges., Lipót-körút 5, Budapest V. (Telegs.: "Siemenschuckert, Budapest." Teleph. Nos. 211 & 212.)

Unger, Paul, manufacturer of electrical apparatus, Naumburgerstr. 38, Leipzig-Plagwitz.
Unger & Hoffmann, A.-G., electrical instrument makers, 38, Striesenerstr., Dresden, A. 16. (Teleph. No. 3123.)
Union Accumulatoren Werke, Limpke & Co., G. m. b. H., Hollmannstr. 17, Berlin, S.W.
Union Baugesellschaft auf Actien, electric light & tramway contractors, 27, Poststr., Berlin, C.
Union des Centrales Suisses d'Électricité, Lausanne, Switzerland.
Union Electrique, Saint-Claude (Jura), France.
Union Elektricitäts Ges. (B. Tarva, engineer & director), rue Fabry 26, Liége, Belgium.
Union Metalúrgica, La (Soc. Anon.), electric tramway plant mfrs., calle Castillejos 113, Barcelona.
Unione Elettrica Edolo-Mu, Edolo, Brescia, Italy.
Unione Elettrotecnica Italiana, manufacturers of dynamos, motors & transformers, via Principi d'Acaja 60, Turin, Italy. (Telegrams: "Elettrotecnica, Turin." Telephone No. 621.)
Unione Elettrotecnica Italiano, 82, via Cavour, Rome, Italy.
Unione Esercizi Elettrici, electric light & power distribution at Chioggia, Aquilo, &c., Piazza S. Pietro e Lino 1, Milan, Italy.
Unione Italiana Tramways Elettrici, via L. Montaldo 2, Genoa. (Telegs.: "Elettrotram, Genoa." Teleph. No. 38.)
Unione Telefonica Lombarda, via S. Orsola 1, Milan, Italy.
Unitas Aktiengesellschaft für Zentralheizung und Elektrotechnik, electrical and heating engineers, Bismarkstr. 118, Aachen, Germany.
United Electrical Co., Ltd., incandescent electric lamps, Ujpest, nr. Budapest. (Telegrams: "Ampère, Ujpest.")
Universal Technical Review, Gaslerowsky, House No. 11, St. Petersburg.
University of Louvain, H. Ponthiere, professor of applied electricity, Louvain, Belgium.
Uppenborn, F., electrical engineer to the town, Ledererstr. 2, München. (Telegrams: "Uppenborn, München.")
Ureña, A., electrical apparatus dealer, calle Barquillo 14, Madrid.
Urtis, Cesare, & Co., electrical apparatus (wholesale), via XX. Settembre 32, Turin. (Telephone No. 1186.)
Usener, Dr. Hans, electrician, Neufeldt & Kuhnke, Kiel, Germany. (Telephone No. 899.)
Usine à Gaz & Electricité, Lunéville (Meurthe & Moselle), France.
Usine à Gaz & Electricité, Elbeuf (Seine-Inférieure), France.
Usine Électrique, Concession Fagard Tudor, Limbourg.
Usine Electrique de la Bridoire, par gare de Lépin, Lac d'Aiguebelette (Savoie), France.
Usine Fredéric Nyst, insulators & iron work, rue Renory, Angleur lez Liége, Belgium.
Usines Electrochimiques de Hafslund, electric power company, 23,000 h.p., & manufacturers of carbide of calcium, iron compounds, &c., Sarpsborg, Norway. (Telegs.: "Carbid, Sarpsborg." Staudt & Hundius & A.B.C., 4th edition, Codes used.)
Usines et Aciéries Léonard-Giot, extra soft steel for motors & dynamos, Marchienne-au-Pont, Belgium.
Ussing, F. E., A.M.I.E.E., Elektricitats Gesellschaft Alioth, Munchenstein-Basel, Switzerland.
Utrechtsche Accumulatoren-Fabriek (G. Greve), accumulator manufacturers, 1–4, Hoogelanden, Utrecht, Holland. (Telephone No. 111.)
Uytborck, E., electrical engineer, 18, rue du Commerce, Brussels.
Uzel, Pierre, electrician, Maison Sautter, Harlé et Cie., 39, rue Vital, Paris.

Vachette Frères, electric bell founders, 60, rue de Charonne, Paris. (Telephone No. 906–59.)
Vadalà & Co., electric installations, via Cavour, Palermo, Italy.
Vagt, H. G., dealer in electric apparatus, 157, rue du Progrès, Brussels. (Teleph. No. 3958.)
Vaillant, —, directeur de la Station Centrale d'Eclairage Electrique, Barjols (Var), France.
Vakafdeeling voor Electrotechniek van het Kon. Instituut van Ingenieurs. Secretary, Prof. C. L. van der Bilt, Laan van Meerdervoort 99, The Hague, Holland.
Val, Carl de, manager Lesjöfors Aktiebolags Upplag, Kyrkog. 5, Stockholm.
Val d'Osne, Société du, bronze fittings for electric light, 58, boul. Voltaire, Paris. (Telephone No. 932–22.)
Valabrega, Ing., Lichtenberger & Ori, engineers & agents, via Lagrange 29, Turin. (Telegrams: "Valabrega Electricité, Turin.")
Valatin, Béla, chief engineer, Electric Railway Department, Ganz & Co., II. Lövöház u. 35, Budapest.
Valcke Frères, electric light fittings & contractors, rue de la Chapelle 84, Ostende, Belgium.
Valentin, L., electric light & gas fittings, Mainzerlandstr. 166, Frankfurt-am-Main. (Teleph. No. 1020.)
Vallance, Théophile, director of Posts & Telegraphs, rue du Palais Gallien, Bordeaux, Gironde, France.
Vallebella, Giuseppe, electric light & bell fitter, Vico del Duca 35 rosso, Genoa.
Vallin, E., electric light installations, 5, rue de Lancry, Paris.
Vallot & Pauze, electrical apparatus makers, 5, rue de la Préfecture, St. Étienne (Loire), France.
Van Aerschodt, Alph., electric fixtures. Show-rooms: 5 & 7, rue Montagne aux Herbes Potagères; works: ave. Van Volxem 288, Brussels. (Telephone Nos. 1636 & 3124.)
Van Beers, Frères, electric light & telephone contractors, rue de Joncker 34, Brussels.

Van Bunnen, I., electrician & watchmaker, 9, rue de l'Harmonie, Brussels.
Van Campenhout, electrical engineer, rue de Robiano 58, Brussels.
Van Dam, J., engineer of the Electra Lighting Station, Haarlem, Holland.
Vandel & Cia., makers of iron screws & electric fittings, Avigliana, nr. Turin, Italy.
Van de Meerssche, P., electric bells, &c., rue de Londres 16, Brussels.
Van den Camp, Vve. C., electric bells & telephones, Digue de Brabant 18, Ghent, Belgium.
Vandenkerckhoven, J., electric light installations, 26, rue de Paris, Brussels.
Van den Wall Bake, electrotechnical office, Heerengracht 270, Amsterdam, Holland.
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Vanderbiste, E., optician, electrician, 68, rue de la Montagne, Brussels.
Van der Hegge Zijnen & Lebret, Electrical Research Laboratory, Utrecht, Holland. (Telegrams: "Electro, Utrecht." Telephone No. 1304.)
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Wiedemann's Annalen der Physik (15 parts, 45 M. per ann.), Leipzig, Germany. J. Drude, editor; J. A. Barth, publisher.

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Woodhouse & Baillie Riviera Electricity Co., Ltd., owning electric tramway Ventimiglia, Bordighera; & suppliers of electrical energy, light & power, Ventimiglia & Bordighera, Italy. Head office: Bordighera. (Telegrams: "Woodbail, Bordighera.") Nominal capital: £50,000. Directors: C. H. C. Woodhouse, Esq. (managing); G. H. Baillie, Esq.; A. M. Hanbury, Esq.
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Zeitschrift des Österreichischen Ingenieur- und Architekten-Vereines (weekly; ann. sub., K. 24), Vienna.
Zeitschrift für Angewandte Chemie (weekly; ann. sub., 25*s.*), Berlin. Publisher, Dr. B. Rassow.
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Zeitschrift für den Physikalischen und Chemischen Unterricht (bi-monthly; ann. sub., 12*s.*), Berlin. Publisher, Dr. F. Poske.
Zeitschrift für Elektrotechnik und Maschinenbau (weekly; quarterly sub., M. 3; abroad, M. 5), Hohenzollernstr. 3., Potsdam.
Zeitschrift für Elektrochemie u. Angewandte Physikalische Chemie, Verlag von Wilhelm Knapp, Halle-a.-S., Germany.
Zeitschrift für Instrumentenkunde, Organ für wissensch. Technik (publisher, Prof. Dr. St. Lindeck), Bismarckstr. 53, Charlottenburg-Berlin.
Zeitschrift für Physikalische Chemie, Prof. Ostwald, Linnéstr., Leipzig.
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Zolotouchine, S., editor of *Universal Technical Review*, 11, Gaslerowsky, St. Petersburg.
Zoppot (Westpr.), electric light station (proprietors, Akt. Ges. für Elek. Anlagen, Berlin). (Telephone No. 26.)
Zosi, A., electrical engineer, Veytaux, Vaud, Switzerland.
Zsakula, Milan T., engineer, Royal Hungarian Technical University, Budapest.
Zschauer, F. K., electric light fittings, shades, &c., Neanderstr. 3, Berlin, S.O.
Zschoche, G., engineer & machine maker, Mainzerstr., Kaiserlautern, Germany.
Zschökel, B., & Co., Nachf., electrical supplies, Köpenickerstr. 32, Berlin, S.O.
Zuber, Rieder, et Cie., telegraph paper makers, 38, boul. Beaumarchais, Paris.
Zuckschwerdt, Albert, glass instrument maker, Ilmenau (Thuringia), Germany.
Zuffenhausen (Württ.), electric light station (proprietors, C. & E. Fein, Stuttgart).
Zugmayer, Georg., & Sons, electric wires & cables, Waldegg dépôt, 10, Bräunerstrasse, I., Vienna. (Teleph. No. 8067.)
Zulauf & Co., electric light apparatus makers, Höchst-am-Main, Germany. (Teleph. No. 166.)
Züllchow (Pommern), electric light station (proprietors, Gas und Elektr. Werk, Bredow a. O., Act. Ges., Bremen).
Zumpe, C. R., electro-medical apparatus maker, Markt 10, Chemnitz. (Teleph. No. 3593.)
Zumstein, —, electrical installation, 6, passage des Mousquetaires, Paris.
Zündel, Julius, electrical engineer, engineer's office, Oesterr. Siemens-Schuckertwerke, Teplitz i. B. (Telegrams: "Siemens-Schuckert, Teplitz." Telephone No. 305.)
Zunini, Luigi, electrical engineer, Foro Bonaparte 49, Milan, Italy.
Zurcher Gluhlampen-Fabrik, incandescent lamp makers, Bahnhofstr. 106, Zürich. (Telegrams: "Gluhlampe, Zurich.")
Zurcher Telephongesellschaft, Actiengesellschaft für Electrotechnik, Zürich, Switzerland. (Telegrams: "Electrotechnik, Zürich." Telephone No. 2241.)
Zürich-Oerlikon-Seebach Elektrische Strassenbahn, Oerlikon, Zürich. (R. Fürst, engineer.)

Zwarg, Julius Otto, manufacturer of lightning conductors & telegraph apparatus, Freiberg, Saxony, Germany.

Zweifel, Gaspard, electrical engineer, Société Alsacienne de Constructions Mécaniques, Belfort.

Zwickau (Sachsen) electric light station (proprietors, Zwickau Elek. Werke und Strassenbahn Act. Ges.), Zwickau, Saxony.

Zwirner & Dörff, electrical engineers, Beaumontstr. 16, Magdeburg. (Teleph. No. 1818.)

CONTINENTAL CLASSIFIED SECTION.

Accessories—Manufacturers of.

F.—Accessoires pour l'electricité—Fab. d'.
G.—Zubehöre—elektr.—Fabr. von.

Lax, Herm, Köpnickerstr. 121A, Berlin.
Oederlin, E., & Co., Baden, Switzerland.
Picard & Picard, 12, rue des Ecluses, St. Martin, Paris.
Thiel & Bertling, Neuenburgerstr. 37, Berlin, S.W. 13.
Wohlfeil, J., Hollmannstr. 32, Berlin, S.W.

Accumulators of Electricity—Makers of.

F.—Accumulateurs d'Electricité (Fab. de).
G.—Electrische Accumulatoren (Fab. von).

Accumulateur Aigle (Soc. Anon.), 14, rue Felicien David, Paris.
Accumulateur Max, 33-35, rue Perrier, Levallois (Seine), France.
Accumulateur Phénix (Soc. Anon.), 27, rue Cavé, Levallois-Perret (Seine), France.
Accumulateurs Tudor, 81, rue St. Lazare, Paris.
"Accumulateurs Tudor" Soc. Anon., 79, rue Joseph II., Brussels.
Accumulator & Elektricitatswerke "Edison," Krautsstr. 4, Berlin.
Accumulatorenfabrik Actiengesellschaft, 31A, Luisenstr., Berlin, N.W.
Accumulatoren Fabrik Act. Ges., Kaiserstr. 57, Frankfurt-a.-Main.
Accumulatorenfabrik Aktiengesellschaft, Wipplingerstr. 23, Vienna I.; & 1454, Külso vaczi-út. V., Budapest.
Accumulatorenfabrik Act. Ges. Pflügerwerk, Wilhelminenhofstr. 66 & 69, Oberschöneweide bei Berlin.
Accumulatoren und Electricitäts Werke Akt. Ges. (vorm. W. A. Boese & Co.), 154, Koepnickerstr., Berlin, S.O.
Accumulatoren und Elektricitäts-Werke Commanditgesellschaft A. Biel & Co., 34, Leebgasse, Vienna X/1.

Accumulators of Electricity—Makers of —*continued.*

Accumulatorenwerk Oberspree A. G., Luisenstr, 31A, Berlin, N.W. 6.
Accumulatoren Werke "Progress" G. m. b. H., Chausseestr. 67, Berlin.
Accumulatoren-Werke System Pollak Aktiengesellschaft, Mainzer Landstr. 259, Frankfurt-am-Main.
Accumulatorenwerke System Zinnemann & Co., Stendalerstr. 4, Berlin.
Akkumulatoren Fabrik Akt. Ges., Hohenzollernstr. 63, Breslau.
Akkumulatoren Fabrik A. G., Hagen, Westphalia.
Ancel, L., 13, rue Brochant, Paris.
Boese & Co., Koepnickerstr. 154, Berlin, S.O.
Chalmerton, P., et Cie., 44, rue Taitbout, Paris.
Compagnie Des Accumulateurs Electriques Blot, Société Anonyme. Offices: 39 *bis*, rue de Châteaudun, Paris. Factory: Boves (Somme).
Compagnie Française de l'Accumulateur Aigle, 14, rue Felicien David, Paris.
Compagnie Française des Accumulateurs Electriques "Union" (Soc. Anon.), 27, rue de Londres, Paris.
Compagnie Générale d'Accumulateurs et de Traction, 81, rue St. Lazare, Paris.
Compagnie Générale Electrique, rue Oberlin, Nancy.
Compagnie Générale Franco-Russe d'Accumulateurs, rue Fossé-aux Loups 37, Brussels.
Compagnie Générale Franco-Russe d'Accumulateurs, 1, Sq. Labruyère, Paris.
Compañia "La Cruz," Linares (Jaen), Spain.
Contal, Requillart & Chalas, 5, rue Voltaire, Levallois (Seine), France.
Corbeau, L., & G. Gust, 45, rue des Chanteurs, Brussels.
"Dary," 33 & 35, rue Chevallier, Levallois-Perret, France.
Debenedetti, Tedeschi & Co., Strada di Pianezza 19, Turin.

Accumulators of Electricity—Makers of *—continued.*

Dinin, A., 2, quai National, Puteaux (Seine), France. (Telegs.: "Accudinin, Puteaux." Teleph. No. 571–04.)
"Dora" Soc. Industriale Italiana, Alpignano, Italy.
Drevdal, F., Binoche, & Co., 30, rue Amelot, Paris.
Dujardin, P. J. R., & Cie., 28, rue Vavin, Paris; & Pont Authou, Eure, France.
Electriciteits Maatschappij "Maarssen," Maarssen, nr. Utrecht, Holland.
"Elektra" Accumulatoren-Ladistation Erich Markert, Ross-str. 7, Berlin, C.
Elektricitäts Gesellschaft Triberg G. m. b. H., Triberg, Germany.
Elektricitäts und Accumulatoren Werke Sudelmann & Co., 9 & 10, Ritterstr., Berlin, S. 42.
Etincelle, L' (Cie. de), 15, rue de Boiteux, Brussels.
Expert, Ch. Besançon & Cie., rue le Peletier 9, Paris.
Fabbrica Accumulatori Elettrici, corso Ugo Bassi 26, Genoa.
Faust Gebr., 18, Alexianerstr., Köln-a.-Rh.
Feilendorf, Robert, VII. Schottenfeldgasse 76, Vienna.
Fischbach, P., & Co., 17, Neuenburgerstr., Berlin, S.W.
GIANOLI, L., 26, boul. Magenta, Paris.
Greve, G., Hoogelanden 3, Utrecht.
Gulcher-Accumulatorenfabrik, 28, Spenerstr., Berlin, N.W.
Hanaire, A., 130, rue du Bois, Levallois (Seine), France.
Heinz, A., & Cie., 27, rue Cavé, Levallois (Seine), France.
Hensemberger, Gio., Monza, Italy.
Heym, W. T., & Gläsig, Schiffbauerdamm, Berlin, N.W. 6.
Hirschmann, W. A., 30, Ziegelstr., Berlin, N.
Invicta Accumulator Co., 5, rue Deves, Neuilly-sur-Seine, France.
Jacquet Frères, Vernon (Eure), France.
Jeanty, V., 19, ave. de la Republique, Paris.
Kayser, C. Wilh., & Co., Kaiserin Augusta Allee 26, Berlin, N.W. 87.
Körner, Gebr., & Mahla, Frankenthal, Germany.
L'Accumulateur Fulmen. Works & offices: 18, quai de Clichy, Clichy (Seine).
Ladiges, Greiner & Co., Weisswasser o/L., Germany.
Langstein & Klein, Teplitzerstr. Aussig, Bohemia, Austria.
Lejeune, L., Thury-Harcourt (Calvados), France.
Max Electric Accumulator Co., 33 & 35, rue Perrier, Levallois-Perret (Seine), France.
Maxim Accumulatorenwerke G. m. b. H., 79, Kommandantenstr., Berlin, S.W. 19.
Müntner, Heinr., Gerskstr. 54, Dresden.
Pautier Frères, 9, pl. du Parc, Angoulême, France.
Peyrusson, Edouard, Limoges.
Pflüger Accumulatorenwerk, 31A, Luisenstr., Berlin, N.W. 6.

Accumulators of Electricity—Makers of *—continued.*

Poulain, A., et Fils, 5 & 9, route Nationale, Charleville, Ardennes, France.
"Rapid" Accumulatoren und Motoren Werke, G. m. b. H., Hauptstr. 149, Schöneberg-Berlin.
Reval, Louis, Thury-Harcourt (Calvados), France.
Rosenthal, Th. T., Pokrovskayastr. dome Schlihsterman, Moscow.
Russian Tudor Accumulator Co., Gorochowajei 5, St. Petersburg.
Schweizerische Akkumulatorenwerke Tribelhorn A. G., Olten, Switzerland.
Seidelmann & Co., 9 & 10, Ritterstr., Berlin, S. 42.
Semmler & Ahnert, Regis bei Leipzig.
Simmen, A., 55, rue Dombasle, Paris.
Sociedad Española del Acumulador "Tudor," 7 & 9, Carrera de San Jeronimo, Madrid.
Società Accumulatori Brevetto Tudor, via U. Bassi 26, Genoa.
Société Anonyme Accumulatorenfabrik Maarssen, Maarssen, Holland.
Société Anon. d'Eclairage et d'Applications Electriques, Arras (Pas-de-Calais), France.
Société Anon. des Accumulateurs Chelin, ave. Guillaume Macau 11, Brussels.
Société Anonyme des Accumulateurs Tudor, Florival, Belgium.
Société Anonyme des Alliages Cothias, 9, rue Victor Hugo, Ivry-Port (Seine), France.
Société Anonyme des Manufactures de Câbles, Accumulateurs et Appareils Électriques, Seneffe, Belgium.
Société de Construction d'Appareils Industriels Accumulateurs Somzée, petite rue de Bellevue, Ghent, Belgium.
Société Française des Accumulateurs Phénix, 27, rue Cavé, Levallois (Seine), France.
Société Française de l'Accumulateur Tudor, 48, rue de la Victoire, Paris.
Société Française dés Accumulateurs Electriques, 44, rue Taitbout, Paris.
Société Française des Accumulateurs Tribelhorn, 189, rue Paradis, Marseille.
Société Française pour la Fab. des Accumulateurs Electriques, 44, rue Taitbout, Paris.
Société l'Electrique, 279, Chaussee d'Anvers, Brussels; & 23, rue du Bac, Paris.
Société Nouvelle des Accumulateurs B.G.S., 33, rue Pierret, Neuilly-sur-Seine, France.
Société Suisse pour la Construction d'Accumulateur Electriques, Chemin Vinet 29, Lausanne.
Stabenow, Rudolf, Prag-Zizkow, Bohemia.
Strube, A., Neue Inkobstrasse, Berlin.
Union Accumulatoren Works, Limpke & Co., Hollmannstr. 17, Berlin, S.W.
Utrechtsche Accumulatoren Fabriek (G. Greve), 1–4, Hoogelanden, Utrecht.
"Varta" Akkumulatoren Gesellschaft m. b. H., 31A, Luisenstr., Berlin, N.W.
Verdier, F., St. Gervais, près Blois (Loir et Cher), France.
Wüste & Rupprecht, I. Kolowrating 9, Vienna.

Accumulator Boxes & Trays—Makers of.

F.—Boites d'Accumulateurs.
G.—Accumulatoren kästen—Fab. von.

Compagnie Française du Celluloid, 11, rue Bailly, & 98, rue Beaubourg, Paris.
Müllensiefen Gebrüder, Crengeldanz, Westphalia, Germany.
Société de St. Gobain, Chauny & Cirey, 1 bis, place des Saussaies, Paris.
VEREINIGTE GUMMIWAAREN-FABRIKEN HARBURG-WIEN, Wimpassing, Austria. Office: VI. Mariahilferstr. 115, Vienna.
Von Poncet Glashütten Werke, Köpnickerstr. 54, Berlin, S.O. 16.

Accumulator Charging.

F.—Chargement d'Accumulateurs.
G.—Accumulator Laden.

Accumulator Switchboards.

F.—Socles pour accumulateurs—Fab. de.
G.—Schalttafeln für Accumulatoren—Fabr. von.

Acid Manufacturers.

F.—Acides—Fabricants d'.
G.—Säure-Fabrikanten.

Bidtel, Dr. Julius, Chemische Fabrik, Cölln Meissen, Germany.
De Bonnier et Cie., 14, rue de la Blanchisserie, Brussels.
Desmazures & Lambert, 8, rue du Parc Royal, Paris.
Hebré, Girault & Davene, 27, rue des Pyramides, Paris.
Konigswarter & Ebell, Linden, near Hanover, Germany.
Kunheim & Co., 32, Dorotheenstr., Berlin, N.W.
Unione Italiana, Vicenza.

Agents—Electrical.

F.—Agents d'électricité.
G.—Agenten—Electrische.

Abatschin & Orloff, Miasnitzkaya, Moscow, Russia.
Agence Quiquet (telegraph), 27, rue Traversière, Brussels.
Agostini, Francesco, via Roma 2, Turin, Italy.
Ahrend, Wed. J., & Zoon, Amsterdam.
Alexeeff, J. G., & Co., Moscow.
Alimonda & Burgo, 16, via XX. Settembre, Genoa, Italy.
Bardorf, E., & Co., passage Popoff, 32, Moscow, Russia.
Behles, E., Bucharest.
Berezowsky, M. O., Nikolajewskaja str. 9, St. Petersburg.

Agents—Electrical—*continued.*

Berlein, J., Schoniskoe podvorie, Moscow.
Berthier, D. Emilio, 4 Cuesta de Sto. Domingo, 4, Madrid.
Borowitsch, W., Miasnitskaya dome Michina, Moscow.
Boselli, Luigi, corso Porta Nuova 11, Milan, Italy.
Bosshart, A., Zurich, Switzerland.
Brinchmann & Co., Toldbodgd. 19, Christiania, Norway.
Busche & Schmidt, Köpenickerstr. 124, Berlin, S.O., Germany.
Christiaen, Emile, Box No. 24, Malines Station, Belgium.
Cooke, H. A., 7, Malaia Dmitrovka, Moscow, Russia.
Dahl, C., & Co., 14, Kannikestrade, Copenhagen, Denmark.
Dalle, Molle, & Co., via due Macelli, 10–11, Rome Italy.
Daloz, Georges, 69, boul. Voltaire, Paris.
Dangers, C., Gartanstrasse 8, Breslau V., Germany.
De Grelle, Ch., & Co., 69, rue de l'Association, Brussels.
De Loriol & Finet, 17, rue Faidherbe, Lille (Nord), France.
Deloustal, R., Cortes 581, Barcelona.
De Vries, Herman J., 127, Sarphatistraat, Amsterdam.
Ducati, Ing. A. C., corte Galuzzi 2–4, Bologna, Italy.
Durban & Martin, Cologne, Germany.
Ecke, Ernst, Hohestr. 47, Leipzig.
Eckersberg, J. F., Christiania, Norway.
Engel, Carl, VI. Nagy Janosgasse 1/B., Budapest.
Ericson, R., Miasnitskaja 20, Moscow; & 64, Nevsky, St. Petersburg.
Fato Lionetti, G., via Abate Gimma 251, Bari, Italy.
Feiser, F. K., Wassily Ostrow 9th linie N. 42, St. Petersburg.
Ferruccio Guidetti & Co., corso Vitt. Emmanuele 34, Turin.
Finzi, Ing. V., Monte Napoleone 7, Milan.
Fleischauer, G., 78, Osterstr., Hanover.
Fogliacco, Giov., via dei Mille 6, Turin.
Forrest, R. W., & Cia., Ronda S. Pedro 74, Barcelona, Spain. (Agents for Spagnoletti & Crookes.)
Foussat, G., 61, quai Valmy, Paris.
Gasguet, Mateo, Sierfes 47, Seville.
General Electric de France, Ltd., agents for General Electric Co., Ltd., of London (Lucien Espir, general manager), 11 bis, rue de Maubeuge, Paris.
Gerber, V., Schottenbastei 14, Vienna I.
Gernaert & Co., 3, rue d'Arlon, Brussels.
Gès Emmanuel, Paseo de Colón 17, Barcelona, Spain.
Giannini, C., Rieti, Umbria, Italy.
Gibson, G. W. E., Rotterdam.

Agents—Electrical—*continued.*

Girbasoff, M., Tomsk, Russia.
Grief, F. B., IV., Plösselg. I., Vienna, Austria.
Guidetti Ferruccio & Co., corso Vitt. Emmanuele 34, Turin.
Haas, Augusto, via Pietro Verri 7, Milan.
Hardtmuth, F., & Co., via Durini 26, Milan.
Harel, Franz, Schätzenstr. 18, Berlin.
Harker, John, avenida da Liberdade, 41–43, Lisbon, Portugal.
Hesse, C. Max, & Co., Palermo, Italy. (Telegrams: "Hesse, Palermo.")
Honigmann, Emil, Löblichgasse 4, Vienna IX.
Jacquot, J., 30, rue des Bourdonnais, Paris.
Jordan & Treier Elektrische Zähler und Armaturen Fabrik, Dreilaufergasse 2, Vienna VII.
Jüngermann, Heinrich, via Melchiorre Gioja 1, Milan.
Kartascheff, A. N., Great Moskowskaja, St. Petersburg.
Kerting Bros., Moïka 64, St. Petersburg.
Kingmann, E., & Co., Gorohovaya 17, St. Petersburg.
Knappe, Carlos, Sagasta 6, Madrid.
Kornblüh, L., I. Helferstorferstr. 3, Vienna.
Lilly, L. M., rua de Conceiçao 35, Lisbon.
Livschitz, N., Miasnitskaya, h. Pegow, Moscow, Russia.
Loevsky, W., Nicolskaya, h. Tchijoff, Moscow, Russia.
Lozey, H., 37 bis, rue des Plantes, Paris.
Malavasi, C., via Solferino 3, Milan; & corso Milano 11, Monza.
Mannstaedt, Hans, Fredsgatan, 30, Stockholm.
Mechwart & Co., via Solferino 15, Milan, Italy.
Meyer, H. H., Riga, Russia.
Moleschott Bros. (agents to Siemens & Halske), 58, via Volturno, Rome, Italy.
Nathan Frères, 67, rue d'Hauteville, Paris.
Neuweck, J., Ritterstr. 87, Berlin, S.
Ney, O., 56, Bärwaldstr., Berlin, S. 53.
Niedlich, A., & Co., Breslau.
Noel, F. A., 5, rue Greffulhe, Paris.
Nolte, J. G., 13, Westerdokstraat, Amsterdam.
Norsk Elektrisk Lyscompagni, 23, Ovre Slotsgade, Christiania, Norway.
Oesterreicher, Edmund, 12, Wollzeile, Vienna I.
Olsen, Olaf R., Tordenskjoldsgade 6B, Christiania.
Ortiz de Lanzagorta, M., Los Madrazo 1 tripl., Madrid.
Oulie & Sorensen, 32, Dronn-gade, Christiania.
Paltzer, E., Niddastr. 41, Frankfort-on-Main.
Pareyn, C., 36, rue Van de Weyer, Brussels.
Persicaner & Co., Liebenberggasse 7, Vienna I., Budapest.
Peterson, E. L., Borowaja 29, St. Petersburg.
Petit, Alex, 93, rue de Laeken, Brussels.
Plesoianu, —, 22, Strada Sarindar, Bucharest.
Pongs & Co., Oeverstr. 18A, Arnhem, Holland.
Rattner, —, Karavanaya 14, St. Petersburg.
Rawicz, A., & Co., 12, Erywanska-st., Warsaw, Russia.
Rémon-Casas, L., General Castaños 9, Madrid.
Remy, Ing. Roland, corso Oporto 21, Turin.

Agents—Electrical—*continued.*

Rijn, Willem van, 181, Keizersgracht, Amsterdam, Holland.
Rodionoff, P. M., Charkow, Russia.
Rogers, R., & Co., 1, rue St. Georges, Paris.
Rohart, G. (F. Henrion de Nancy), rue Chabaud, Reims, France.
Rose, K., Jerousalinskaya 72, Warsaw, Russia.
Ross & Kuhne, Cologne, Germany.
Schmaltz, M. F., Hüseter 9, Hamburg.
Schmidt, F., Malhildenstr. 12, Munich.
Schmidt, Fritz, Stockholm.
Schmoulevitsch, K., Moscow.
Schön, R., Königstr. 68, Elberfeld, Germany.
Silayeff, A., Miasnitzkaya, h. Obidine, Moscow, Russia.
Simonis & Co., via S. Eufemia 23, Milan, Italy.
Sinell, Emil, 16 & 17, Lindenstr., Berlin, S.W. 68.
Sluski, M., Miasnitzkaya dome Sitova, Moscow, Russia.
Société de Commission-Exportation (Delaporte & Roux), 56, rue de la Victoire, Paris.
Société du Familistère de Guise, Guise (Aisne), France.
Société Française d'Electricité, 42, rue de Paradis, Paris.
Stacchini, Paolo, via Aurelio Saffi 9, Milan, Italy.
Stieltjes, Fred., & Co., Keizersgracht 745, Amsterdam.
Svendsen, C. E., 12, Stormgade, Copenhagen.
Taschek & Weiss, 14, Jerusalemsgasse, Prague, Austria.
Tilberg, Erik, Chaussée d'Ixelles, Brussels.
Tolusso, Guido, via Torino 61, Milan, Italy.
Tschactli, Gust., rue James Watt 7, Brussels, N.E.
Tscherbakoff, W., Loabiansky proesde 24, Moscow.
Uguccioni, D., & Co., via Condotta 3, Florence.
Valabrega, Ing., Lichtenberger & Ori, via Lagrange 29, Turin.
Veyrat & Figli, 68, via Bertola, Turin.
Viereckl, A., 10, Eggerthgasse, Vienna VI.
Vincent, G. J., & Co., Hoofdstr. 36, Schiedam, Holland.
Wahter, K., & Co., Morskaya 26, St. Petersburg.
Weil, Edoardo, via V. Monti 4, Milan.
Wells, Douglas, 10, rue de la Pépinière, Brussels.
Weltin, H., Blumenstr. 3, Munich.
Wenzel, Juan, y Cia., Carrera de San Jeronimo 28, Madrid.
White, Child & Beney, Ltd., via P. Umberto 27, Milan.
Wich, J., 58, rue Charlot, Paris.
Wietlisbach, Ottavio, Corso Nuova 19, Milan, Italy.
Winand, C., 12, Bolsch. Konuchenaya, St. Petersburg.
Winternitz, M. T., Bacou, Russia.
Wite, Cjild & Beney, Ltd., via Montebello 36, Milan, Italy.
Wiwodzeff, M., Mochowaja 16, St. Petersburg.
Würsten, G., Miasnitzkaya, h. Spiridonow, Moscow, Russia.
Zieseniss, L., Krausenstr. 37, Berlin, S.W.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.

F.—Avertisseurs électriques—voleurs, incendie, navires, trains, &c.
G.—Alarmapparate (Elektrische)—Diebstahl, Feuer, Schiff, Eisenbahn u. s. w.

Billaudot, L., 5, rue Léonie, Bellevue, Paris.
Gorges, F., & Cie., Passage Dauphine, Paris.
Raffard, N. J., 5, ave. d'Orléans, Paris.
Schæfer & Montanus, Frankfort, Germany.
Sendtner, Michel, Schillerstrasse, Munich, Bavaria.

Alternate Current Motors.

F.—Moteurs pour courant alternatif.
G.—Wechselstrom—Motoren.

MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilator, Milan." Teleph. Nos. 809–3150.) Works in Sesto, S. Giovanni. Electric Fans. Single & Polyphase Current Motors. *See advts., pages* 997, 998, 1227 & ENGINEERS—VENTILATING & FAN MOTORS—BRITISH DIVISION.

Aluminium Manufacturers & Merchants.

F.—Aluminium—Fab. et March d'.
G.—Aluminium—Fab. & Händler.

Otto, W. Gg., Darmstadt, Giesserei.

Ammeters—Makers of.

F.—Ampèremètres—Fab. d'.
G.—Ammeter—Fab. von.

GIANOLI, L., 26, boul. Magenta, Paris.
Gross & Bohrer, Bamberg, Bavaria.

Ammonia Manufacturers.

F.—Ammoniaque—Fab. d'.
G.—Ammonia—Fab. von.

Solvay & Cie., 33, rue du Prince Albert, Brussels.

Annunciators (Electric)—Makers of.

F.—Tables Indicateurs électriques (Fab. d').
G.—Anzeiger Electr. (Fab.).

Paccard, Jos., 15, rue des Trois-Bornes, Paris.
Serrin, Henri, 13, boul. du Temple, Paris, et Neuilly-en-Thelle (Oise), France.

Apparatus for Lighting Gas—Electric.

F.—Appareils elec. pour allumer le gaz.
G.—Apparate zum Anzünden des Gases—elek.

Bois Fils, Gien (Loiret), France.
Elektrogasfernzünder G. m. b. H., Lindenstr. 18, Berlin, S.W.
GIANOLI, L., 26, boul. Magenta, Paris.
"Multiplex" Int. Gaszünder G. m. b. H., Leipzigerstr. 111, Berlin, W.
Vigniard, H., 85, rue Croix-Nivert, Paris.

Apparatus Makers—Electrical.

F.—Appareils électriques.—Fab. d'.
G.—Elektrische Apparate—Fabr. von.

Achilles, E., 22, Königin Augustastr., Berlin.
Adaro & Marin, Moros 28, Gijon, Spain.
Ahlberndt, O., Heidelbergerstr. 76, Berlin, S.O.
Aicher, A. D., 87, Schwabstr., Stuttgart.
Akar, A., 42, rue Mazarine, Paris.
Aktie-Bolag Electron, Gothenburg, Sweden.
Alcañiz, Aquilino, Acera de San Francisco 18, Valladolid, Spain.
Aldea, Feliciano, Ataulfo 12, Barcelona.
Algemeene Telephoon-Maatschappi voorheen Ribbink, van Bork & Co., Keizersgracht 85, Amsterdam.
Allemano, A., via Riberi 6, Turin.
Allez Frères, 1, rue St. Martin, Paris.
Ammann, —, 35, Rorschacherstrasse, St. Gall, Switzerland.
"Appareillage Electrique Grivolas," 16, Montgolfier, Paris.
Aramburo, Viuda de (antigua casa de Aramburo Hermanos), Príncipe 12, Madrid.
Auban y Ca., Nave 37, Valencia.
Auriol, Ch., 4, ave. des Chasseurs, Paris. Depôts: 23, rue Potagère, Brussels; & 152, St. John's Hill, Clapham, London, S.W.
Badel & Fauconnet, 13, boul. James Fazy, Geneva.
Baguès et fils, 31, rue des Francs-Bourgeois, Paris, France.
Baraguet-Fouguet, L., 5, rue Oberkampf, Paris.
Barbas, Tassart & Balas, 85, boul. de Strasbourg, Paris.
Barguet, F., 9, rue Capron, Paris.
Barth, R., Potsdamerstr. 63, Berlin, W.
Barthel, E. F., Annabergerstr. 26, Chemnitz.
Baruch, Hugo, & Co., 24, Alte Jacobstr., Berlin, S.W.; & London.
Beau, H., & Cie., 226, rue St. Denis, Paris.
Becker & Schöppe, Marienstr. 30, Dresden.
Berástegni, L., Bilbao, Spain.
BERDIEL, A., bronze fittings for electric light, 20, rue Cavenne, Lyon. (Teleph. No. 11-15.) Apparatus in all styles from catalogues or from drawings.
Berg, Van den, & Co., 163, Prins Hendrikkade, Amsterdam.
Berger, Franz, An der Universitat 13, Halle a-d.-S.
Berlie, C., & Co., 2, rue Paul Chenavard, Lyon. Works: 173, Route de Genas, Villeurbanne, France.
Bernard, A., rue Montigny 120, Charleroi.
Bernès, J., 34, avenue de la Republique, Béziers (Hérault), France.
Beziel & Ribot, 16, passage Saint Pierre Amelot, Paris.
Biancalani & Co., via Forca 8, Florence.
Biernath, E., Leibnizstr. 30, Charlottenburg, Berlin.
Binter, Gustav, München, Germany.
Blanc, C., 45, boul. Richard Lenoir, Paris.
Blochius, Ed., Dusseldorf, Germany.
Blumer, R., Wiesbaden, Germany.

Apparatus Makers—Electrical—*continued.*

Boccardo, —, corso Siccardi 31, Turin, Italy.
Bodmer, A., Schlüsselgasse 13, Zürich.
Böhlendorf & Völkel, 55, Köpnickerstr., Berlin, S.O.
Boin Moyersoen, 33, rue Zérézo, Brussels.
Boler, M., 237, rue St. Honoré, Paris.
Bonino, Carlo, corso Vitt. Em. II., 20, Turin.
Bonnewyn-Leroy, —, rue des Capucins 54, Mons, Belgium.
Borghini, Prof. Nazareno, via St. Vito 19, Arezzo, Italy.
Börlendorf & Völkel, 13, Luckanerstr., Berlin, S.
Bornet, A., & Co., 2, place de Hollande, Geneva, Switzerland.
Borrel, G., 47, rue des Petits Champs, Paris.
Borrell, Pedro, Canuda 37, Barcelona, Spain.
Böttcher & Quarck, 9, Müllerstrasse, Munich, Bavaria.
Brändli, J., Freiestr. 59, Basle, Switzerland.
Braun & Bockmann G. m. b. H., Mannheim, Germany.
Brenot Veuve, G., & fils, 109, boul. Beaumarchais, Paris.
Brito, Alfredo de, rua de Santo Antonio dos Capachos 52–80, Lisbon.
Brünner Frères, Eugengasse 57, Vienna, Austria; & 24, place Belleconn, Lyon.
Burin, H., & Cie., 108, rue de Richelieu, Paris.
Burniat Frères, 39, rue des Chartreux, Brussels.
Buseck, M. & I., 30, corso Genova, Milan.
Butzke, F., & Co., Ritterstr. 12, Berlin, S.
Candrian & Weller, 78, Dresdenerstr., Berlin, S.
Carette, G., & Co., Nuremberg.
Carl, Theodor, G. m. b. H., Würzburg, Germany.
Castelli & Ragni, 25, corso Vitt. Emanuele, Milan.
Castilla, Gonzalez V., Baeza (Jaen), Spain.
Cavalieri, Alexandre, Marignier (Haute-Savoie), France.
Cazenave, —, 32, rue Etienne Marcel, Paris.
Celi, A., Foro Bonaparte 16A, Milan.
Champy, J., Vieux Marché aux Poisson, 9 & 11, Tournai.
Chauvin & Arnoux, 186, rue Championnet, Paris.
Chedville & Beer, St. Pierre-les-Elbeuf (Seine-Inférieure).
Clerici, M., via Mario Minghetti 18, Rome.
Cochet, G., 34, boul. Henri IV., Paris.
Colin & Cie., Guise (Aisne), France.
Colin, M., & Co., 17, rue des Tournelles, Paris.
Compagnie Générale d'Appareillage, 7, rue Jules Cesar XIIe, Paris.
Compagnie Générale pour la Fabrication des Appareils d'Eclairage et de Chauffage par le Gaz et de l'Electricité, 6, rue Martel, Paris.
Compañia Excelsior, San Martin 28, San Sebastian, Spain.
Compañia General Sevillana de Electricidad, San Pablo 38, Seville, Spain.
Corcho Higos, Santander.
Costa y Ponces, Fernando VII. 42, Barcelona, Spain.

Apparatus Makers—Electrical—*continued.*

Cottin, R., 26, rue Amelot; & 3 & 5, rue du Chemin-Vert, Paris.
Courbebaisse, E., 10, rue Luflade, Bordeaux, France.
Couturier, L., 39, rue de la Paroisse, Versailles, France.
Cravero, Sebastiano, & Figlio, via Cavour, 17, Turin, Italy.
De Brabant, E., boul. du Hainaut, Brussels.
Dechesne, Ch., rue du Chêne 11, Verviers, Belgium.
Delme, Ferd., Gr. Steinstr. 15, Halle-a-S.
Delaunay, —, 45, rue Alexandre Legros, Fécamp (Seine-Inférieure), France.
Delfour, P., 53, rue des Remparts, Bordeaux.
Del-Grosso, L., via Gabrio Casati 1, Milan.
De Pauw, J., Chaussée d'Ixelles, Brussels.
Deselle et Cie., 7, rue des Petites Ecuries, Paris.
Desprès, A., Frauenfeld (Thurgau), Switzerland.
Dette, W., & Co., 27, Grimstr., Berlin, S.
Deutsch & Co., Schafergasse 9, Frankfort-a.-M., Germany.
Deutsche Elektricitäts Gesellschaft Jean Houbois, 225–229, Neusserstr., Cologne, Nippes, Germany.
De Vries, H. A., 111, Kalverstraat, Amsterdam, Holland.
De Vries, Mulder & Co., 40, Breedeweg, Amsterdam.
Dietze, F. R., Könneritzstr. 15, Dresden, A., Germany.
Ditmar, R., corso Umberto I. 288, Rome.
Ditmar, R., Erdbergstr. 21–27, Vienna III.
Dorer & Nickol, Brunswick, Germany.
Dörfel, C., 18, Schützenstr., Berlin, S.W. 12.
Douady-Demay, —, 10, rue Bretonneau, Tours (Indre-et-Loire), France.
Dreefs, E., Rodach-i-Oberfr., Germany.
Drees, C., Kaiserstr. 11, Frankfurt-a.-Main.
Dresdner Kunstgewerbe Bohme & Hennen, Görlitzerstr., Dresden, N.
Drittler & Erlanger, Merkelsgasse 19, Nürnberg, Germany.
Dubner, M., Beusselstrasse 70, Berlin, N.W.
Duc, Tardy & Henry, place de la République, Valence (Drôme), France.
Ducrotoy, J. B., 52, rue des Vinaigriers, Paris.
Dudach, E., 10, rue Ste. Anastase, Paris.
Dufour, —, 15, rue du Vieux-Palais, Rouen (Seine-Inférieure), France.
Dunand, J. E., Sigg & Camenzind, 64, boul. de Saint Georges, Geneva.
Durenne, A., 32, rue Félicien-David, Paris.
Dürrwächter, Alois, Mayence, Germany.
Ebeling & Croener, Bankstr. 11, Dresden, Saxony, Germany.
Egloff, W., & Co., Turgi-Limmatthal, Switzerland.
Eisengiesserei Rödinghausen Comm.-Ges., Menden, bei Iserlohn.
"Electron," Cortes 525, Barcelona.
Electrotechnisches Institut G. m. b. H., Mainzer Landstr. 148, Frankfort-a.-M.

Apparatus Makers—Electrical—*continued.*

Electrotechnischefabrik "Volta," 12, Klostergasse, Leipzig.
Elektricitäts Gesellschaft Richter, Dr. Weil & Co., Frankfort-on-the-Main.
Elektricitäts Gesellschaft Zschockelt (M. b. H.), Dresden, 16 A.
Elektrotechnische-Anstalt G. m. b. H., Acherstr. 13A, Bonn-am-Rheim.
Elektrotechnische Fabrik Offenbach, Offenbach-a.-M.
Elflein, E., 1, Gneisenauplatz, Breslau.
Eliot, L., 11, Passage Charles Dallery, Paris.
Ellison, G., 66 & 68, rue Claude Vellefaux, Paris.
Espinal y Calderón, 14, Serrano, Madrid.
Etablissements E. Hermet (P. Godart, succ.), 9, rue Neuve de Villiers, Levallois-Perret (Seine), Paris.
Etablissements L. Liotard jeune, 22, rue de Lorraine, Paris.
Evesque, —, 37, rue Beaunier, Paris.
Fabrique d'Ebauches de Sonceboz, Sonceboz (Bern), Switzerland.
Farkas, Armand, 13, rue Taitbout, Paris.
Favre, W. J., & Chalut, rue de la Halle 3, Geneva, Switzerland.
Ferla, P., Lauria 2, Barcelona.
Ferrero & Craveri, corso Massimo d'Azeglio 74, Turin.
Fevrier, E., Neuchatel.
Figueras, E., & Cie., 4, rue Pajol, Paris, XVIIIe.
Filliol, J., 31, rue de Constantinople, Paris.
Fischer, Ing. Stefano, 36, via Solferino, Milan, Italy.
Fischer, J., 10, Ottenweg, Zurich.
Fleischner, Julio, Carretas 33, Madrid.
Foras, Felix, 5, rue Debelleyme, Paris.
Franceschi, —, 109, boul. Beaumarchais, Paris.
Frister, R., 23, Lindenstr., Berlin, S.W.
Frost, H., & Söhne, 6, Wilhelmstr., Berlin, S.W.
Furter, J., 7, rue Cendrier, Geneva.
Gagneau et Cie., 115, rue Lafayette, Paris.
Gardy Frères, La Plaine, Geneva.
Gason, A., 137, boul. Léopold II., Brussels.
Gebhardt Söhne, Paul (school), Neue Schönhauserstr. 6, Berlin, C.
Geisselbrecht, K., Nuremberg, Bavaria.
Geissler, Dr. H., successor Franz Muller, Bonn-am-Rhein, Germany.
Geissler, E., & Co., 51, Hohenstaufenstr., Berlin, W. 30.
General Austrian Electricity Co., 2, Wallnerstr., Vienna I.
Giampiero, Ing. Clerici & Co., via Pergolese 11, Milan, Italy.
Gibert, F., Cuatro Santos, Cartagena.
Girshausen, Adolp, Aragon 259, Barcelona.
Glaive, M., 4, rue du Parc-Royal, Paris.
Godinez, Moreno & Ca., Albuera 2, Seville, Spain.
Goebels, Maison, 5, rue de la Fenderie, Charleroi.
Goffart, B., rue Terre-Neuve 80, Brussels.

Apparatus Makers—Electrical—*continued.*

Grandpierre, A., 42, rue Mazarine, Paris.
Grisson, R., Niedersedlitz bei Dresden.
Grodwohl, A., 5, boul. de Plainpalais, Geneva.
Grünewald, Albert, Erfurt, Germany.
Grünwald, Burger & Co., Heigerleinstr. 36, Vienna XVI.
Guerin & Comas, Bailén 6, Barcelona.
Guinier, E., 36, 38 & 40, rue de Trévise, Paris.
Gulcher & Schwabe, Biala, bei Bielitz, Silesia.
Hager & Fils, 18, rue du Ruschli, Bienne (Berne), Switzerland.
Hakenbeck & March, 44, Yorkstr., Berlin, S.W. 57.
Haldi & Jeanrenaud, 8, rue Rosius, Bienne (Berne), Switzerland.
Heckmann, E., & Co., 3, Seydelstr., Berlin, C.
Heimberger, J. A., Söhne, Bahnhof Platz 8, Frankfort-a.-M.
Heinrich, Georges, 24, rue du Terrage, Paris.
Hempel, Krischker & Co., Chemnitz, Germany.
Hennemans, J., rue de Parc 32, Louvain.
Herraiz, Rugama y Cia., Carrera de S. Jeronimo 15, Madrid.
Hesse, L., & Fils, 70, rue des Archives, Paris.
Heybrock & Co., Bornheimer Landstr. 46, Frankfort-a.-M.
Heyde, E. J. von der, Glogauerstr. 21, Berlin.
Heymann, E., 19, ave. de la Republique, Paris.
Hielle & Wunsche, Schonlinde, Bohemia.
Hinaux, E., & H. Thomas, formerly Péricaud & Cie., 9, rue St. Maur, Paris XIe.
Hinkel & Sohn, Kaiserstr. 44, Frankfurt-a-M.
Holmsten, J., Tammersfors, Russia.
Hopfer, A., & Eisenstuck, Leipzig, Germany.
Hörning, E., Dammstr. 10, Weissenfels a. d. S., Germany.
Host, J., 21, rue Rabelais, Lyon.
Iglesias & Torralva, Desengaño 22 & 24, Madrid.
Inaenit, Charles, & Co., C. & L. Trolliet successors, Square du Stand, Geneva.
Internationale Ges. für Electrische Apparate und Installationsbedarf (m. b. H.), Berlin, N. 24.
Jacobsen, L., Hietzinger Hauptstr. 82, Vienna.
Jacques, L., & Cie., 27, rue Vinave d'Ile, Liége.
Jaegge, Ch., & fils, 97, ave. de Choisy, Paris.
Jaro, A., Krottenbachstrasse 48, Vienna XIX.
Jausseran, B., 9, rue de la Chapelle, Paris.
Jean, Louis, 83, rue du Temple, Paris.
Jousse, V., père & fils, 17, rue Bretonnaise, Cholet (Maine-et-Loire), France.
Jüdel, Max, & Co., Brunswick.
Jung, J. W., Bibergasse 9, Frankfort-a.-M.
Jungbauer, W., Prachatitz, Böhmerwald, Austria.
Junghanns & Kolosde, Frommanstr. 6, Leipzig.
Jürgensen, Prof. C. P., Copenhagen.
Kahle, E., Gutlentstr. 1, Frankfurt-am-Main; Köln; & Munich.
Kändler, R., Dresden.
Karavelas & Jérémias, 4, Germanon Paleon Patron, Athens.
Keeskemeti, Sándor, Temesvar, Hungary.
Kitz, Heh., Ulmenstr. 35, Frankfort-a.-M.
Klaege, Fr., & Cie., rue de Cologne 183, Brussels.

Apparatus Makers—Electrical—*continued.*

Klein, C., 1 & 3, Mohrenstrasse, Nuremberg, Bavaria.
Klein, David, Temesvar, Zapolyag, Hungary.
Kleiner & Fleischmann, Modling, near Vienna.
Kluge, F. O., 35, Lothringerstr., Aachen.
Koch, E., & Co., Mainzer Landstr. 65, Frankfort-a.-M.
Koch & Sterzel, Zwickauerstr. 42, Dresden, A.
Koelliker, Teodoro, via Andrea Appiani 1, Milan, Italy.
Kohl, Max, Chemnitz-i.-S.
Kolbe, Robt., Wosnessenski prosp. 36, St. Petersburg; & Moscow; Odessa, &c.
Kollinsky Nachfolger, Michael, 7, Mühlgasse, Vienna IV.
Körber, K. R., Viriotgasse 7, Vienna IX.
Köttgen, H., & Co., Berg-Gladbach, & Severinstr., Cologne.
Kreuzer, A., Salomonstr. 18, Leipzig.
Krieger, Hugo, Neuenburgerstr. 7, Berlin, S.W.
Krügener, Dr. R., Frankfurt-a.-Main.
Krüger, R., 41, Michaelkirchstr., Berlin, S.O.
Kula, Ch., 84, boul. Haussmann, Paris.
Kummler, H., & Co., Aarau (Aargau), Switzerland.
Lachelli, P., Casale Monferrato, Italy.
Lacoste & Cie., 28, boul. de Strasbourg, Paris.
Lafond, Jean, & Co., Charavines-les-Bains, Isère, France.
Langenegger, T., Langnau, Berne.
Langet, F., 14, rue Fallempin, Paris.
Lausch, C., Apostel Paulusstr. 13, Schöneberg bei Berlin.
Lavini & Rampone, via Cernaia 2, Turin.
Lebrun, R., 14, rue Meslay, Paris.
Le Carbone Akt. Ges., Gutlenstr. 144, Frankfort-a.-M.
Lefévre, A., 63, rue de Maubeuge, Paris.
Lehmann, L., Lausitzerstr. 24, Berlin, S.O.
Lehmann & Co., 18, Gumpendorferstr., Vienna VI.
Longueval, E., rue de Theatre, 8, Brussels.
Lorry & Cie., 13, rue de Béarn, Paris.
Lüdenscheider Metallwerke Akt. Ges. Jul. Fischer & Basse, Lüdenscheid, Germany.
Luppens, H., & Co., boul. du Nord 151. Works: rue Danemark, Brussels.
Lussmann, J. H. Sohne, 39, Langestrasse, Frankfort-on-the-Main.
Luther, Martin, Place Puy, Neuchâtel, Switzerland.
Magrini, L., Viale Monforte 23, Milan.
Maiocchi Fratelli, via Vettablia 2, Milan, Italy.
Malenchini, Ing. C. & C., via Cavour 42, Florence, Italy.
Maljournal & Bourron, 128, ave. Thiers, Lyon, France.
Mambret, G., & Cie., 25, rue de la Montagne Ste. Geneviève, Paris.
Manteau, A., rue Tête d'Argent 7, Tournai.
Manterola & Co., Avenida 12, San Sebastian, Spain.

Apparatus Makers—Electrical—*continued.*

Mantica, G., via Quadronno 18, Milan.
Manufacture Parisienne d'Appareillage, 14, rue Commines, Paris.
Marcucci, D., Leghorn, Italy.
Marrel, G., Fils, 26, rue Feydeau, Paris.
Marteau, C., 11, rue Pastorelle, Paris.
Massieu, F., Casteljaloux (Lot-et-Garonne), France.
Matabon, J. L., 124, Chaponnay, Lyon.
Meunier, H., 206, quai Jemappes, Paris.
Meyer, Dr. Paul A. G., Lynarstr. 5–6, Berlin, N.
Meyer-Frey, H., Friedberger Landstr. 32, Frankfort-a.-M.
Michaelis & Eggerding, 8–9, Andreaestr., Hanover, Germany.
Michelin, A., 115, rue de Bagnolet, Paris.
Miguel & Carreño, Campillo de San Andrés 4, Valladolid.
Mijois & Cie., 10, ave. de l'Alma, Paris.
Minuth, Herm., 90, Ritterstr., Berlin, S.
Mornat, Genteur et Cie., 77, rue Charlot, Paris.
Muller, Louis, Löber-Ring 3, Erfurt, Germany.
Muller, Th., Zerbst-i-Anh., Germany.
Müller & Brandes, Echternstr. 34, Ecke Sonnenstr., Brunswick, Germany.
Muller, F., & Co., Kurfürstenstr. 32, Berlin, W.
Nalinne & Cie., rue de la Chaussée 80, Mons, Belgium.
Neyer & Lorenz, Neue Mainzerstr. 18, Frankfort-a.-M.
Niemann, C., & Co., 16, Kommandantenstr., Berlin.
Nissl, F., VII. Kaiserstr. 89, Vienna.
Nostitz & Koch, Chemnitz.
Nottebohm & Co., Lüdenscheid, Germany.
Nouzillet, E., rue de Rome 78, Paris.
Ochs, J., Lenaustr. 61, Frankfort-am-Main, Germany.
Ochse, Louis, Köln a/Rhein, Germany.
Oehlmann, Karl, G. m. b. H., Rixdorf, Berlin.
Officina Co-operative Manfredini, via Melzo 13, Milan.
Officina Elettrica Volta, Dirisi 88–90, Palermo.
Ohl, G. E., Hamburg, Germany.
Olaya, M., San Vicente 95, Valencia.
Olivier, C., & Cie., Ornans (Doubs); & at Besançon, France.
Ornstein, L., calle de las Fuentes 9, Madrid.
Palm, F., Nurnburg, Germany.
Pekrun, H., Gluhöfen, Coswig, Saxony, 46.
Pereira, João, rua D. Pedro V. 142, Lisbon.
Peter, Albert, Kotzschenbroda, Saxony.
Petri & Dalheim, Wilhelmstr. 44, Berlin, W.
Pilate, J. A., 29, rue du Marché, Brussels.
Pillet, Viuda de, San Fernando 26, Alicante, Spain.
Plessow, Franz, jr. Pfahlstr. 10, Hanover.
Plum, P. J., passage Lemonnier 33, Liége, Belgium.
Poesio, J., corso Principe Oddone 19, Turin.
Pogliaghi, R., 29, via S. Sofia, Milan.
Polyphos Electricitäts Gesellschaft, Munich, Germany.

Apparatus Makers—Electrical—*continued.*

Porta, Carlo, & C., corso Lodi, strada alla Carita, Milan, Italy.
Potron, E., 40, ave. de la Republique, Paris.
Preuss, Ferd., 7, Wassergasse, Vienna III/1, Austria.
Rassart, C., rue Marcinelle 12, Charleroi, Belgium.
Rassmus, Fr., Magdeburg, Germany.
Reger, A., Darmstadt, Germany.
Renoitre, F., rue Charles II. 8, Charleroi.
Rey, Ch., & Cie., Canal d'Hauswyck 28-29, Malines.
Righini & Finetti, via Ospedale 14, Milan.
Risacher & Hebert, 58, boul. Pasteur, Paris.
Ritter & Ullmann, 4, Clarastrasse, Basle, Switzerland.
Robert, M., 8, via del Giglio, Florence, Italy.
Roger, H., 168, rue St. Maur, Paris.
Rohrbeck, Dr. Herm., Karlstr. 20A, Berlin.
Rossi, L. E., via Sacchi 28, Turin.
Sacré, Ed., Chaussée de Wavre 56, Brussels.
Salviati & Co., Venice.
Sanford, Herederos de, Fuencarral 147, Madrid, Spain.
Sansenschmidt, M., Blücherstr. 25, Frankfort-a.-M.
Scaglione, G. L., piazza Carlo Felice 1, Turin.
Schächter, A., Nykjöbing, Falster, Denmark.
Schanzenbach, G., & Co. (Kom. Ges.), Bockenheim, Frankfort-on-Main.
Schauer, Emil, Bernardgasse 26, Vienna VII.
Schierloh & Knüppel, 75, Rödingsmarkt, Hamburg.
Schlothauer, C. & F., G. m. b. H., Ruhla-i-Th., Germany.
Schmidt, J. H., Söhne, Iserlohn, Germany.
Schmidt, Th., Sebastianstr. 81, Berlin, S.
Schmidt & Wildt, 50, Kommandantenstr., Berlin.
Schmitt, H., 69, Mainzerlandstr., Frankfurt a/M.
Schuch, Adolf, Worms a Rh., Germany.
Seifert, R., & Co., Behnstr., Hamburg.
Selbstschalter, Gustav Pinoff, Friedrichstr. 16, Berlin.
Senftleben Bros., 53, Waldemarstr., Berlin, S.O.
Siemens-Schuckert Werke G. m. b. H., Bingerstr. 2, Mainz.
Sinigaglia, S., & Cia., via Andrea Doria, No. 8, p. 1°, Turin.
Sociedad en Comandita Juan Ruiz Falcó, Los Madrazo 14 pral. Works: Costanilla S. Andres 7, Madrid.
Sociedad Técnica, Cortes 547, Barcelona.
Società Italiana Siemens, via Pietro Micca 8, Turin.
Società Piedigrotta, Girgenti.
Société Anonyme de Constructions d'Appareils Electriques, St. Chamond (Loire), France.
Société Anonyme de Construction d'Appareils Hydrauliques et d'Eclairage Public, 11, rue du Terrage, Paris.
Société Anonyme pour la Fabrication d'Appareils d'Éclairage, 468, rue St. Léonard, Liége.
Société d'Appareillage Electrique et Industriel, rue Brogniez 130, Brussels.

Apparatus Makers—Electrical—*continued.*

Société d'Electricité Nilmelior, 47, rue Lacordaire, Paris.
Société des Anciens Etablissements Lacarrière, 16, rue de l'Entrepôt, Paris.
Société des Etablissements Henry Lepaute, 11, rue Desnouettes, Paris.
Société Générale d'Appareilage Electrique, 28, rue de Trévise, Paris.
Société Mauraisin Frères, 159, rue de Vauves, Paris.
Société pour la Fabrication des Compteurs, 2, place Charles Albert, Nice.
Sprecher & Schuh, Aarau, Switzerland.
Stobwasser, C. H., & Co., Wilhelmstr. 42A, Berlin, S.W.
Stotz, Paul, Stuttgart, Germany.
Sudicatis, Ludw., & Co., 12-14, Alt Boxhagen, Berlin, O.
Supplisson, Ch., & Schmider frères, 13, rue de Paradis, Paris.
Svendsen, E. & M., Christianssand, Norway.
Tacchi, P. A., Nachfolger, Zeil 44, Frankfort-a.-M.
Tapia y Hermano, Salmeron 77, Linares (Jaen), Spain.
Taroncher, M., Poeta Querol 8 & 10, Valencia, Spain.
Technisk Bureau (Wisbech & Meinich), Christiania, Norway.
Thiercelin Frères, 35, rue de la Tour d'Auvergne, Paris.
Thierry, Wierre et Cie., 9, rue des Mathurins, Paris.
Tichonoff, J., 71, rue Boursault, Paris.
Tissot, L., & Raibaud, L., 25, rue de la République, Marseilles.
Tolzmann & Co., Karlstr. 27, Berlin.
Torti & Co., via Largo 11-13, Milan.
Treuer, R., 41, Mohrenstr., Berlin, W.
Trüb, R., & Cie., Hombrechtikon, Switzerland.
Ullmann, A., Bamberg, Bavaria.
Ungarische Metallwaaren und Lampen Fabriks, Akt. Ges., Gizella-tér 1, Budapest V.
Unger, Paul, Naumburgerstr. 38, Leipzig-Plagwitz.
Urtis, Cesare, & Co., via XX Settembre 22, Turin.
Vagt, H. G., 8, rue d'Autriche, Brussels.
Van den Abeele, F., 339, rue de Progrès, Brussels.
Vangrinderbeek, J., rue de Namur 23, Louvain, Belgium.
Vereinigte Electricitäts Actien Gesellschaft, Gudrunstr. 187-189, Vienna X.
Vereinigte Electricitätswerke Akt. Ges. vorm. Oscar Beyer, Dresden, A.
Vervin, G., & Cie., 41, rue Meslay, Paris.
Vielhaben, Gebr., 25, Hasselbrookstr., Hamburg.
Visconti, J., Bailen 14, Alicante, Spain.
Voigt & Häffner, A. G., Bockenheim, Frankfurt-a.-M.
Vojave, L., place de Brouckère 39 & 45, Brussels.
Volt Ampère Gesellschaft Fleischmann & Co., Schleusenstr. 15, Frankfort-a.-Main.

Apparatus Makers—Electrical—*continued.*

Von Terpitz & Wachsmuth, 59, Bülowstr., Berlin, W.
Wagner & Brand, Moselstr. 10, Frankfort-a.-M.
Wanner Frères, 27, Terrassière, Geneva.
Wauthier, J., rue Eugène Simonis 26, Liége, Belgium.
Way, Luigi, via Barolo, Turin.
Weiner, G., 56, Friedrichstr., Berlin, W.
Weiss & Schwarz, Singerstr. 1, Vienna I.
Welter Electricitäts & Hebezeugwerke, Köln-Zollstock.
Wetzchevald & Wilms, Neheim a. d. Ruhr.
Wiegel, Fritz, 70, Tilsiterstr., Berlin, O.
Wingers Elektr. Vaerksted, 40, Möllergaden, & 9, Pilestraedet, Christiania.
Winter, C., Brunswick.
Wisbech, C., Christiania, Norway.
Wolting, H., Bochum, Westphalia.
Zander, A., 21, Alte Mainzergasse, Frankfurt-am-Main, Germany.
Zulauf & Co., Hochst-am-Main, Germany.
Zumpe, C. R., Markt. 10, Chemnitz.

Arbitrators—Electrical & Mechanical.

F.—Arbitres—d'Electricité et de Mécanique.
G.—Schiedsrichter—Elektr. & Mech.

Wilking, Franz, 11, Schöneberger Ufer, Berlin, W., Germany.

Arc Lamp Manufacturers—Electric.

F.—Lampes à Arc—Fab. de.
G.—Bogenlampen—Fab. von.

ATELIERS, H. CUÉNOD, S.A., 2, rue du Rhône, Geneva.
Bardon, L., 61, boul. National, Clichy (Seine).
Becker, Hans, Neuerwall 40 p., Hamburg, Germany.
Berliner Bogenlampen-Werkstatten, A. Seefeldt & Co., Neue Schönhauserstr. 5, Berlin.
Bisson, Bergès & Cie., 7 bis, rue Chevallier, Levallois-Perret, France.
Boulade, L. & A., Frères, 4-8, Chemin St. Gervais, Lyon-Monplaisir (Rhône), France.
Brianne, —, Maison Bisson, Bergès et Cie., 8, rue de Rocroy, Paris.
Brianne, Lucien, 35, quai Valmy, Paris.
Cance & Fils, 5, rue St. Vincent-de-Paul, Paris.
Chagnaud, G., 8, passage Courtois, Paris.
Chauvin & Arnoux, 186, rue Championnet, Paris.
Compagnie des lampes à arc "Jandus," 35, rue de Bagnolet, Paris.
Compagnie des Lampes Hegner, 26, rue Cadet, Paris.
Compagnie Electrique Parisienne, 23, avenue Parmentier, & 44, rue du Louvre, Paris.
Constructions Générales pour l'Electricité, 20, rue Greffülhe, à Levallois-Perret (Seine).
Dansk Aktieselskab Siemens-Schuckert, Palaisgade 6, Copenhagen.
Durand, F., & Cie., 152, faubourg St. Martin, Paris.

Arc Lamp Manufacturers—Electric—*continued.*

Ducellier, G., 25, passage Dubail, Paris.
Elektricitäts Gesellschaft Sirius, G. m. b. H., Bitterfelderstr., Leipzig.
Elektrische Bogenlampen & Apparate Fabrik, G. m. b. H., Nurnberg.
Ferron & Bassot, 15, rue d'Angleterre, Lille (Nord), France.
General Electric Light & Power Co. of Russia (système Swan), St. Petersburg.
Hinstin Frères, 202, faub. St. Denis, Paris.
Hopfer, Aug., & Eisenstuck, Leipzig, Germany.
James, M., rue Saint Antoine 62, Paris.
Knorr & Hempel, 2, Poppitz, Dresden-Altst, Germany.
Locarno, E., & Co., 7, via Dante, Gallarate, Milan.
Metallwerke Bruno Schramm, G. m. b. H., Erfurt-Ilversgehofen, Germany.
Mondos, R., 56, rue Notre-Dame de Lorette, Paris.
Osterreischische Ungar Jandus Elektr. Gesellschaft, Schottenfeldg. 53, Vienna VII.
Piette & Krizik, Pilsen, Bohemia.
Prinz, Dr. Aug., & Co., 35, Hauptstrasse, Baumgarten, bei Vienna, Austria.
Regina Bogenlampen Fabrik (G. m. b. H.), Köln-Sülz, Germany.
Roche, C. E. De La, 6, rue Gaston St. Paul, Paris.
Schwarz, August, Ziegelhüttenweg 39, Frankfort-on-the-Main.
Schwerd, L. E., Karlsruhe, Baden, Germany.
Seefeldt, Adolph, & Co., Neue Schönhauserstr. 11, Berlin, C.
Società Italiana Lampade ad Arco e Impianti Elettrici Accomandita Semplice, Ing. R. Colombo & Co., via Mercede 37, Rome.
Società Tecnico Industriale Italo Svizzera, via Morigi 4, Milan, Italy.
Société Anonyme des Lampes Electriques à Arc (Système Hegner), Place des Barricades 2 Brussels.
Société Force et Lumière, 9, rue de Rocroy, Paris.
Société pour l'Exploitation de la Lampe à Arc "La Moderne," 123-125, rue St. Maur, Paris.
Weinert, K., Muskauerstr. 24, Berlin, S.O. 33, Germany.

Arc Lamp Fittings.

F.—Accessoires pour lampes à arc.
G.—Bogenlampen Einrichtungen.

Cordes & Co., Kopenickerstr. 55, Berlin, S.O.
Stralsunder Bogenlampenfabrik G. m. b. H., Stralsund, Germany.

Arc Lamp Globes.

F.—Globes en verre pour lampes à arc.
G.—Bogenlicht Glocken—Fabr. von.

Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Art Metal Workers & Artistic Fittings —Makers of.

F.—Artistes d'ouvrages metalliques et montures artistiques—Fab. de.
G.—Kunst Metall Arbeiter und Künstlerische Einrichtungen—Fab.

Armbrüster Gebrüder, Gutleutstr. 296, Frankfort-on-the-Main.
Calm & Bender, Gitschinerstr. 64, Berlin, S., Germany.
Virlet, L., 12, rue Oberkampf, Paris.

Asbestos Manufacturers & Merchants.

F.—Amiante—Fab. et Marchands d'.
G.—Asbest—Fab. und Händler.

Allard et Cie., 11, rue de la Cerisiae, Paris.
Asbest & Gummiwerke Alfred Calmon, A. G., Hamburg.
Aymonino, A., via Roma 4, Turin.
Baravalle, E., via Venti Sett. 58, Turin.
Bender & Martiny Asbestos & India Rubber Works, Ltd., via Pietro Micca, Turin.
Bernouilli, E. C., 7, Piazza S. Martino, Turin.
Cape Asbestos Co., Ltd., Turin.
Frankfurter Asbestwerke Akt. Ges. vormals Louis Wertheim, Frankfort-a.-M.
Frobeen, L., 15, Hedemannstr., Berlin, S.W.
Wohanka & Co., IX. Währingerstr. 2, Vienna, Austria.

Automatic Cut-Outs.

F.—Coupe-courant-automatique.
G.—Automatische Ausschalter.

Firchow, Paul (Nachfolger), Belle Alliancestr. 3, Berlin, S.W. 61.

Automatic Electric Signalling Apparatus Makers.

F.—Appareils elec. de Signaux automatiques—Fab. d'.
G.—Automatische Electr. Signal Apparate—Fab. von.

Adler, W. H., & Co., Rothenhofgasse 34 & 36, Vienna X., Austria.
Compagnie de Signaux Electriques pour Chemins de Fer, 20, rue Lafayette, Paris.
Dinter, O., Crimmitschau, Saxony.
Jungbauer, W., Prachatitz, Böhmerwald, Austria.
Mildé, Chas., Fils et Cie., 26, rue Laugier, Paris.
Winckler & Fischinger, 17, Jordanstr., Dresden, Saxony.

Automatic Regulators—Makers of.

F.—Regulateurs autom.—Fab. de.
G.—Automatische Regulatoren—Fab. von.

ATELIERS, H. CUÉNOD, S.A., 2, rue du Rhône, Geneva. (Thury's Automatic Regulators.)

Batteries—Dry.

F.—Piles—sèches.
G.—Batterien—Trockene.

Accumulateur Sec, L', Soc. Anon., rue Bonneels 13, Brussels.
Braune, G., Belle Alliancestr. 83, Berlin.
Bunde, Franz, Erdmannstr. 6, Schöneberg, Berlin.
Doumass, G., Gross Lichterfeld I., Berlin.
Elektrizitäts-Actiengesellschaft Hydrawerk, Berlin, N.W.
Friese, Erich, Waldemarstr. 34, Berlin, S.O.
Galvanophoren - Werke (System Vogt), Erdmannstr. 12, Berlin-Schöneberg.
Hellesens Enke & V. Ludvigsen, 6, Aldersrogade, Copenhagen Str., Denmark.
Hey, M., Linienstr. 81, Berlin, C. 54.
Lax, Hermann, Köpenickerstr. 121A, Berlin, S.O.
Liman & Oberlaender, No. 11, Karlstrasse, Berlin, N.W.
Société Anon. de la Pile Bloc, 13, rue Raymond, Montrouge (Seine), France.
Société Electrique Hydra, 60, boul. de Clichy, Paris.
Szubert, S., Commandit-Gesellschaft, Kronprinzenstr. 10, Nieder-Schönhausen, Germany.
Thiry, F., Pecq, Belgium.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Batteries—Galvanic.

F.—Piles galvaniques—Fab. de.
G.—Galvanische Batterien.

Aktiengesellschaft vorm. J. C. Spinn & Sohn, Wassertorstr. 9, Berlin, S.
Audoin, —, 12, rue St. Gilles, Paris.
Bazin, F., 34, rue Rébeval, Paris.
Chameroy, E. & A., 89, ave. Centrale, Le Vésinet, Seine-et-Oise, France.
Cornette, H., 23, rue Michel-Lecomte, Paris.
Estève, —, La Réole, France.
Fabrik Galvanischer Elemente G. m. b. H., Prinzenstr. 23, Berlin, S. 42.
Guérin, Ch., 74, boul. Malesherbes, Paris.
Heller, Fred., 12, Vordere Sterngasse, Nuremberg, Germany.
Kayser, L., 11, rue des Petites-Ecuries, Paris.
Kühne, F., Leipzig.
Leclanché et Cie., 158, rue Cardinet, Paris.
Lenoir & Forster, Waaggasse 5, Vienna IV., Austria.
Pintsch, Julius, Andreasstr. 72 & 73, Berlin, O.
Poulain, A., & Fils, Route Nationale, 5 et 9, Charleville (Ardennes), France.
Poyet, A., rue de Vaugirard 313, Paris.
Rebicek, Gust., 333, Krocingasse, Prague I., Austria.
Schmidt & Co., 82, Chausseestr., Berlin, N.
Société Française pour l'Exploitation de la Pile, système Million, 29, rue de Sully, Lyon, France.
Stiepel, Ernesto, Avemaria 52 Dupl^{do}, Madrid.

Batteries—Galvanic—*continued.*

Stiepel, R., & Weimann, via Savona 5 & Viale Magenta 70, Milan, Italy.
Swierczynski & Kass, 119, Ritterstrasse, Berlin, S.
Tudor, Henri, Château de Rosport, Grand Duché de Luxembourg.

Batteries—Primary.

F.—Piles électriques primaires.
G.—Batterien—Primäre.

Brandt, Julius, Lütticherstr. 43, Cologne, Germany.
Clarenc, E., fils, 81, rue Vincingetorix, Paris.
Columbus Elektrizitäts Gesellschaft, Ludwigshafen-a-Rh., Germany.
Delafon, P., 128, rue de la Convention, Paris XVe.
Hydrawerk, Dr. Louis Röder, Zieglergasse 7, Vienna VII.
Noizette, E., 16, ave. d'Orléans, Paris.
Picard, L., suc. P. Fayet, 62, rue Charlot, Paris.

Batteries—Storage.

F.—Accumulateurs—Fab. de.
G.—Batterien-Accumulator—Fab. von.

Accumulatoren Fabrik Aktiengesellschaft Zweigniederlassung in Oerlikon, Oerlikon, bei Zürich, Switzerland.
Engl, M., 13, Elisabethstr., Vienna I.
Fabbrica Italiana di Accumulatori Elettrici Leggieri, via degli Artisti 34, Turin, Italy.
James, L., Thury-Harcourt (Calvados), France.
Millet, F. T., Persan (Seine-et-Oise), France.
Schweizerische Akkumulatoren Aktiengesellschaft, Marly bei Freiburg, Switzerland.

Battery Carbons.

G.—Element—Kohlen.

Battery Jar Manufacturers.

F.—Vases pour piles elec.—Fab. de.
G.—Trockenelement Gefass—Fabrikanten.

Brandenburger, C. A. O., 88, Kastanien-allee, Berlin.
Ceramiques Industrielles, 155, faub. Poissonnière, Paris.
Hache, Alfred, & Co., Vierzon (Cher), France.
Moreau-Hubert, Ed., Fresnes-sur-Escaut, Nord, France.
Reiher & Co., Kohlfurt, Germany.
Rörstrands Aktiebolag, Korstrandsg., Stockholm.
Schienau Gebruder, Hüttenbsteinach, Thuringia, Germany.
Simmen, A., 56, rue Dombasle, Paris.

Battery Plates—Makers of.

F.—Plaques d'accumulateurs—Fab. de.
G.—Batterien-platten—Fab. von.

Gigot, Carl, Frankfurt-am-Main, Germany.

Battery Switchgear.

F.—Reducteurs d'Accumulateurs.

ATELIERS, H. CUÉNOD, S. A., 2, rue du Rhône, Geneva. (Thury's Battery Switchgear.)

Bell Fitters & Contractors—Electric.

F.—Sonneries Electriques—Poseure et Entrepreneurs de.
G.—Electrische Glocken—Einrichter u. Unternehmer.

Aldrovandi, C., & Co., via Romei, Ferrara, Italy.
Anthierens, A., rue Soulier 70, Borgerhout, Antwerp.
Antonich, G., via Nazareth, Barletta, Italy.
Barborini, Cesare, Strada Carallotti 12, Parma.
Benevelli, Felice, via Farini, Modena, Italy.
Dellacasa, G. B., Vico Garibaldi 12R, Genoa.
Dissera, G., & Figlio, corte Contarina 1563-1564, Venice.
Falcetti, B., Pavia.
Fornari, M., corso Carlo Alberto 93, Vercelli, Italy.
Frédéric, J., 17, rue des Tournelles, Paris.
Genovesi, G., Parione 19, Rome.
Lacoppe Frères, 2, quai Saint Léonard, Liége.
Mallo & Panagini, via St. Gaudenzio, Novara.
Margeot, D., 2, passage de l'Industrie (faub. St. Martin), Paris.
Milani, Dante, strada Garibaldi 25, Parma.
Mongini, Luigi, via Sudario 20; & via Tritone 78, 79, Rome.
Morandotti, C., corso Vittorio Emmanuele, 96, Pavia, Italy.
Piroul, P., rue d'Angleterre 39, Brussels.
Poluzzi, G., via Rizzoli 16A, Bologna.
Rolland, P., rue Championnet 240, Paris, 18e.
Seppilli, Icilio, Piazzi Garibaldi 9, Ancona.
Strasser & Rohde, Glashütte, Saxony, Germany.
Straus, A., 28, rue de la Cathédrale, Liége.
Vallebella, G., Vico del Duca 35 rosso, Genoa.
Wust, L., 4, rue de Boussu, Mons.

Bell Fittings Makers—Electric.

F.—Montage pour Sonneries Electriques—Fabr. d'.
G.—Klingelteile elek.—Fabr. von.

Bouquiaux, A., rue de Flandre 40, Ghent.
Bourgeois, J., Galerie du Roi, 14, Brussels.
Brand, G., Pont de Meir 2, Antwerp.
Ducarnory, Guche, Boulogne-sur-Mer, France.
Escrinier, J. J., 7, rue Wynants, Brussels.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Kressman, C., Boppstr. 6, Berlin, S.
Lisambert, —, Arras, France.
Marsan Frères, Boulogne-sur-Mer, France.
Stroobant, J., rue Botanique, 63, Brussels.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")

Bell Fittings Makers (Electric)—China.

F.—Montage pour Sonneries Electr. Porcelaine—Fab. de.
G.—Klingelteile—elek. Porzellan—Fabr. von.

Fuisseau, F. de, Baudour, Belgium.

Bell Founders—Electric.

F.—Sonnettes électriques—Fondeurs de.
G.—Glockengiesser—Electr.

Dubuisson Fils, 24, avenue Laumbière, Paris.
Pierret et Quellier, 37, rue Meslay, Paris.
Vachette Frères, 51, rue de Charonne, Paris.
Ziegenspeck, O., 56, Kommandantenstr., Berlin, S.

Bell Manufacturers—Electric.

F.—Sonneries Électriques—Fab. de.
G.—Electrische Glocken—Fab. von.

Allaire, rue St. Martin 227, Paris.
Alvieri, Marco, via Frattina, 28, Rome, Italy.
Ambrosius & Co., Oberweg. 20, Frankfort-a.-M.
Arioli, F., corso Vittorio Emmanuele, 78, Turin.
Axters-Tremmery, R., 30, rue Haute, Bruges.
Baron, M., fils, 49, rue Paulin, Bordeaux, France.
Battocchi, Cav. G. B., via Amanti 15, Verona, Italy.
Beafre & Figli, 4974, St. Zaccaria fond Ormarin, Venice.
Becker, Albert, Magdeburg, Germany.
Benzoni, J., 53, rue du Stand, Geneva, Switzerland.
Bertaud, P., 18, rue d'Aboukir, Paris.
Biedermann & Czarnikow, 7, Kreuzbergstr., Berlin, S.W.
Blosse Fils, 10 & 12, rue Michel-Ney, Nancy (Meurthe-et-Moselle), France.
Bolte, J. F., via C. Colombo 101, San Pier d'Arena, Italy.
Borrel, Arn. Ph., 47, rue des Petits Champs, Paris.
Bossmann, M., rue St. Gommaire 46, Antwerp.
Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Poberschau, Marterbüschel, Saxony.
Bozzetti, Pietro, Intra.
Busiaux & Cie., 25, rue de Longchamp, Paris.
Calin, A., Autun, Saône-et-Loire.
Caprara, Luciano, via Prin. Amadeo 77, Rome.
Cesare, Parenti, via del Can Bianco 232, Pistoja, Italy.
Charmoy, —, 72, rue Lauriston, Paris.
Charvin, Ch., 37, rue Saint Rémi, Bordeaux.
Cipollina, N., via S. Giuseppe 29R, Genoa, Italy.
Cornette, H., 24, rue Michel Lecomte, Paris.
Cramer, Hans, Blankenburg-Harz.
Crosse, V., & Cie., 47, ave. Parmentier, Paris.
Davin, —, 12, rue Moustier, Marseille, France.
De Bavay, V., rue Pachéco 35, Brussels.
Delforge, Ch., 6, rue Albouy, Paris.
Dellacasa, Giuseppe, Vico Carlone 3, Genoa.
Dilullo, Tommaso, via Flaminia 61, Rome, Italy.
Dressler, F., Ryesgade 28, Aarhus, Denmark.
Ducastel-Blandin, 61, rue Nationale, Lille.

Bell Manufacturers—Electric—*continued.*

Ducatel, —, Saint-Omer, France.
Dumartheray, E., 3, rue Pradier, Geneva.
Ego, H., rue de Brabant 28, boul. de l'Escaut, Ghent.
Eichapfel, B., Dresden.
Elgert & Sterk, Katharinenpforte 5, Schweizerstr. 39, Frankfort-a.-M.
Fernon, Tonnerre, France.
Fiocca, Alfonso, Catanzaro, Italy.
Font, Federico, rambla del Centro, 17, Barcelona.
Fontana, A., via ai Quattro Canti di S. Francesco 43, Genoa, Italy.
Frezoul, 11, rue de Thorigny, Paris.
Friant, —, 26, rue Jeanne-d'Arc, Nancy, France.
Friart, J., 8, rue Simonis, Brussels.
Ganelli, Ernesto, via Venezia 2, Cremona, Italy.
Garnier, P., 16, rue Taitbout, Paris.
Gauthé-Chaubert, Nevers, France.
Gehm, G., rue Parnasse 6, Brussels.
Geisse, R. & T., Waldschmidtstr. 17, Frankfort-a.-M.
Geniets, A., rue de Brabant, 14, Ghent.
Gibert Fils, 17, rue du Soleil, Angoulême, France.
Grobon, C., fils, 92 & 94, rue Sully, Lyons, France.
Grothe, A., & Söhne, Vondelstr. 35, Cologne, Germany.
Gruat, —, 6, ave. Trudaine, Paris.
Guérin, Ch., 74, boul. Malesherbes, Paris.
Hess, A. C., Holzgraben 3, Frankfort-a.-M.
Holsts, Filial, Malmö, Sweden.
Houel-Perrin, Docelles, Vosges, France.
Jessel, J., Langestr. 25, Frankfort-a.-M.
Kehl, K., Hohenstaufenstr. 21, Frankfort-a.-M.
Kilp Nachfolger, J. (B. Himmler), Hochstr. 2, Frankfort-a.-M.
Laisné, L., 12, rue Tournefort, Paris.
Lang, Chas., & Co., 16, Bruckenstr. 13A, Berlin.
Lasserre, M., place Ste. Barbe, Toulouse, France.
Legrand, M., Mortagne (Orne), France.
Leharle, Ch., 23, rue des Amandiers, Paris.
Lemoine, J. & A. Jacob, 1 & 5, boul. Carnot, Mézières, France.
Lindelöf, J. & C., Lund, Sweden.
Linsenbarth, C., Eisenach, Thür.
Loza, —, 28, rue de Puebla, Lille, France.
Majerhoffer, Peter, VI. Nefelejts-utcza 22, Budapest.
Maraval, A., 7, cours Lieutaud, Marseille, France.
Martin, J., 26, rue Pepin, Brussels.
Maschinenbau Actiengesellschaft, vormals Breitfeld, Danek & Co., Carolinenthal, Prague, Austria.
Maudemain, rue du Rempart, St. Etienne, Toulouse, France.
Maury, P., 21, rue du Chateau d'Eau, Paris.
Mehne, I. G., Schwenningen (Württemb. Schwarzwald).
Metallwaaren, Glocken & Fahrradarmaturenfabrik A. G., vorm. H. Wissner, Mehlis, Thur.
Meunier, L., 79, boul. Malesherbes, Paris.

Bell Manufacturers—Electric—*continued.*

Milinaire Frères, 151, boul. Ney, Paris.
Minard, A., 7, rue Neuve, Amiens, France.
Moorthamers, B., Rempart St. Catherine 16, Antwerp.
Mors, L., 8, rue des Marronniers, Paris.
Née, Ernest, 47, rue du Montparnasse, Paris.
Neveux, —, 15, rue de la Boëtie, à Perigueux (Dordogne).
Pelletier, G., Fils, 157, rue de la Pompe, Paris.
Perilli, A., via 4 Canti di S. Francesco 43, Genoa, Italy.
Perlasca, Erede, corso Vittorio Emmanuele 37, Pavia, Italy.
Persoons, A., place de Meir 58, Antwerp.
Petit, J. L., rue Anselmo 78, Antwerp.
Pile, E., 24, rue de la Perle, Paris.
Piret, J., 51, rue Mouffetard, Paris.
Poncet & Lacroix, 31, rue de l'Hotel de Ville, Lyons, France.
Radi, L., 40, rue Pascal, Paris.
Ramberg & Bauer, Gothenburg.
Rastoul, —, 11, place Lucas, Toulouse, France.
Reiner, Fred., Johnstrasse 38, Munich, Germany.
Respen, L., place de Malines 15, Antwerp.
Richard, —, 48, rue de l'Université, Paris.
Rœveus, —, 46, boul. de Belleville, Paris.
Rosatti, Ferdinando, via del Gambero 16, Rome.
Rouchand, Fernando, via La Marmora, Turin.
Sangalli, Luigi, via P. Vittoria 44, Milan.
Schaeffer, Aug., Moselstr. 40, Frankfort-a.-M.
Schaub, G. R., Weberstr. 151, Frankfort-a.-M.
Sieger, F., Hohenstaufenstr. 21, Frankfort-a.-M.
Sorel, —, 20, place Ducale, Charleville (Ardennes), France.
Sörensen, Ferd. E., & Co., Dronn. Tverg. 55, Copenhagen, K.
Stuhl, G., Strasburg, Germany.
Tagliaferri, Gaetano, corso V. Emm. 3, Piacenza.
Thorsen, C. F., Gl. Kongevej, 91A, Copenhagen.
Tossens, Ch., 25, Longue rue du Vanneau, Antwerp.
Tulpinck, L., 89, rue St. Bernard, Brussels.
Turneer, J., rue Hôtel des Monnaies 53, Brussels.
Vallot & Pauze, rue de la Préfecture, St. Etienne, France.
Van de Meersche, P., rue de Londres 16, Brussels.
Van den Camp, Vve. C., Digue de Brabant 18, Ghent, Belgium.
Vergottini, Francesco, Lecco, Italy.
Vermehren, Edv., Nörrebrogade 18A, Copenhagen, N.
Weyer, H., Töngesgasse 6, Frankfort-a.-M., Germany.
Widy, A., pl. da la Reine 42, Brussels.
Winterstein, K., Kaiserstr. 65, Frankfort-a.-M., Germany.
Wolf, H., Moselstr. 4–6, Frankfort-a.-M., Germany.
Zeda Frat., Vicolo Facchini 2, Milan, Italy.
Ziegenspeck, Oscar, 56, Kommandantenstr., Berlin.

Bell Manufacturers—Electric—*continued.*

Zillekens Ketele, F., père, 65, rue des Alexiens, Brussels.
Zimmermann, E., Eschersheimer Landstr. 22, Frankfort-a.-M.

Boiler Makers.

F.—Chaudières—Fab. de.
G.—Dampfkessel—Fab. von.

Aktien Gesellschaft für Maschinenbau vorm. Brand & Lhullier, Brünn, Austria.
Babcock & Wilcox, Ltd., 6, rue Laferrière, Paris.
Deutsche Babcock & Wilcox Dampfkessel Werke A. G., 1, Kaiser Wilhelmstr., Berlin, C.
Duisburger Dampfkesselfabrik, Duisburg a. Rh.
Düsseldorf Ratinger Röhrenkesselfabrik, Ratingen bei Düsseldorf, Germany.
Hamelle, Henry, & Co., 94, boul. Richard Lenoir, Paris.
Layh, Ch., 15–17, rue d'Irlands, Brussels.
Niclausse, J. & A. (Société des Générateurs Inexplosibles "Brevets Niclausse.") Hors concours, membres des Jurys Internationaux Expositions Universelles; Paris, 1900; St. Louis, 1904. Grands Prix: St. Louis, 1904; Liége, 1905; 24, rue des Ardennes, Paris (XIX. Arrt.).
Piedbœuf, Jacques, Jupille, près Liége, Belgium.
Société des Générateurs à Vaporisation Instantanée, system Serpollet, 27, rue des Cloys, Paris.
Walther & Co. (Kommandit-Gesellschaft), Delbrück, nr. Cologne.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Boulons, Ecrous, Vis—Fab. de.
G.—Bolzen, Schrauben, Muttern—Fab. von.

Fessler, Johann, Nietenfabrik, 108, Auenstr., München, Germany.
Eiffe & Fehr, Rodingsmarkt, Hamburg.

Boosters.

F.—Survolteurs.
G.—Zusatzdynamo.

Brackets & Pendants.

See ELECTROLIERS.

Brass Founders & Manufacturers to the Electrical Trades.

F.—Laiton—Fond. et Fab. de.
G.—Messing—Giesser & fab.

Industrie Metallique, rue de la Princesse 10, Brussels.
Mattarelli, Giulio, Lecco, Italy.
Van der Kolf & Molijn, Noord-Singel 207, Rotterdam.

Bronzers—Electro.

F.—Electro Bronzeurs.
G.—Electro Bronzierer.

Riedinger, L. A., Augsburg, Bayern, Germany.

Cabinet Work—Electrical.

F.—Ebènisterie pour appareils électriques.
G.—Electr. Holzarbeiter.

Schwabe, Franz, & Co., Langewiesen i/Thür., Germany.
Soulé, D., 42, rue Fessart, Paris. Hydraulic Works at Bagnères-de-Bigorre.

Cable (Electric) Manufacturers.

F.—Câbles électriques—Fab. de.
G.—Kabel—Electrische—Fab.

Actien Gesellschaft der Metallfabrik, vorm. Gebrüder Rosthorn, dépôt I., Schœnlaterngasse, No. 11, Vienna.
Allgemeine Elektricitäts Gesellschaft Kabelwerk Oberspree, Oberschöneweide, Berlin.
Alliot, R., & Rol, 38, rue de Reuilly, Paris.
Aubert, Grenier & Co., Cossonay-Gare, Switzerland.
Baranger, R., succr. de J. Legay, 128, rue du Bois, Levallois-Perret, France.
Basse et Selve, Altena, Westphalia, Germany.
Böhtlingk, A., 23, Pesoschnaia-st., St. Petersburg, Russia.
Bourseaux, P., Eupen, bei Aachen, Germany.
Champin, H., 7, ave. de Villiers, Paris.
Compagnie des Fils & Cables Electriques, 1, quai National, Puteaux, France.
Compagnie Générale de Constructions Electriques, Argenteuil (Seine-et-Oise), France.
Debièrre, M., 43, rue Bernos, Lille, France.
De la Mathé, G. & H. B., Gravelle St. Maurice, Seine, France.
Deutsche Kabelwerke, Act. Ges., 15-17, Alt Boxhagen Chaussee, Rummelsburg, bei Berlin, Germany.
Dusseldorfer Eisen und Draht Industrie, Dusseldorf-Oberbilk, Germany.
Erste böhmische Drahtumspinnerei und Kabelfabrik, L. Köppel & Seiboth, Mariengasse 25, Prague II.
Erste Oesterr.-ung. Fabrik von Isolirten Kabeln und Drähten für electrotechn. Zweicke, 60, Schottenfeldg., VII., Vienna, Austria.
FELTEN & GUILLEAUME LAHMEYER-WERKE ACT. GES., Carlswerk, Mulheim-am-Rhein, Germany.
Fortin-Hermann, 138, boul. du Montparnasse, Paris.
François, L., Grellou, A., et Cie., 43, rue des Entrepreneurs, Paris.
Froitzheim & Rudert, 11, Neue Königstrasse, Berlin, N.O.
Goffart, H., 128, rue du Bois, Levallois Perret (Seine), France.
Grashoff, A., Ludenscheid, Westphalia.
Hanover Caoutchouc, Gutta-Percha, & Telegraph Works, Linden, nr. Hanover.

Cable (Electric) Manufacturers—*continued.*

Hen, L., & Cie., 10, rue Stephenson, Brussels.
Hen & Nyssens, 32, rue Ballon, Lille.
Huber, R. & E., Pfaeffikon, Zurich, Switzerland.
Indiarubber, Gutta-Percha, & Telegraph Works Co., Ltd., Persan-Beaumont, France.
Jacquet & Casson, 30, rue des Bourdonnais, Paris.
Kabel und Gummi Werke, Otto Stemer, Schwechat, nr. Vienna.
Kabelfabrik Actien Gesellschaft Wien, Oswaldgasse 33, Vienna XII. 3; & Pressburg, Hungary.
Kabelwerk Rheydt A. G., Rheydt, bei Dusseldorf, Germany.
Kabelwerk Reydt A. G., 17, rue d'Assaut, Brussels.
Kabelwerk Wilhelminenhof A. G., Krausenstr. 37, Berlin.
Kaltschugin Co., Kelerowo, nr. Moscow.
Kiew Cable Factory, Ltd., 22, Bagoutowskaja, Kiew, Russia.
Kurth, Anton, Chemnitz-Kappel, Germany.
Land- Und Seekabelwerke Aktien-Gesellschaft, Cologne-Nippes, Germany.
Larsonneau Frères & Co., 29, rue des Cloys, & 46, avenue Parmentier, Paris.
Lynen & Co., Eschweiler, Rheinland, Germany.
Martignoni, L., via Giaffa 6, Genoa.
Nordisk Elektrisk Ledningstraad and Kabelfabrik, 105, Ryesgade, Copenhagen, O., Denmark.
Pirelli & Co., 21, via Ponte Seveso, Milan.
Podobedoff, M., & Co. (dealers), Fontanka 65, St. Petersburg, Russia.
Pradera Hermanos y Ca., Bilbao.
Sociedad des Cables Electricos de Algorta, Algorta, Bilbao, Spain.
Société Alsacienne de Constructions Mécaniques, 7, rue Drouot, Paris. Works: Mulhouse and Grafenstaden, Alsace.
Société Belge pour la Fab. des Cables et Fils Electriques, Société Anonyme, 37, rue St. Lazare, Brussels.
Societé Française des Cables Electriques, 11, Chemin du Pré Gaudry, Lyons.
Speiser & Co., Nuremberg, Germany.
Suddeutsche Kabelwerke A. G., Albrechtstr. 11, Berlin, N.W.
Tacottet es Tarsa (Tacottet & Co.), Budapest, Hungary.
Vereinigte Kabelwerke Akt. Ges., St. Petersburg, Russia.
Vilafranca, P., Ricart 6, Barcelona.
Voelmy, J., 13, Cottbuser Damm, Berlin, S. 59, Germany.
Voltohm, Seil & Kabel Werke Act. Gesellschaft, 129, Hainerweg, Frankfort-on-the-Main.
Winiwarter, G., Getreidemarkt 8, Vienna I., Austria.
Zugmayer, Georg., & Sons, Waldegg dépôt 10, Bräunerstrasse, I., Vienna.

Cable Machinery (Electric)—Makers of.

F.—Cables électr.—Fab. de machines pour.
G.—Elektr. Kabel Maschinen—Fabr. von.

Korting, W., Barmen, Germany.
Maschinenbauanstalt für Kabelfabrikation Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.
Rittershaus & Blecher, Barmen, Germany.
Stein, G., Blumenstr. 24, Berlin, O.

Cables (Electric Light)—Makers of.

F.—Cables pour l'éclair. élec.—Fab. de.
G.—Kabel für Electrisches Licht—Fabr. von.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Suhner & Co., Herisau, Switzerland.
Zahm, C., Weipert, Bohemia.

Carbide of Calcium.

F.—Carbure de Calcium.
G.—Carbid.

Allgemeine Carbid und Acetylen Ges., Niederlagstr. 6, Berlin, W. 56.
Compagnie Française des Carbures de Calcium, Séchilienne (Isère), France.
Società Industriale Elettrochimica Italiana, Pont St. Martin, Milan, Italy.
Società Italiana pel Carburo di Calcio, Rome, Italy.
Società pel Carburo di Calcio, Terni, Italy.
Società Piemontese per la Fabbricazione del Carburo di Calcio, Turin, Italy.
Società Veneziana di Elettrochimica Anonima, piazza Leoncini, Venice. Branch: Paternion (Carinzia).
Société Anonyme Suisse des Industries Electrochimiques Volta, 5, rue des Granges, Geneva, Switzerland.
Société des Usines Electriques de la Lonza, Geneva.
Société Franco-Suisse d'Electrochimie, Vernier près Geneva.

Carbon Makers & Suppliers.

F.—Charbons—Fab. et Marchs de.
G.—Kohlen—Fab. und Lief. von.

Beleuchtungskohlenfab. "Union" Christof Köcher, Kronack, Germany.
Beleuchtungskohlen-Fabrik "Union," Kronach, Bavaria.
Compagnie Française de Charbons pour l'Electricité, 53, rue de Châteaudun, Paris. Works: Nanterre (Seine).
Compañia Fabril de Carbones Eléctricas (Soc. Anon.), 27, rambla Cataluna, Barcelona.
Deutsch, S., & Bak, Gudrunstr. 187, Vienna X., Austria.
Fabrique Belge de Crayons Electrique (Soc. Anon.), 468, rue St. Leonard, Liége, Belgium.

Carbon Makers & Suppliers—*continued.*

Faussemagne, F., 316, avenue de Saxe, Lyon, France.
Förster & Leuchtag, Hamburg, A. b. e. Hof, Germany.
Kugelmann & Co., Wallstr. 62, Berlin, S.
Lichtkohlen Gesellschaft m. b. H., Berlin, W. 11.
Mors, E., & Cie., 3, rue St. Guillaume, Courbevoie (Seine), France.
Plania Werke Akt. Ges., Ratibor, Germany.
Planiawerke Aktiengesellschaft für Kohlenfabrikation, Dorotheenstr. 45, Berlin, N.W. 7.
Rouschmeyer, G., quai Jemmapes 176, Paris.
Schiff & Co., manufacturers of carbons for electric arc lamps, Schwechat, nr. Vienna. (Telegrams: "Schiff, Schwechat." A.B.C. Code used.)
Società Anonima Italiana dell'Elettro-carbonium, Rome.
Société Anonyme pour la Fabrication des Charbons à Lumière Mainbottel, near Mercy-le-bas (Meurthe-et-Moselle), France.

Carbon Brushes.

F.—Balais de Charbon.
G.—Kohlen-Bürsten.

Le Carbone Akt. Ges., Mainzerlandstr. 259, Frankfort-a.-M., Germany.

Carbon Rods & Battery Plates.

F.—Verges à charb. et plaques à pile—Fab. de.
G.—Kohlenstange & Platten für Batterien—Fab. von.

Berne, J. A. (late E. Carré), 68 bis, rue de Lagny-Montreuil-Paris.
Carbone, Le (soc. anon.) (anc. Lacombe & Cie.), 12 & 33, rue de Lorraine, Levallois-Perret, near Paris.
Conradty, C., Nuremberg, Germany.
Lemach, A. C., Liechtensteinstr. 3, Vienna.
Lessing, Dr. Albert, Nürnberg, Bavaria.
Schiff & Co., manufacturers of carbon blocks for carbide of calcium & electrolytical processes and carbon brushes, Schwechat, nr. Vienna. (Telegrams: "Schiff, Schwechat." A.B.C. Code used.)
Siemens Gebrüder & Co., Charlottenburg, Berlin.

Case Makers — For Telegraph, Telephone & Electrical Instruments.

F.—Etuis pour Instruments télégraphiques téléphoniques et électriques—Fab. d'.
G.—Kasten für telegraphische telephonische u. elek. Instrumente.

Ceiling Rose Manufacturers.

F.—Rosaces pour plafondes—Fab. de.
G.—Decken-Rosetten Fabr.

Kramer & Löbl, Gablonz, Bohemia, Austria.
Linder & Co., Jecha-Sondershausen, Germany.

Central Stations — Contractors for the Construction & Maintenance of.

F.—Stations Centrales—Entrepreneurs de Construction et Entretien.
G.—Elektricitätswerk—Unternehmer zur Errichtung & Aufrechterhaltung von.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.

Central Stations—Electric Lighting.

(*See* ELECTRICITY WORKS.)

Chemical Glass & Apparatus Manufacturers.

F.—Verrerie et Appareils de Chimie.
G.—Chemisches Glas & Apparate—Fab. von.

Thüringische Glasinstrumenten-Fabrik (von Alt, Eberhardt & Jäger), Ilmenau, Germany.
Vlet, Julien, 29, rue Mot, Fontenay-sous-Bois (Seine), France.

Chemical Manufacturers.

F.—Fabricants de Produits Chimiques.
G.—Chemikalien—Fabr.

Alder, Victor, 42, Humboldtgasse, Vienna X., Austria.
Allgemeine Thermit-Ges. m. b. H., Essen-a.-d.-Ruhr.
Bardot, C., 19, Passage Duranton, Paris.
Bender, Dr., & Hobein, Dr., 76A, Gabelsbergerstr., Munich.
Berrurier, A., 27, rue du Grand Prieuré, Paris.
Berrurier, Père et Fils, 14, rue Caffarelli, Paris, France.
Brigonnet, Père & Fils & Gaubert, 15, rue de Landy, La plaine St. Denis (Seine), France.
Broemme Frères, Wassilievsky Ostrow, 12th line, 37, St. Petersburg.
Chemische Fabrik Akt. Ges. vorm. Carl Scharff & Co., Breslau.
Chemische Fabrik auf Aktien (vorm. E. Schering), Müllerstrasse, Berlin, N.
Chemische Fabrik Brugg A. G., Brugg.
Chemisches Institut, Dr. N. Caro, Meinekestr. 20, Berlin, W. 15.
Couteux, L., 57, rue des Archives, Paris.
De Bonnier, H., et Cie., 14, rue de la Blanchisserie, Brussels.
Delaite, Emile, & Cie., rue Hors-Château, 50, Liége.
Desmazures, Gust., 6, rue Barbette, Paris.
Dumont, P., 46, rue de la Chapelle, Paris.
Electricitätswerk Hagneck, Biel, Switzerland.
Etablissements Poulenc Frères, 92, Vieille-du-Temple, Paris.
Fabrique de Produits Electrochimiques de Monthey, Monthey (Valais), Switzerland.
Gallais, —, 73, boul. de la Villette, Paris.

Chemical Manufacturers—*continued.*

Goldschmidt, Th., Essen-a.-d.-Ruhr.
Hubner & Co., rue Bervoet 15, Antwerp.
Jurgensen, Dr., & Bauschlicher, Prague, Weinberge, Austria.
Matthes, E., & Weber Act. Ges., Duisburg, Germany.
Pannenberg, Julian, Arnstadt, Thuringia, Germany.
Rademacher, Carl, & Co., Carolinenthal, bei Prague, Austria.
Ruch, Alphonse, 63, rue des Archives, Paris.
Ruelle, H., 38, rue de Sévigné, Paris.
Saacke, A. C., Hamburg, Germany.
Schweizerische Gesellschaft für Elektrochemische Industrie, Bern.
Sieber, Dr. B., Attisholz, Solothurn.
Società Anonima Dinamite Nobel, Avigliana, nr. Turin.
Società Anonima Esplodenti Prodotti Chimica, 3, Piazza Bodoni, Turin. Works: Villafranca, Lunigiana.
Société Anonyme de Produits Chemiques Etablissements Malétra, 140, rue de Rivoli, Paris.
Société Centrale de Produits Chimiques, 42 et 44, rue des Écoles, Paris.
Wagner, Dr. Eugene & Emil v., 96, Soroksárergasse, Budapest, Hungary.
Zambelli, A. C., corso Raffaello 20, Turin, Italy.

Chemists—Consulting.

F.—Chimistes—Consultants.
G.—Chemiker—Beratende.

Chemists—Electro.

F.—Electrochimistes.
G.—Elektrochemiker.

Antrick, Dr. O., Chemische Fabrik auf Aktien, 127, Schillerstr., Charlottenburg.
Chemische Fabrik Buckau A. G., Magdeburg, Germany.
Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main.
Chenal, Douilhet & Co., 22, rue de la Sorbonne, Paris.
Deutsche Carborundum-Werke, Iserlohn, Germany.
Deutsche Elektrochemische Gesellschaft, Berlin, Germany.
Dumoulin, E., 19, rue des Petit Champs, Paris.
Elektron Gesellschaft, Bitterfeld, Germany.
Engelhardt, Victor, 11, Schloss-str., Charlottenburg.
Frank, Dr. Rudolf, Golling, bei Salzburg, Austria.
Gallois, Ch. F., 37, rue de Dunkerque, Paris.
Hulin, Léon, Grenoble (Isère), France.
Liander, R., 8 linia, 41, Wasily ostr., St. Petersburg, Russia.

Chemists—Electro—*continued.*

Malleron, G., 85, rue de Rivoli, Paris.
Moritz, R., Wasquehal (Nord), France.
Pabst, Albert, 12, avenue Stinville, Charenton (Seine), France.
Popp, Dr., & Dr. Becker, analytical & electro-chemical laboratory, Frankfort-on-the-Main, Germany.
Pousin, E., rue de l'Université 22, Reims, France.
Società Elettrochimica, Pont St. Martin, Turin, Italy.
Société Anon. Suisse de l'Industrie Electro-chimique Volta, Geneva.
Société d'Electro-chimie, 2, rue Blanche, Paris; & St. Michel de Maurienne & Vallorbe, Switzerland.
Société Electro-Chimique du Giffre St. Jeoire, Annecy (Haute-Savoie), France.
Von Grätzel, Dr. R., Dessau, Germany.

Clamps for Conducting Wire.

F.—Emboitures pour Conducteurs.
G.—Drahtklemmen.

Clocks & Synchronization—Electric.

F.—Horloges et Synchronisation—électriques.
G.—Uhren und Zeitmesser—Elektrische.

Bernard Cros, Azille (Aude), France.
Bertrand, —, Lure (Haute-Saône), France.
Cadet, Ad., 78, cours Lafayette, Toulon, France.
Detouche, C., 18, boul. Poissonnière, Paris.
"Elektra" Vertrieb Elektrischer Uhren (Patent Möller), Jacob Neuweck, Ritterstr. 87, Berlin, S.
Fabrique d'Appareils Electriques, Plan Perret, Neuchâtel.
Garnier, P., 16, rue Taitbout, Paris.
Gautier, Montfort l'Amaury (Seine-et-Oise), France.
Hennequin, L. A. A., 7, rue de la Manufacture-Nationale, Beauvais (Oise), France.
Jordan, G., Kramerstr. 21, Nordhausen, Germany.
Klumak Frères, 13, Rothenthurnstr., I., Vienna.
Kulicska, Anton, Iskolautcza 12, Budapest II., Hungary.
Lepaute, H., 5, rue Halévy, Paris.
Maestrelli, E., corso Tintori, 40, Florence, Italy.
Marziali, C., & Figli, via S. Spirito 30, Florence, Italy.
Meyer, Jacques, Aigle, Switzerland.
Neher Söhne, J., Barerstr. 34, Munich.
Renouf, —, 30, rue Nöel Ballay, Chartres (Eure-et-Loire), France.
Saiber, J., 19, Haupstätterstr., Stuttgart.
Tordoir, E., 72, rue Gray Etterbeek, Brussels.
Wehrlé, E., 3, place du Petit Sabion, Brussels.
Westendorp, P. & E., Elberfeld, Germany.
Winbauer, Alois, Theresiengasse, I., Baden, bei Wien, Austria.

Coil Winding Machines.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Coils—Medical & Intensity.

F.—Bobines—Médecine et intensité.
G.—Spulen—Medicinische & Intenzitäts.

GIANOLI, L., 26, boul. Magenta, Paris.
Guenet, Jules, 5, rue Montmorency, Paris.
Hinaux, E., & H. Thomas, formerly Pericaud & Cie., manufacturers, 9, rue St. Maur, Paris. Induction coils, scientific & medical apparatus. Scientific toys.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Combined Switch & Wall Socket Manufacturers.

F.—Emboitures avec commutateurs combinés.
G.—Combinirte Ausschalter und Steckkontact—Fabrikanten.

Compasses.

F.—Boussoles.
G.—Kompasse.

Houlliott, 60, rue Nazareth, Paris.

Condensers—Makers of.

F.—Condensateurs—Fabr. de.
G.—Condensatoren Fabr.

Modzelewsky, J. de, Fribourg, Switzerland.

Conduits (Underground) & Culverts.

F.—Conduits—Sousterrains—Fab. de.
G.—Untergrund. Röhren fab.

Cottancin Construction, The, 47, boul. Diderot, Paris.
Gas und Wasserleitungsgeschäft Stuttgart, G. m. b. H., 36, Calwerstrasse, Stuttgart, Germany.

Contractors—Electric Light & Power.

F.—Eclairage Electrique—Entrepreneurs d'.
G.—Electrisches Licht—Unternehmer für.

A. E. G. Thomson-Houston Iberica, Carrera de San Jeronimo 43, Madrid, Spain.
A. E. G. Union Electrique (Soc. Anon.), 156, rue Royale, Brussels.
Acquedotto & Impianti Elettrico Baragiola, Como, Italy.

Contractors—Electric Light & Power— *continued.*

Actiengesellschaft für Gas & Electricität, late E. von Koepper & Co., Goebenstr. 16, Cologne. Factories: Cologne-Ehrenfeld.
Adagio, Angelo, Tolentino (Prov. di Macerato), Italy.
Aerens, Ch., rue de Bruges 89, Ghent, Belgium.
Agotz, Zehnpfund & Co., Brandenburgstr. 25, Berlin.
Aktiengesellschaft für Elektricitäts Anlagen, Cologne.
Alioth, R., & Co., Basle, Switzerland.
Allgemeine Beleuchtungs & Heiz Industrie A. G., Dorotheenstr. 42, Berlin, N.W.
Altenburg Strassenbahn und Elektricitätswerk, Altenburg.
Amelin et Renaud, 39, Jean Jacques Rousseau, Paris.
André, Ch., rue du Pont Neuf. Charleroi, Belgium.
Andreucci, Carlo, Ancona, Italy.
Annibal, F., 8, rue Bonne Carrière, Salon (Bouches-du-Rhône), France.
Aramburu, Azpiazu & Co., Azpeitia (Guipozcoa), Spain.
Argnani, Ing. Vittorio, & Co., Ancona.
Artiz, Justo, y Co., Zumarraga, Guipozcoa, Spain.
Ascher, Jul., Waldstr. 33, Berlin, N.W.
Auriemina, Carlo, Santa Maria di Capua, Italy.
Banti & Torrigiani, via Montevecchio; & Canale del Porto, Fano, Italy.
Barducci, G., Caserta.
Bart, L., 11 bis, rue du Colisée, Paris.
Bartels, Franz, & Co., Breitgasse 64, Danzig, Germany.
Bein & Wedemeier, 40, Kaiserstr., Frankfort-on-the-Main.
Benoit, E., 119, rue St. Maur, Paris.
Berger, Joseph, Belgrade, Servia.
Berliner Elektricitäts Werke, Berlin, N.W.
Berliner Elektrische Beleuchtungs Aktien Gesellschaft, 28, Alexanderstrasse, Berlin, O.
Berliner Vororts Elektricitäts Werke, Steglitz-Berlin.
Bersano, M., piazza F. D. Guerrazzi 5, Pisa.
Berthelot et Fils, Troyes (Aube), France.
Blos & Co., Madrid, Spain.
Bœddinghauss, J., Düsseldorf, Germany.
Bogenhard & Beyer, Eichengasse 1, Erfurt, Germany.
Boittier, E., Dôle (Jura), France.
Bonacini, G., & C., piazza Arcivescovado, Pisa, Italy.
Bonistalli, E., via G. Bruno 25, Pisa.
Brant, fils, H., Canal des Recollets 20, Antwerp, Belgium.
Brienne, L., 43, ave. de St. Cloud, Versailles (Seine-et-Oise), France.
British Continental Electricity Co., Ltd., 3, via Umberto, San Remo, Italy; & 82, Victoria-st., London, S.W.

Contractors—Electric Light & Power— *continued.*

Calderoni, D., Omegna (Prov. di Novara), Italy.
Callegari, Aurelio, 166, via Vittorio Emanuele, Parma.
Carlier, V., Cambrai (Nord), France.
Casier, L., rue de la Brêche 17, Antwerp, Belgium.
Castiglione, Vittorio, 31, corso Palestro, Brescia, Italy.
Cavana, Dottr. Francesco, Cremona, Italy.
Chassagne, F., 49, rue des Mathurins, Paris.
Chilesotti, Ing. P., e C., Thiene, Italy.
Ciurnelli & Bariletti, Ponte Valleceppi (Perugia), Italy.
Cobianchi, Vittorio, Omegna (Prov. di Novara), Italy.
Commandit Gesellschaft für Electrische Anlagen vorm. Albert Jordan, Magdalenenstr. 40, Vienna VI.
Compagnia Anonima Continentale, via Quadronno 41–43, Milan, Italy.
Compagnie Auxiliaire d'Electricité (soc. anon.), 75, rue Potagère, Brussels.
Compagnie Centrale d'Éclairage et de Transport de Force, 22, rue Rossini, Paris.
Compagnie d'Électricité de l'Ouest-Parisien, 73, boul. Haussmann, Paris.
Compagnie d'Electricité de Spa, Spa, Belgium.
Compagnie de Travaux d'Eclairage et de Force, 23, rue Lamartine, Paris.
Compagnie des Eaux & l'Électricité de l'Indo-Chine, 58, rue de Londres, Paris.
Compagnie du Gaz de Saint-Quentin, Saint Quentin, France.
Compagnie du Gaz, Éclairage des Théâtres par Moteurs à Gaz, Toulouse (Haute-Garonne), France.
Compagnie Electrique Anversoise, 8, quai Cockerill, Antwerp, Belgium.
Compagnie Électro-Mécanique, Le Bourget (Seine), France.
Compagnie Française d'Éclairage Electrique, 1 *bis*, cité Bergère, Paris.
Compagnie Générale d'Eclairage de Bordeaux (Soc. Anon.), 46, allées de Tourny, Bordeaux (Gironde), France.
Compagnie Générale de Travaux d'Eclairage et de Force (anciens etablissements Clémançon), 23, rue Lamartine, Paris.
Compagnie Internationale d'Éclairage Électrique, Tours, France.
Compagnie Meridionale d'Eclairage & de Force, Marseilles.
Compagnie Universelle d'Eclairage de Chauffage & de Force Motrice, Auxerre (Yonne), France.
Companhia de Luz Electrica, rua de Passos Manoel, Oporto, Portugal.
Compañia Barcelonesa de Electricidad, Rambla Canaletas 5 & calle Tallers 4, Barcelona.
Compañia General Madrileña de Electricidad, Madrid.
Condray, J., 15, place des Halles; & 2, rue du Petit Change, Chartres, France.

Contractors—Electric Light & Power— *continued.*

Continentale Gesellschaft für Elektrische Unternehmungen Nürnberg A. G., 94, Landgrabenstr., Nürnberg.
Dalmau, Manuel, calle del Doctor Dou 8, Barcelona, Spain.
Dassel, O., Barmen.
Delagoutte Frères, 12, rue des quatre Fils, Paris.
Demblon & Verset, 3, rue d'Aronberg, Antwerp.
Demol Fils, 19, rue de la République, St. Chamond (Loire), France.
Deutsche Gasfernzünder Gesellschaft, 38, 39, Dorotheenstrasse, Berlin, N.W.
Deutsche Ges. für Bremer Licht G. m. b. H., Leipzigerstr. 103, Berlin.
Deutsch Übersee Elektrizitäts Ges., 66, Französischestr., Berlin, W.
Deutsche Unternehmung für Elektrische Beleuchtung, E. Seeligmann, Gereoushof, Cologne, Germany.
Dewaele, J. E., rue Joseph Plateau 105, Ghent.
Dierman, W., & Co., 1, rue Saint Léonard, Liége.
Direction des Services Industriels, Le Locle, Switzerland.
Dorn, C. F., Nachf., Stuttgart.
Dumont, Louis, rue Montozer 74, Brussels.
Dumont, Pierre, Bellegarde, Ain, France.
Echten, A., rue du Dublin 32–32A, Brussels.
Eggersmann & Lang, Aachen, Germany.
Ehrling, O., Schmiedestr. 3, Leipzig-Plagwitz, Germany.
Electra Castellana, Vega L., Bustamente y Co., Gran Via 50, Bilbao, Spain.
Electra de Bolueta, Ripa 1, Bilbao, Spain.
Electric Light Co., A. E. G. (Elektrische Aktiebolaget), St. Vattug. 9, Stockholm, Sweden.
Electricitäts Actien Gesellschaft vorm. Schuckert & Co., Neue Taschenstr. 19, Breslau, Germany.
Electricitätswerk Eisenach A. G., Eisenach, Germany.
Electricitätswerk Hagneck, Biel, Switzerland.
Electricité de Stavelot (Ste. Anon.), Stavelot, Belgium.
Electricity Supply Co. for Spain, Ltd., calle Espoz y Mina, Madrid, Spain.
"Elektra" Aktien Ges., Lüttichaustr. 21I, Dresden, Saxony.
Elektra, Berliner Elektrotechnikum, Neanderstr. 4, Berlin, S.
Elektrische Licht & Kraft Anlagen Akt. Ges., Kanonierstr. 17–20, Berlin.
Elektriska Aktiebolaget, Lundmakaregatan 7, Stockholm, Sweden.
Elektrizitäts Ges. Alioth, 22, Aeschenvorstadt, Basle, Switzerland.
Elektrizitätswerk Ilmenau, Thuringia.
Elektrizitätswerk Kubel, St. Gallen, Switzerland.
Elektrizitätswerk Spreitenboch A. G., Spreitenboch.

Contractors—Electric Light & Power— *continued.*

Elektrizitätswerk Stalden-Emmenthal, Stalden-Emmenthal, Switzerland.
Elektrizitätswerk, Wangen a. d. Aare, Switzerland.
Elektr. belysningsanläggning, H. Karlsson, Örebro, Sweden.
Elektr. Kraftoverförings-o-belysningsanläggn, Motala, Sweden.
Elektron Lighting Co., Ltd., Gothenburg, Sweden.
Entreprise Thusy-Hauterive, Fribourg, Switzerland.
Erste Kroatische Warasdener Act. Ges. für Elektrische Beleuchtung, Warasdin, Croatia.
Fabrica de Fluido Electrico "La Concepcion," San Francisco, Linares, Spain.
Faesch, Fr., 15, Spalentorweg, Basle.
Falsen, H., Kirkegade 17, Christiania.
Favero, Valentino, Bassano (Prov. di Vicenza), Italy.
Fein, C. & E., Telegraphenbau-Anstalt, Stuttgart, Germany.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Fiat Lux, Co. Alemanna de Electricidad, Malaga.
Finska Elektriska Aktiebolaget, 2, Sodra Magasinsgatan, Helsingfors, Finland.
Force et Eclairage par l'Electricité, Société Anonyme, boul. d'Anderlecht, Brussels.
Force et Lumière Electriques (Soc. Anon.), 9, rue de Rocroy, Paris.
Foureau, —, 54, rue de Chabrol, Paris.
Franzosi, Luigi, Omegna (Prov. di Novara), Italy.
Franzosi Fratelli, Omegna (Prov. di Novara), Italy.
Frappat, —, 7, rue de Lycée, Grenoble (Isère), France.
Fratelli Cellai, Lungarno Regio, Pisa.
Fratelli Petrini, Bastia, Italy.
Freitag, G., Barmen.
Friedrichs, E., 8, Gemarkerstr., Barmen.
Frilli de Lamorte, A., 5, via Nazzionale, Florence, Italy.
Frognerkilens Fabrik, Bygdö, near Christiania, Norway.
Fröhlich & Perthen, Kolowratring 3, Vienna I.
Furrer, J., Weesen, St. Gallen, Switzerland.
Garrone e Marchetti, Varallo Sesia (Prov. di Novara), Italy.
Gas, Elektrizitäts und Wasserwerke, der Stadt Cöln, Cologne.
Gas, Wasser und Elektrizitätswerke Biel, Switzerland.
Gasquet, —, rue de Gand, Iseghem.
Gesellschaft für Elektrische Beleuchtung, Frutigen, Berne, Switzerland.
Gesellschaft für Electrische Kraftübertragung & Elektr. Licht, Pfaffikon, Zurich.
Gesellschaft für Elektrische Unternehmungen, 45, Dorotheenstr., Berlin.

Contractors—Electric Light & Power— *continued.*

Gesellschaft für Elektrizität Wirth & Futterknecht, Konstanz-am-Bodensee, Germany.
Gesellschaft für Licht u. Kraftanlagen m. b. H., St. Johann-Saarbrücken, Germany.
Ghysens, J., 22, rue du Vivier, Liége.
Gibault, Vve Ch., ave. Philippe Auguste 68 & 70, Paris.
Gillibert, A., et Cie., 25, rue de la Darse, Marseille.
Gittens, C., Chaussée de Malines 116, Antwerp, Belgium.
Godet, —, 12, faub. Cère, Rheims, France.
Godfrin et Jacquemot, Epernay (Marne), France.
Goetz, J., & Konrad, Berlin; Cologne; & Heusy. nr. Verviers.
Gonzalez, Hijos de Jose Maria, Co. de Electricidad Mondoñedo, Lugo, Spain.
Grubert, F., & Sohn, 31, Krausenstr., Berlin, S.W.
Guichard, P. A. L., 115, rue de Meux, Paris.
Hagedorn, W., 5, Alte Jacobstrasse, Berlin, Germany.
Hannoversche Elektrizitäts Gesellschaft, 63, Markstr., Hanover.
Hanoulle, L., 47, rue de l'Instruction, Brussels.
Hanseatische Siemens - Schuckert Werke G. m. b. H., Hamburg, Kiel & Bremen, Germany.
Hechler, S., 14, Linsenstrasse, Mühlhausen, Thuringia, Germany.
Helios, Société Anonyme d'Electricité, rue de Ruysbroeck 47, Brussels.
Herz, S., Magdeburgerstr. 33, Berlin, W.
Holmestrands Elektricitetsverk, Holmestrand, Norway.
Holwech, Olaf M., Fredriksstad, Norway.
Hoppe & Stöcker, Elberfeld, Germany.
Humbert, H., rue Lucien Namèche 7, Namur, Belgium.
Imperial Continental Gas Association, Schenkengasse 10, Vienna I.
Impresa Illuminazione Elettrica, Tizzana (Prov. di Firenze), Italy.
Impresa Illuminazione Elettrica della Città di Susa, Italy.
Impresa Illuminazione Elettrica di Acqui, Italy.
Impresa Illuminazione Elettrica di Aosta, Italy.
Impresa Illuminazione Elettrica di Casalpusterlengo, Italy.
Impresa Illuminazione Elettrica, Albenga, Liguria, Italy.
Impresa Illuminazione Elettrica di Grosseto, Italy.
Impresa Illuminazione Elettrica di Moncalieri, Italy.
Impresa Illuminazione Elettrica di Pesaro, Italy.
Impresa Illuminazione Elettrica, Stradella, Pavia, Italy.
Impresa Illuminazione Elettrica di Trino Vercellese, Piemonte, Italy.
Impresa Impianto Elettrico della Valle Brembana, Bergamo, Italy.
Impresa per Applicazioni Elettriche, Forli, Italy.

Contractors—Electric Light & Power— *continued.*

Impresa per l'Illuminazione Elettrica di Molfetta, Molfetta, Bari, Italy.
Jaccio e Molteni, Vaprio d'Adda.
Jean & Bouchon, 52 bis, rue des Martyrs. Paris.
Jovanovitch Sofronia Bros., Belgrade, Servia.
Joos, H., & Co., 65, rue de la Regence, Brussels.
Kaufholz, K. E., 10, Tübingerstr., Stuttgart.
Koch, Rudolf, Göttingen.
Koopman & Co., 455, Heerengracht, Amsterdam.
Koppel, A., Lecce, Italy.
Korting, Gebr., Elektricität G. m. b. H., Schiffbauerdamm 23, Berlin, N.W.
Körting Gebr., Pragerstr. 49, Dresden.
Krogh, A. J., övre Slotsgd. 7, Christiania.
Kröttlinger, Fr., VII. Halbgasse 3, Vienna.
Lacarrière Delatour & Co., 16, rue de l'Entrepôt, Paris.
Lacroix, G. de, 1, rue Théodore de Banville, Paris.
Lahaye & Blum, rue des Paraissiens 18, Brussels.
Lanée, A., 2, rue de l'Hôtel Dieu, Clermont-Ferrand (Puy-de-Dôme), France.
Lange, 53 *bis*, boul. de la Liberté, Lille (Nord), France.
Lardinoy, Aimable, rue du Four Chapitre 9, Tournai.
Layon, J., boul. de Hainaut 198, Brussels.
Lebek, A., Barmen.
Lebrun, B., Mons, Belgium.
Lelièvre, Vve., & Lepargneul, Beuzeuille (Eure), France.
Leobersdorfer Maschinenfabrik von Ganz & Co., Leobersdorf, Austria.
Lesage, E., 7, rue Féron, Paris.
Licht & Kraftwerke, G. m. b. H., Grunaerstr. 15, Dresden.
Licht- und Wasserwerke Thun, Thun, Switzerland.
Licht- und Wasserwerke, Langnau, Berne, Switzerland.
Lombard-Gerin & Cie., 31, Quai St. Vincent, Lyons, France.
Loos, Prosper, & Co., 23, chaussée d'Etterbeck, Brussels.
Louet, —, 11, rue Rolland, Bordeaux (Gironde) France.
Luna, Carlos, Salamanca, Spain.
Luth & Roséns Elektriska Aktiebolag, Stockholm, Sweden.
Maifreni, Francesco, Adria (Prov. di Rovigo), Italy.
Maison Beer (Soc. Anon.), Jemeppe-lez-Liége, Belgium.
Malignani, A., Udine, Italy.
Malmö Städs Elektricitetsverk, Malmö, Sweden.
Manifattura e Lanificio di Collegno, Collegno, Turin.
Marcucci, C., via S. Marco 158, Pisa.
Marschel & Pannicke, Chausseestr. 48, Berlin.
Martorelli, Ing. P. I., Studio Technico Industrialo, Piazza dei Martiri 58, Naples.

Contractors—Electric Light & Power— *continued.*

Mathorez, M., 84, rue Francia, Calais (Pas de Calais), France.
Mayrhofer, G., Brigittenauerlande 18, Vienna XX.
Merola, Vincenzo, & Co., Cassino, Caserta, Italy.
Meunier, L., 79, boul. Malesherbes, Paris.
Meyer, Th., Meinkenstr. 6, Bremen, Germany.
Minevini, Demetrio, via St. Vitale 36, Bologna, Italy.
Minghetti, S., Bologna, Italy.
Moda, A., & Co., Giaveno, Turin, Italy.
Molvo, G. G., jun., Fonarny per. 3, St. Petersburg.
Mongin Fils, 23 et 25, ruede Grignan, Marseille.
Moses, L., 51, Auguststr., Berlin, C.
"Motor" Aktien Gesellschaft für angewandte Elektricität, Baden, Switzerland.
Mülhauser Electricitätswerke Mulhouse, Alsace, Germany.
Noerrenberg & Co., Rome, Italy.
Oesterreichische Gasglühlicht und Elektrizitätsgesellschaft, IV. Schleifmüflgasse 4, Vienna.
Officine Elettriche Genovesi, Genoa, Italy.
Pampana, V., via S. Paolo 17, Pisa.
Pandiani, E., via Boccaccio 23, Milan, Italy.
Partebois, C., 34, rue Crépin, Lyon (Rhône), France.
Pellenz, Carl, Cologne; & Hamburg.
Petit Frères, Lebocey & Cie., Troyes (Aube), France.
Petrucci, Luigi, & Co., Forli, Italy.
Pevrard, E., 9, rue des Bons-Enfants, Grenoble, France.
Pico, Vittorio, Termignone, Ghemme (Prov. di Novara), Italy.
Pinguely, A., Lyons, France.
Pinochi, P., via N. Pisano 8, Pisa.
Piumatti, Enrico, via Mad. Cristina 33, Turin.
Podesta, Eredi & Ferdinando, Casalbuttano (Prov. di Cremona), Italy.
Popular Gijonesa de Alumbrado, Gijon, Spain.
Porta & Co., Milan.
Priano, Tomaso, Ovada, Italy.
Puccinelli, Salvadore Figli, Pisa, Italy.
Ravioli, Carlo, Corso V. Emanuele 1, Turin, Italy.
Reisser, Wilhelm, 13A, Wilhelmsplatz, Stuttgart, Germany.
Reivacher, L. Ott., Arezzo, Italy.
Richiardone, —, via dei Mille 44, Turin.
Ritter & Uhlmann, Clarastr., Basle.
Robertson, Davy, Gothenburg, Sweden.
Rockel, Ad., Wilmersdorferstr. 107A, Charlottenburg, Berlin.
Rosa, Prof. V., via Schiarini, Alessandria.
Rosada, G., & Co., Treviso.
Rossi, Emmanuele, & Co., Finalmarina, Italy.
Rossi, G. di G., & Ing. Ed., via St. Luca 1, Genoa.
Roux, E., 59, rue Nièvre, Nevers (Nièvre), France.
Ruozi & Camellini, via Em. a. S. Piétro, Reggio Emilia, Italy.

Contractors—Electric Light & Power— *continued.*

Rust, —, 15, rue d'Aboukir, Paris.
Sachsisch-Thuringische Akt. Ges. für Licht u. Kraft Anlagen, Magdeburgerstr. 37, Erfurt, Germany.
Salzmann, A., rue Vanneau 43, Antwerp, Belgium.
Sante Mocchi & Co., Cagli (Pesaro), Italy.
Santoro, Ing., Palermo.
Saulnier, A., 81, rue du Cherche Midi, Paris.
Sauvitale, Conte G., Piazzale S. Simone, Parma.
Sbrana, P., via S. Zeno 52, Pisa.
Schafer, Rud., jun., Sandstr. 2, Nordhausen, Germany.
Schmidtsdorff, R., Chausseestr. 39, Berlin, N.
Schneegans, —, Ilmenau.
Schulze, Otto, & Isenbeck, Strassburg i/Elsass, Germany.
Schwerd, L. E., Karlsruhe, Baden, Germany.
Scola Fratelli, Vercurago, nr. Lecco.
Sellari, Andrea, Corso Carlo Alberto, Grosseto, Italy.
Semü, Jacob, Belgrade.
Serveau, A., 124, rue Staphanie, Brussels.
Service d'Electricité de la Commune de Boudry, Canton de Neuchatel, Switzerland.
Service d'Electricité de la Commune de Landeron, Canton de Neuchatel, Switzerland.
Service d'Electricité de la Commune de St. Blaise, Canton de Neuchatel, Switzerland.
Service Electrique de la Commune Municipale de St. Imier, St. Imier, Switzerland.
Siemens-Schuckert Werke G. m. b. H., Gartenstr. 51, Breslau V.
Simundt, F., 106, Lützowstr., Berlin, W.
Sinson, St. Albin, A. et Fils, 27, rue de Dunkerque, Paris.
Sironi, Giovanni, Treviso.
Smidt, C., 14, rue Collège, Namur.
Smolensk Electric Co., Smolensk, Russia.
Sociedad Anglo-Española de Electricidad, Pelayo 12, Barcelona, Spain.
Sociedad Anonima "Alambres del Cadagua," Bilbao.
Sociedad Anonima de la Vega de Armijo, de Lux Electrica, Codorba, Spain.
Sociedad Anonima Electra-Recajo, Logroño, Spain.
Sociedad Anonima "Electrica de Vedia," Vedia, Vizcaya, Spain.
Sociedad Electrica Gallega (Laforet y Co.), Vigo, Spain.
Società Alzanese di Elettricità, Alzano-Maggiore, Italy.
Società Anglo-Romana per l'Illuminazione di Roma, Rome.
Società Anonima Elettricità Alessandrina, Alessandria, Italy.
Società Anonima Bergamasca per distrubuzione di Energia Ellettrica, Bergamo, Italy.
Società Anonima Co-operativa Abbadiese per l'Illuminazione Elettrica, Abaddia Alpina, Turin.

Contractors—Electric Light & Power— *continued.*

Società Anonima Co-operativa di Elettricità, via Galleria 12B, Bologna.
Società Anonima Co-operativa Lecchese di Elettricità, Lecco, Italy.
Società Anonima Co-operativa per la Illuminazione Elettrica, Perrero, Turin, Italy.
Società Anonima Co-operativa per l'Illuminazione Elettrica Perosa Argentina, Turin, Italy.
Società Anonima Co-operativa "Unione Elettrica Gardone-Inziono," Gardone Valtrompia, Brescia, Italy.
Società Anonima Co-operativo Telefonica Trevisana, Treviso.
Società Anonima di Elettricità A. E. G., Genoa, Italy.
Società Anonima di Elettricità Alessandrina, Alessandria, Italy.
Società Anonima Elettrica, Murano, Venice, Italy.
Società Anonima Elettricità Alta Italia, via Arsenale 21, Turin.
Società Anonima "Elettricità Umbra," Perugia, Italy.
Società Anonima Livornese d'Elettricità, Leghorn.
Società Anonima "Luce Elettrica," Chiuro, Sondrio, Italy.
Società Anonima per Azioni "Elettricità Toscana," Pisa, Italy.
Società Anonima per Imprese Elettriche "Conti," Monza, Italy.
Società Anonima per Imprese Pubblicke, Pordenone, Italy.
Società Anonima per la Luce ed Energia Elettrica, Canelli, Alessandria, Italy.
Società Anonima per l'Illuminazione Elettrica ed Escercizio di Molino e Trebbia, San Daniele del Friuli Udine, Italy.
Società Anonima per l'Illuminazione Elettrica Campodolcino, Sondrio, Italy.
Società Anonima per la Produzione e Distribuzione di Energia Elettrica, Gazzaniga, Bergamo, Italy.
Società Anonima perla Produzione e Distribuzione di Energia Elettrica, Pordenone (Prov. di Udine), Italy.
Società Anonima per Prodotti Elettrici, Genoa, Italy.
Società Anonima Piacentina per l'Illuminazione Elettrica, Piacenza, Italy.
Società Bagni Lido, Venice.
Società Bergamasca d'Elettricità, Bergamo, Italy.
Società Co-operativa di Produzione e Consumo di Luce Elettrica, Aosta, Italy.
Società Cooperativa Alessandro Volta, Electrical Engineers via Mazzini, Pavia, Italy.
Società Co-operativa Fenestrellese per l'Illuminazione Elettrica, Fenestrekle, Turin, Italy.
Società Co-operativa di Consumo per la Distribuzione Luce Elettrica e Forza Motrice, Ivrea, Italy.
Società Coperative Luce Elettrica, Chiavenna, Italy.

Contractors—Electric Light & Power— *continued.*

Società "d'Elettricità," Sondrio, Italy.
Società del Gas, Varese (Lombardia).
Società dell' Illuminazione, Cesena, Italy.
Società di Illuminazione Elettrica di Venezia, S. Luca, Corte Morosina 4422, Venice.
Società Elettrica Marosticanese, Marostica, Veneto, Italy.
Società Elettrica Anonima Cooperativa, Bagolino, Brescia, Italy.
Società Elettrica Anonima Co-operativa, Morbegno, Sondrio, Italy.
Società Elettrica di Vestone, Vestone, Brescia.
Società Elettrica Ossolana, Intra, Lago Maggiore, Italy.
Società Elettrica Ossolana, Novara, Italy.
Società Elettricità Comense A. Volta, Como, Italy.
Società Elettricità di Collio Valtrompia, Collio, Brescia.
Società Elettricità di Sarezzo, Sarezzo, Brescia, Italy.
Società Elettricità Toscana, Pisa, Italy.
Società Generale Casalese di Elettricità, Casale Monferrato, Italy.
Società Generale Italiana Edison di Elettricità, 2, via Tommaso Grossi, Milan, Italy.
Società Generale per la Illuminazione, Siracusa, Italy.
Società Generale per la Illuminazione Anonima, Naples.
Società Illuminazione Elettrica, Cremona, Italy.
Società Impianti idro-elettrico, Valle Imagna, Clenezzo, Bergamo, Italy.
Società Industriale di Elettricità, Rieti, Umbria, Italy.
Società Industriale d'Illuminazione Elettrica, Battaglia, Padua, Italy.
Società Industriale della Valnerina, Terni, Perugia, Italy.
Società Industriale Elettrochimica, Pont St. Martin, Piedmont, Italy.
Società Italiana dei Forni Elettrici, via Due Macelli 3, Rome, Italy.
Società Italiana di Applicazioni Elettriche, Turin, Italy.
Società Italiana di Elettricità, Sistema Cruto, Turin.
Società Italo Suizzera per la Illuminazione Elettrica, Sta. Maria, Capua, Italy.
Società Ligure di Elettricità, Genoa.
Società Lombarda per Distribuzione di Energia Elettrica, rue Principe Umberto 17, Milan.
Società Loverese di Elettricità, Lovere, Bergamo, Italy.
Società Meridionale di Elettricità, corso Re d'Italia 22, Naples.
Società Monregalese di Elettricità, viale Venezia 30, Milan; & via Panfilo Castaldi 8, Milan, Italy.
Società per l'Illuminazione Elettrica, Arona (Prov. di Como), Italy.
Società per l'Illuminazione Elettrica di Bagni di Lucca, Italy.

Contractors—Electric Light & Power— *continued.*

Società per l'Illuminazione Elettrica, Castello di Godego, Treviso, Italy.
Società per l'Illuminazione Elettrica, Gavardo, Brescia, Italy.
Società per l'Illuminazione Elettrica, Gavi, Italy.
Società per l'Illuminazione Elettrica di Mendrisio, Mendrisio, Canton Ticino, Switzerland.
Società per l'Illuminazione Elettrica Salo-Gardone, Salo, Brescia, Italy.
Società per l'Impianti dell' Energia Elettrica, Bertalia 60, Bologna, Italy.
Società per lo sviluppo delle Imprese Elettriche in Italia, via Victor Hugo 1, Milan, Italy.
Società per l'Utilizzazione delle Forze Idrauliche, Sede a Milano, Domodossola, Italy.
Società Piemontese per Illuminazione Elettrica, R. Pario, Turin, Italy.
Società Toscana per Imprese Elettriche, piazza Bavanzati 2, Florence, Italy.
Società Vicese di Elettricità, Vicoforte, Mondovi, Italy.
Société Anonyme Ateliers de Constructions Electriques, Charleroi, Belgium.
Société Anonyme Belge d'Electricité A. E. G.-l'Union Electrique, Brussels.
Société Anonyme d'Eclairage Electrique, Wevelghem, Belgium.
Société Anonyme d'Éclairage Électrique du Secteur de la Place Clichy, 53, rue des Dames, Paris.
Société Anon. d'Electricité (Gregoire Le Roy), 32, rue Courte de l'Hopital, Antwerp, Belgium.
Société Anonyme d'Electricité du Borinage, Pâturages, Belgium.
Société Anon. d'Electricité, Ninove.
Société Anon. d'Electricité et de Constructions Mécaniques, 421, ave. Van Volxem, Brussels.
Société Anonyme d'Eclairage & de force Motrice par l'Électricité, 11, rue d'Alexandrie, Paris.
Société (Anon.) d'Energie Electrique de Grenoble et Voiron, 4, place de la Gare, Grenoble; & Lyons.
Société Anonyme des Ateliers (Nicaise et Delcuve), La Louvière, Belgium.
Société Anonyme, Force et Eclairage, Anseremme, Belgium.
Société Anonyme l'Électrique, 245, chaussée d'Anvers, Lacken, Brussels.
Société Anonyme Russo-Belge, rue Fosse-aux-Loups 37, Brussels.
Société Anon. Transmission, Transports & Traction, 1, Square Labruyère, Paris.
Société Chaleur, Force, Lumière par l'Electricité, 17 rue Saussier Leroy, Paris.
Société Continentale de Traction et d'Eclairage par l'Electricité, 60, rue Caumartin, Paris.
Société d'Eclairage Electrique, St. Petersburg.
Société d'Eclairage "Genappe Electrique," Genappe, Belgium.
Société d'Electricité des Galeries Saint-Hubert, 56, rue des Bouchers, Brussels.

Contractors—Electric Light & Power— *continued.*

Société de l'Usine Electrique des Clées, Yverdon, Switzerland.
Société des Compagnies reunites du Gaz et de l'Electricité, 27, rue da Boa Vista, Lisbon.
Société des Forces Electriques de la Goule, St. Imier, Switzerland.
Société des Forces Motrices des Alpes Maritimes, Nice.
Société des Tramways de Sebastopol, Sebastopol, Russia.
Société des Usines Hydro-electriques de Montbovon, Romont (Fribourg).
Société Electrique de l'Ouest, rue Dugommier 6, Nantes, France.
Société Electrique du Nord, Roubaix, France.
Société Électrique Vevey-Montreux, Montreux, Switzerland.
Société Française de Distributions et de Constructions Electriques, 29, rue de Mogador, Paris.
Société Française de matériel agricole, éclairage électrique et transport de la force, 5, rue de Dunkerque, Paris.
Société Française d'Exploitations des Procede Hermite, 5, rue Drouot, Paris. (M. Curie, secretary.)
Société Générale d'Entreprises, Athens, Greece.
Société Grenobloise de Force et Lumière, Grenoble (Isère), France.
Société Industrielle d'Electricité, Secheron, Geneva, Switzerland.
Société Industrielle d'Energie Electrique, 60, rue Caumartin, Paris.
Société Internationale d'Entreprises & Exploitations Electriques, rue de la Loi 25, Brussels.
Société "Le Triphasé," Asnières, Seine, France.
Société Lilloise d'Eclairage Electrique, 85, rue de la Barre, Lille (Nord), France.
Société Lyonnaise des Forces Motrices du Rhône, 37, rue de la République, Lyons, France.
Société Nantaise d'Eclairage et de Force par l'Electricité, 16, rue Lamoricière, Nantes.
Société Normande d'Électricité, 14, rue du Petit-Salut, Rouen (Seine-Inférieure), France.
Société Officini Elettrische Genovesi, via del Campo 12, Genoa.
Société pour les Applications Générales de l'Electricité, rue Birmingham 54, Brussels.
Société Toulouse d'Électricité, 10, Quai Saint-Pierre, Toulouse (Haute-Garonne), France.
Söderhamns Elektriska Belysningsaktiebolag, Söderhamn, Sweden.
Soule, L., 13, rue de Thorigny, Paris.
Soulier & Viguier, Rodez (Aveyron), France.
Stamm, G., via Bocca di Leone 3, Rome.
Station Centrale d'Electricité, Seraing, nr. Liége, Belgium.
Station Hydraulique d'Éclairage Électrique, Usine du Moulin l'Évêque (Jules Chatiliez, Directeur), 6, rue du Rû, Verdun (Meuse), France.

Contractors—Electric Light & Power—*continued.*

Stockholm Electric Light Co., Stockholm, Sweden.
Sutermeister, Carlo, & Co., Intra.
Tacchi, L., Porta Nuova 18, Pisa.
Taddei, Gerolomo, Turin.
Tassart, Balas, Barbas & Cie., 21, rue de Chakau-Landon, Paris.
Tennevin & Cie., 31, ave. du Prado, Marseille (Bouches du Rhône), France.
Teplitzer Electricitäts und Kleinbahn-Gesellschaft, Teplitz, Bohemia.
Tihanyi, Nandor, VII. Csömöri ut 8, Budapest.
Tomassini & Albanesi, Castelfidardo (Ancona), Italy.
Tonscheidt, A., Skalitzerstr. 9, Berlin, S.O.
Toubas, —, rue Gretry, Nîmes (Gard), France.
Tritzschler, Herm., Oranienburgerstr. 7, Berlin.
Trollhättans Elektriska Kraftaktiebolag, Trollhättan, Sweden.
Uccelli, Icilio, Leghorn, Italy.
Uguccioni, D., & Co., via Condotta 3, Florence.
Usines Electrochimiques de Hafslund, Sarpsborg, Norway.
Van Beers, Frères, rue de Joncker 34, Brussels.
Van der Windt, S., 1, rue Ortelius, Brussels.
Vannucchi, F., Pisa, Italy.
Verbulst, G., rue aux Laines 4, Brussels.
Vizcaino, Pascual, Almansa, Spain.
Voghera, Ing. S., Padua, Italy.
Wagner, F. W., Mohrenstr. 15, Berlin.
Waldek & Wagner, Prague, Austria.
Warsage, Clement, 185, boul. Anspach, Brussels.
Welter, Louis, & Co., Nachf, Wolfsstr. 1A, Cologne.
Wengler, Franz, gr. Kalandstr. 10, Weissenfels, a. d. S., Germany.
Wiener Gasindustriegesellschaft, I. Tuchlauben 11, Vienna.
Wienert, M., Ilmenau.
Wiessner, Rob., & Baumann, Alexandrinenstr. 37A, Berlin, S.
Wockatz & Co., Gothenburg, Sweden.
Woodhouse & Baillie Riviera Electricity Co., Ltd., Ventimiglia & Bordighera, Italy.
Zanni, V., via G. Guisti 10, Pisa.
Zimmer, Ad., Weissenburgerstr. 20, Berlin, N.
Zürcher Telephongesellschaft, Actiengesellschaft für Elektrotechnik, Zurich.

Contractors—Installation.

F.—Installations—Entrepreneurs d'.
G.—Unternehmer—Einsetzung.

Ae, Otto, Ammonstr. 18, Dresden, A.
Aktiengesellschaft für Electricitäts Anlagen, Kanonierstr. 17/20, Berlin, W.
Alioth, R., Société d'Electricité Alioth, Basle, Switzerland.
Allmänna Svenska Elektriska Aktiebolaget, Westerås, Stockholm & Malmö, Sweden.
Andren, Edwin, & Co., Gothenburg, Sweden.
Arnold, O., & Co., Annabergerstr. 40, Chemnitz.

Contractors—Installation—*continued.*

Aronstein, A., ave. Louise 14, Brussels.
Bajetta, Giovanni, Foro Bonaparte 1, Milan, Italy. (Telephone No. 361.)
Baltische Akt. Ges. für Licht, Kraft & Wasserwerke, Kiel, Germany.
Barbieri, Domenico Menotti, Società delle Forze Idrauliche del Moncenisio, Turin, Italy.
Barth, M., Bautznerstr. 55, Dresden, N.
Batlle, Jose, P° de Luchana, 21, Madrid.
Baut, A., 363, rue de Progrès, Brussels.
Bellens, Fr., rue St. Thomas 22, Antwerp, Belgium.
Berghanel, R., Nordstr. 5, Chemnitz.
Berghausen, A., 28, Appellhofplatz, Köln-a.-Rh.
Berliner Elektrische Beleuchtungs & Kraftübertragung Werke, Alte Jacobstr. 48A, Berlin, T.
Beyts, J., 13, rue de la Concorde, Ghent.
Bisschot, J., rue du Marché du Parc 65, Brussels, Belgium.
Börner & Herzberg, 14, Bernburgerstrasse, Berlin, S.W.
Brambach, R., Kutteltreppe 11, Nordhausen, Germany.
Brantigam & Gustorf, Heinrichstr. 63, Hanover.
Breton, —, 2, rue Cardinet, Paris.
Bureau Electrotechnique Hütten, 53, rue de la Caserne, Brussels.
Bussy, Martin, 10, rue Margeaux, Bordeaux.
Cance & Fils, 5, rue St. Vincent de Paul, Paris.
Caroly, J., Agrippastr. 19, Cologne.
Caty, A., rue Tanneurs 219, Brussels.
Cazorla, V. M., Alderete 5, Malaga, Spain.
Chambrouty, —, 10, rue du Mail, Paris.
Chrétien, P. C., 15, rue de Boulainvilliers, Paris.
Closset, M., 91–93, boul. de Hainaut, Brussels.
Collinet, —, rue St. Martin, Auxerre (Yonne), France.
Compagnia Generale dele Acqua, Venice.
Compagnie Électrique, 42, avenue Philippe Auguste, Paris.
Compagnie Nancéenne d'Éclairage Électrique, Nancy, Meurthe-et-Moselle, France.
Cotaniaficio Veneziano St. Marta, Venice.
Deboeck, P., rue de l'Arbre-Bénit, Brussels.
Degraeve Frères, Chaussée de Haecht 44, Brussels.
De Housse, H., 18, rue de la Princesse, Brussels.
Delplace, G., 46, rue des Marais, Paris.
Depoorter & Demortier, rue de Coutrai 162, Ghent.
Dias Santilhano, J., & Co., Singel 413, Amsterdam.
Divé, P. et G., frères, Chaussée de Gand 108, Brussels.
Diverio, Franzinetti & Co., 58, via Corso Umberto 1, Rome.
Doizan, E., 17, rue Piliers de Tutelle, Bordeaux, France.
Dubois, Ed., rue de Laeken 155, Brussels.
Ebert, M., Zöllnerstr., Chemnitz, Germany.
Electra Zamorana, calle de S. Juan de las Monjas; & 29, Santa Clara, Zamora, Spain.
Electrical Illuminating Station (Lora Stefano & Fratelli), Coggiola, Novara.

Contractors—Installation—*continued.*

"Elektra" Gesellschaft für Licht und Kraft Anlagen, Berlin, W. 9.
Elektricitätsgesellschaft Hansa m. b. H., Obernstr. 25, Bremen.
Eschwege, Paul, 97 bis, rue Jouffroy, Paris.
Fabbrica Mantelle Carbon (soc. anon.), Venice, Italy.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Fleischhauer, G., Königstr. 68, Magdeburg.
Fournier, V., 4, rue de Bellegarde, Toulouse (Haute-Garonne), France.
Frohn, G., Elberfeld.
Frühinsfeld & Co., 16, Woltmannstr., Hamburg, Germany.
Garbayo y Moreno, Manuel, Compañia Electrica, San Sebastien.
Garde-Roux, —, Vaucluse, France.
Garnot, —, 4, ave. de Peterhof, Paris.
Gautier, —, 36, rue St. Lazare, & 78, rue Taitbout, Paris.
Geisel, J., Deislerstr. 1, Hannover-Linden.
General Swedish Electric Co., Ltd., Westerås, Sweden.
Glansdorff, H., 3 & 5, rue Keyenveld, Ixelles, Brussels.
Gmür & Co., Schännis, St. Gallen, Switzerland. (Telegrams: "Gmüre, Schännis.")
Granoux, A., & Cie., 2, rue Pierre Levée, Paris; & 17, boul. du Nord, Marseilles.
Guiseppe, A., vico Casana 27–29, Genoa.
Harkenfeld, L. von, Waisenhausstr. 16, Dresden, A. I.
Hecht, E. F. C., Kiel.
Heller, J. F., vord. Sterngasse 12, Nürnberg.
Helmsky, Wilhelm, VIII. Auerspergstr., Vienna, Austria.
Hendrickx, Ch., rue Montens 109, Antwerp.
Herhahn, Edmund, Barmen, Germany.
Herrmann, M., 6, Calçada do Lavra, Lisbon, Portugal.
Houtman, J. D., Anna Paulonnastraat 107, The Hague.
Impresa Illuminazione Elettrica (Garrone & Co.), Ovada, Italy.
Impresa Illuminazione Elettrica (Garrone Manhetti & Co.), pieve di Teco (Prov. di Genova), Italy.
Impresa Luce Elettrica di Avellino Esercita dalla Banca Popolare, Avellino.
Internationale Elektricitäts Gesellschaft, 1, Wipplingerstrasse 30, Vienna.
Ishac, Louis, 66, rue Denfert-Rochereau, Toulouse, France.
Jacques, Leon, & Cie., 27, rue Vinave d'Ile, Liége, Belgium.
Jarrier, Max., Clermont Ferrand, France.
Jensen, C., Wasserg. 22, Prague II.
Jumeau & Jallot, 82, boul. Montparnasse, Paris.
Kaufer, H., Kanonenwall 18A, Hanover.
Keiling, H. F., Adalbertstr. 4, Bockenheim, Frankfort-a.-Main.

Contractors—Installation—*continued.*

Kloosterhuis, H. A., 178, Kalverstraat, Amsterdam.
Koch, J., 41, Langensalzearstr., Eisenach, Germany.
Köchy & Schäfer, Garten Allee 1, Hannover-Linden.
Köhler, Spiller & Co., Weserstr. 33, Frankfort-a.-Main.
Köhn & Rowoldt, Friesenplatz 24, Cologne.
Kramme, C., 76 & 77, Gitschinerstr., Berlin, S.W.
Křižik, F., Prague, Karolinenthal, Austria.
Labbé, Z., 208, rue St. Maur, Paris.
Larrue & Cie., 8, rue Bayard, Toulouse (Haute Garonne), France.
Leclerc, L., & Cie., place des Eaux Vives, Geneva, Switzerland.
Leclercq, J., rue d'Ecosse 68, Brussels.
Lemaire, E., 51, ave. de Versailles, Paris.
Lequy, C., rue du Canon 9, Brussels.
Leroux, André, 50, rue aux Ours, Rouen.
Leser, A., & Co., Schaafenstr. 69, Cologne.
Liebold, H., Gr. Kirchgasse 5, Dresden.
Marktscheffel, G., Ferdinandstr. 28A, Hanover.
Marten, H., Brüsseler Platz 16, Cologne.
Mathelot, —, 3, rue Meissonier, Paris.
Matthes, G., 54, Pringenstr., Berlin, S. 14.
Mercy, H. de, & Cie., rue des Templiers, Lyons, France.
Michaud, A., 7, rue Paul Bert, St. Etienne (Loire), France.
Mignot, Albert, rue de la Blanchisserie 18, Brussels.
Morand, Ph., 32, boul. Haussmann, Paris.
Morgenstern, A., 65, Gosslerstr., Hamburg.
Muschter, F., Spui 14–16, Amsterdam, Holland.
Nicolai, H., Essen, Germany.
Niederschlesische Elektricitäts und Kleinbahn Aktien Ges., Waldenburg, Germany.
Nierth & Forster, Bautzen, Saxony.
Nonhoff (Maison), rue Anneessens 3, Brussels, Belgium.
Northoff, —, 73, ave. de Villiers, Paris.
Ortigosa, Andreu, Garvayo & Co., Pamplona, Spain.
Ostende Gaz et Electricité (Soc. Anon.), Ostende, Belgium.
Paffrath, H. R., Solingen, Germany.
Pelz, Alfred, & Co., Steindamm 160, Konigsberg-i.-Pr.
Perricli, —, Capo Telegrafista Societa Tramway Biellessi, Vercelli.
Peter, Albert, Kötzschenbroda, Saxony.
Pillet, F. J., boul. Garibaldi 38, Paris.
Piot, A., rue d'Argenteuil 15, Paris.
Plücken, Gottfried, 19, Luth. Kirchstrasse, Crefeld, Germany.
Popp, Victor, 14, rue Margueritte, Paris.
Pöschmann & Co., Grosse Zwingerstr. 8, Dresden.
Quanonne, F., Co., rue Belliard 161, Brussels.
Raut, A., Elberfeld, Germany.
Renaudin, 25, rue des Charretiers, Orléans, France.

Contractors—Installation—*continued.*

Risso, D., via S. Sebastiano 51R, Genoa.
Römpler, C., Altonaerstr. 22, Berlin, N.W.
Rosch, Aug., Kranichstr. 27, Nordhausen, Germany.
Rouvroy, Ed., rue Catalogne 1 bis, Ghent.
Sachsische Baugesellschaft für Elektrische Anlagen m. b. H., Langestr. 6, Leipzig.
St. Petersburger Technisches und Industrie Bureau, Katharienenhofer Prosp. 63, St. Petersburg.
Salm, Ludw., Palmstr. 45, Cologne.
Sanglier & Magis, 69, rue Jordaens, Antwerp, Belgium.
Sara, Ed., & Co., via Polacchi, Palermo, Italy.
Scheib, Ing. E., Georgstr. 48, Hanover.
Scheitlin, Emil, Linsebühlstr. 4A, St. Gallen, Switzerland.
Schiefelbusch, A. J. W., Arnhem & Breda, Holland.
Schiller, P., Hannover-am-Marstall.
Schimpfermann, H., & Co., Gerichtsweg 16, Leipzig.
Schliesmann, R., Mainz, Germany.
Schlosser, Jac., Karlstr. 15, Kaiserlautern, Germany.
Schmidtsdorff, R., Chausseestr. 39, Berlin, N.
Schreihage Bros., Chemnitz, Saxony.
Schroeder, P., Philippstr. 6, Cologne-Ehrenfeld.
Schütz, C. W., 22, Rathaustr., Hamburg.
Smirnoff, N. W., Wasiliewsky Ostrow, 12 Linie, 15–17, St. Petersburg.
Société Anonyme d'Électricité, 39, avenue Marceau, Courbevoie (Seine), France.
Société Anonyme La Westendaise, Westende, Belgium.
Société Générale Internationale d'Eclairage par le Gaz et l'Électricité, 28, rue de Châteaudun, Paris.
Société "l'Eclairage Électrique." Works: 364, rue Lecourbe, Paris. Offices: 27, rue de Rome, Paris.
Société Lyonnaise d'Applications Electriques, 7 & 9, rue Stella, Lyon.
Société Régionale d'Electricité, promenade du Fort (boul. Bertrand), Caen, France.
Squindo, G., Biella, Italy.
Stelzig, Carlo, Palermo.
Stirnemann & Weissenbach, Gotthardstr. 39 & 41, Zurich.
Technisches Bureau für Elektrische Licht u. Kraft Anlagen, Barbarossastr. 25, Berlin, W.
Touzet, C., 20, rue de la Bourse, St. Etienne (Loire), France.
Trollor, V., Central station, Lucerne, Switzerland.
Tuyn & Co., Singel 186, Amsterdam.
Urena, A., Fabrica de Luz Electrica, Alcala, Madrid.
Vadala & Co., via Cavour, Palermo, Italy.
Vallin, E., 5, rue de Lancry, Paris.
Vandenkerckhoven, J., 26, rue de Paris, Brussels.
Vereenoghe, J., pl. de la Couronne 7, Brussels.

Contractors—Installation—*continued.*

Verhoeven, J., rue du Singe 23, Brussels.
Vieweg, P., Zwickauerstr. 55, Chemnitz.
Walser, Otto, Herisau.
Weiler, H., Triererstr., Cologne.
Weisweiler, Victor, Cologne.
Wichmann, O., Kehdenstr., Kiel.
Wijnmalen & Hausman, Glashaven, Rotterdam.
Wilhelm, L., Hanau, Germany.
Witte, J., & Vogt, 6, Böckmannstr., Hamburg.
Wynants, T., rue d'Artois 27, Brussels.
Zink & Potthoff, 75, Rödingsmarkt, Hamburg.

Contractors—Telegraph.

F.—Télégraphes—Entrepreneurs de.
G.—Unternehmer für Telegr. Anlagen.

Alberti, O., Markt 7, Nordhausen, Germany.
Apel, Wilhelm, Göttingen.
Ausfeld, H., Viehstr. 6, Muhlhausen i. Th., Germany.
Biedermann, F., 18, Bambergerstr. Berlin, W.
Blöming, L., Filzengraben 18, Cologne.
Cazin, F., Regierungsstr. 4, Erfurt, Germany.
Christ, Max, Merseburg, Germany.
Conrad, H., Nicolaistr. 21, Weissenfels a. d. S., Germany.
Demme, B., Steinweg 55 & 56, Muhlhausen-i.-Th., Germany.
Ebert, Th., kl. Ritterstr. 2, Merseburg, Germany.
Engel, G., Weissenfelserstr. 3, Merseburg, Germany.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Kautye, J. W. T., Hansaplatz 9, Hamburg.
Klug, E., Steinweg 29, Muhlhausen-i.-Th., Germany.
Leehner, Heh. J., von Hagen Nachf., Frankfurt a/M., Germany.
Mohring, E., Leipzigerstr., Weissenfels a. d. S., Germany.
Ockert, H., Judenstr. 15, Nordhausen, Germany.
Oppel, J., Neumarkt 13, Merseburg, Germany.
Pfaff, H., Lavesstr. 61, Hanover.
Schneider, H., Karl Auguststr., Ilmenau, Thur., Germany.
Siedle, S., & Söhne, Furtwangen, Badischer-Schwarzwald, Germany.
Sippel, H., Schmalestr. 5, Merseburg, Germany.
Steckel, A., Kylischestr. 33, Sangerhausen, Germany.
Stockmann, F., Steinweg 77, Mulhausen-i.-Th., Germany.
Vollhaber, H., Markstr. 13, Erfurt, Germany.

Contractors—Telephone.

F.—Téléphones—Entrepr. de.
G.—Unternehmer—Telephon.

Alterocca Virgilio, Terni, Italy.
Antwerp Telephone & Electrical Works, Ltd. (Rod. B. Bumiller, manager), Antwerp, Belgium. (Telegrams: "Electrical, Anvers.")

Contractors—Telephone—*continued.*

Becker, A., Nürnbergerstr. 38, Berlin.
Bell Telephone Manufacturing Co., 18, rue Boudewynse, Antwerp.
Cie. du Télephone Bell, Grande rue Tonneliers, La Louviere, Belgium.
Cie. du Théâtrophone (Soc. anonyme d'Auditions Téléphoniques), 23, rue Louis-le-Grand, Paris.
General Telephone Co., Stockholm, Sweden.
L'Hoest, Félix, rue des Augustin 55, & place de l'Université 60, Liége, Belgium.
Nederlandsche Bell Telephoon Co., Damstraat, Amsterdam, Holland.
Sierra, Hijos De I., calle Mayor 20, Madrid, Spain.
Società Anonima Co-operativa dei Telefoni, 5, Piazza Venezia palazzo Buonaparte, Rome.
Società Anonima dei Telefoni, Pordenone (Prov. di Udine), Italy.
Società Telefoni, via Rigattieri, Pisa.
Società Telefonica per l'Alta Italia, via Orefici 15, Milan.
Società Telefonica di Zurigo, via 42 Settembre 19, Verona.
Società Telefonica pal servizio pubblico & privato, 4, via Nicolo Lionello, Udine, Italy.
Société Anonyme de Telephonie Privée, boul. de la Senne, Brussels.
Société Anonyme de Telephonie Privée, rue des Clarisse 8, Liége.
Stockholms Allmänna Telefonaktiebolag, Stockholm, Sweden.
Telephone Works, Ltd., late J. Berliner, Kniestr. 18, Hanover, Germany.
Troni, Ing. Vittorio e Ci., Cagliari, Italy.

Copper Merchants.

F.—Cuivre—Marchands.
G.—Kupfer—Händler.

Delmas, L., 45, faub. St. Antoine, Paris.
Franch, —, 6, avenue de Versailles, Paris.
Lemaréchal Frères & Cie., 3, rue Chapon, Paris.
Pilliard, L., 106 et 107, rue St. Martin, Paris.
Piolat, B., 14, rue Portefoin, Paris.
Sachs. Copper & Brass Works, Grünthal bei Olbernhau, Saxony.
Vanderkindere, Alb., 18, rue Bara, Brussels-Midi.

Core Serving Machines.

G.—Maschinen zur Herstellung der Seelestücke für Drahtseile.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Cranes (Electric)—Makers of.

F.—Grues électriques—Fab. de.
G.—Electrische Krähne—Fab. von.

Caillard & Cie., Le Havre; & 18, rue d'Antin, Paris.
Chauvin, E., 80, ave. de Neuilly, Paris.
Collet & Engelhard, Offenbach-on-the-Main, Germany.
Compagnie Internationale d'Electricité, Liége, Belgium.
Eisenwerk (vorm. Nagel & Kaemp), A. G., Hamburg-Uhlenhorst, Germany.
Larini, Nathan & Co., Milan, Italy.
Mocomble, C. de, 83, boul. Magenta, Paris.
Tenner, Armin, Zimmerstr. 34, Berlin, S.W., Germany.

Cut-Outs—Makers of.

F.—Coupe-circuits—Fab. de.
G.—Strom-Unterbrecher—Fabr. von.

Christophe, 19, rue des Graviliers, Paris.
Compagnie Anglaise, 76, faub. St. Denis, Paris.

Cut-Outs (Magnetic)—Makers of.

F.—Coupe-circuits—Magnetiques.
G.—Strom-Unterbrecher—Magnetische—Fabr.

Borg, C., Gerberstr. 19/27, Leipzig, Saxony, Germany.
Juste, J., rue de la Chine 8–10, Paris.
Soulé, D., 42, rue Fessart, Paris. Hydraulic Works at Bagnères-de-Bigorre.

Depositors—Electro.

F.—Galvanoplastie.
G.—Galvanisatoren—elektre.

Guillon & César, 137, rue Oberkampf, Paris.
Société d'Electro-Métallurgie de Dives, 11, rue de la Madeleine, Paris. Works: Dives (Calvados).

Designers & Draughtsmen.

F.—Dessinateurs.
G.—Zeichner & Entwerfer.

Harty, L., Fils, 24, rue d'Ostende, Brussels.

Distributors & Suppliers of Electricity.

F.—Électricité—Fournisseurs et distributeurs d'.
G.—Electricität—Verteilung und Lieferung von.

Compañia Toresana de Electricidad, Toro, Zamora, Spain.
Cie. Hydro-Electrique Anversoise, 59, pl. de Meir, Antwerp, Belgium.
Société Electrique de Gryon, Gryon (Vaud), Switzerland.

Door Openers—Electric.

F.—Ouvre-portes électr.
G.—Electr. Thür Oeffner.

Driving-Band Makers—Cotton, Hair, Indiarubber, Leather.

F.—Fab. de Courroies en Coton, Crin, Caoutchouc, Cuir.
G.—Fab. von Baumwolle-, Haare-, Gummi-, Leder Treibriemen.

Appel, Richard, Jordanstr. 60, Frankfurt-am-Main-Bockenheim.
Arcis, Long & Cie., 188, cours Vitton, Lyon-Villeurbanne; & 194, rue Lafayette, Paris.
Decq Belting Factory, 36, rue d'Artois, Brussels.
Domange, A., & fils, 74, boul. Voltaire, Paris.
Heucken, Konr., & Co., Aachen, Germany.
Hoppentstedt, G., 23, rue d'Hauteville, Paris.
Houben et Cie. (leather), rue Coronmeuse & rue de la Halle, Verviers, Belgium.
Klinge, E. (leather), Jagdweg 14 & 16, Dresden.
Lechat, J., & Cie., 16, ave. de la République, Paris.
Loewe, C. A., Invalidenstrasse 12, Berlin, N.
Melzow, Otto, Andreasstr. 32, Berlin, O.
Michelin & Cie, Clermont-Ferrand; & 105, boul. Pereire, Paris.
Sorge & Schma, 18, Schlesischestr., Berlin, S.O.

Driving-Chain Makers—Steel.

F.—Chaînes d'entrainement d'Acier.
G.—Treibketten—Stahl.

Benoit, —, 84, rue Oberkampf, Paris.

Dynamo Brushes—Makers of.

F.—Fab. de Balais de dynamos.
G.—Dynamo Bürsten—Fab. von.

Bauer, Hugo, IV. Paniglg 20, Vienna.
BERNE, J. A. (late E. Carré) (manufacturer of carbon brushes), 68 bis, rue de Lagny-Montreuil-Paris.
Boudreaux, L., 8, rue Hautefeuille, Paris.
Damade, E. J., & Cie., 19, rue Faidherbe, Douai, France.
Esnouf & Cie., rue de la Clef 45 & 47, Mons, Belgium.
Franck & Co., Schlettstadt i/E.
Gabillot, Gaston, 100, rue de la Folie-Mericourt, Paris.
Galvanische Metallpapierfabrik Akt. Ges., Gerichstr. 2, Berlin, N.
Gantois, J., & Cie., St. Die-des-Vosges; & 46, boul. Magenta, Paris.
Hüttlinger, J. L., Schwabach, bei Nüremberg.
Koch, J. C., Hohenlimburg, Westphalia.
Lang, L., & fils, Schlettstadt, Alsace, Germany.
Lemaire, Gaston, rue de Vesle, 82, Rheims, France.

Dynamo Brushes—Makers of—*continued.*

Lippmann, H., Hohenlimburg, Germany.
Martel, Catala & Cie., Schlestadt, Alsace.
Mizery, J., 25, rue Amelot, Paris.
Patz, Louis, Kyffhäuserstr. 26, Dresden A. 19, Germany; Kirchengasse 43, Vienna VII/2, Austria; & Perczel Mor-Utcza 4, Budapest V.
Pickhardt, G., Kölner Chaussée 149, Bonn-on-the-Rhine, Germany.
Ringsdorff, P., Essen, Ruhr, Germany.
Rylander & Rudolph (carbon brushes), Stockholm, Sweden.
Svenska Dynamoborstfabriken, Stockholm.
Zentsch, Louis, & Co., Langestr. 36, Leipzig, Germany.

Dynamo Manufacturers.

F.—Dynamos—Fab. de.
G.—Dynamo-Maschinen—Fab. von.

Aktiebolaget de Lavals Angturbin, Stockholm, Sweden.
Baugesellschaft für Elektrische Anlagen, Charlottenstr. 69, Dusseldorf, Germany.
Begemann, E. H., Helmond, Holland.
Bergmann Elektromotoren-Werke A. G., Oudenarderstr. 23 & 24, Berlin.
Bouillet, —, 94, rue de Montreuil, Paris.
Bouton, G., & Cie., 5 & 7, rue Nicolai, Brussels.
Burghardt, Gebrüder, Mülhausen, Elsass, Germany.
Bürgin, Emile, 1, Missionstr., Basle, Switzerland.
Cailar, L., 26, rue St. Maur, Paris.
Compagnie de l'Industrie Électrique et Mécanique, brevets Thury, Geneva, Switzerland.
Compagnie Internationale d'Electricité, Société Anon., quai de Coronmeuse 30, Liége, Belgium.
Conz, G. m. b. H., Hamburg, Germany.
Corberon, Ch., 54, rue de Chabrol, Paris.
Decauville aîné Société Anonyme des Etablissements, Evry-Petit Bourg, Seine-et-Oise, France.
Deutsche Elektrizitäts-Werke zu Aachen (Garbe, Lahmeyer & Co. Akt. Ges.), Aachen, Germany.
Dotal, François, 42, boulevard de Belleville, Paris.
Dufer, V., rue Pintamont, Ath, Belgium.
Eck, N., 5, boul. Péreire, Paris.
Elektrische Fabrik Rheydt, Rheydt (Rheinpr.), Germany.
Elektromotorenwerke Heidenau G. m. b. H., Heidenau Bez, Dresden.
Elwell & Seyrig, 194, ave. de Paris, Plaine St. Denis (Seine), France.
Etablissement Galileo, Florence, Italy.
Fabrik für Electrotechnik und Maschinenbau, Bamberg, Germany.
Fundiçaõ de Belem, Calçada d'Ajuda 18, Belem, Lisbon, Portugal.
Gadda & Brioschi, Finzi, & Co., Milan & Rome, Italy.

Dynamo Manufacturers—*continued.*

Gindre Frères & Cie., 5, quai de Retz, Lyon (Rhône), France.
Gloker, J., 5, impasse de Gênes, Paris.
Grammont, A., Pont de Chéruy (Isère), France.
Grandguillot, J., quai d'Orléans, Le Hâvre.
Grauer, S., & Cie., rue de la Roue 2, Brussels, Belgium.
Henrion, F., Nancy, France; & 113, rue Réaumur, Paris.
Holmia Electric Co., Ltd., Norrlandsvg. 13, Stockholm.
Iliyne-Berline, 8, rue des Dunes, Paris.
Industrielle Generale, l' (Soc. Anon.), 27, rue La Bruyère, Paris.
Jacquet Frères, à Vernon (Eure), France.
Jaeger, E., & Jaeger-Weidknecht Fils, Epernay (Marne), France.
Klimenko, Alexis., Wass., Karkow, Russia.
Kuksz, Luedtke et Grether, 25, rue Leszno, Varsovie, Russia.
Kunze & Co., Gross-Zschachwitz bei Dresden, Germany.
Lagneau, 5, impasse de Gênes, & rue Julien-Lacroix, Paris.
Lecorsais, A., Luxembourg.
Levysohn Gebr., alte Jacobstr. 24, Berlin.
Ley, Rud., Arnstadt, Germany.
Lœvenbruck, —, Maromme (Seine-Inférieure), France.
Luminais, Bruneteau & Cie., 9, rue Dubreil, Nantes, France.
Märkische Elektromotoren Werke, Ritterstr. 59, Berlin, S.W. 59.
Maschinenfabrik Oerlikon, bei Zürich, Switzerland.
Maxant, L., 64, rue de Saintonge, Paris, France.
Mohrlin, E., Stuttgart, Germany.
Naamlooze Vennootschap Electrotechnische Industrie voorheen Smit, Wilhem, & Co., Slikkerveer, Holland.
Olivet, G., & Co., 6, cours de Rive, Geneva, Switzerland.
Palacios, N., Orellana 9, Madrid.
Palmcrantz & Co., Stockholm, Sweden.
Perreaux, —, 8, rue Jean-Bart, Paris.
Präzisions Werksttäten Mittweida, Mittweida, Saxony.
Prokop, Wwe. Jos., Palackýstr. 204, Pardubitz, Bohemía, Austria.
Remy-Dennis, Marley-les-Valenciennes, Nord, France.
Reutlinger, B. C., 197, Röderbergweg, Frankfort.
Rychnowski, Franç., Platz Chorozernyzna 15, Lemberg, Austria.
Sachsenwerk, Licht-und Kraft Aktienges., Niedersedlitz bei Dresden.
Schneider & Co., 42, rue d'Anjou, Paris. Works: Creusot, France.
Schumann's Elektrizitätswerk, Leipzig Plagwitz, Germany.
Schwarz, R., 31, Reisnerstr., Vienna III., Austria.

Dynamo Manufacturers—*continued.*

Schwerd, L. E., Karlsruhe, Baden, Germany.
Società Esercizio Bacini, Ltd., 18, piazza Annunziata, Genoa.
Société Anon. des Etablissements S. Grauer & Cie., 74 & 76, boul. Richard Lenoir, Paris.
Société Anonyme du Phœnix pour la Fabrication des Machines et Mécaniques, Gand, Belgium.
Societé des Anciens Etablissements Luc Court & Cie., Lyon, France.
Société Nouvelle des Etablissements Decauville aîné, 13, boul. Malesherbes, Paris; & Petit-Bourg, Seine-et-Oise.
Stucchi & Co., via Tortona 11, Milan, Italy.
Thierry, L., Removille (Vosges), France.
Tichmeneff, Grég., Bender, Russia.
Unione Elettrotecnica Italiana, 60, viale Principe d'Acaja, Turin.
Vejtruba, Josef, 11, Kleiner Ring, Prague, Austria.
Viglietti, Antonio Nipote, Mondovi, Italy.
Wiklunds, Aktb. W., Verks, Stockholm, Sweden.

Earthenware Manufacturers for Electrical Purposes.

F.—Poterie pour l'Electricité—Fab. de.
G.—Thonwaaren für Electr. Zwecke.

Actien-Gesellschaft fur Glasindustrie, vormals Fried. Siemens, Freibergerstr. 91, Dresden; & I. Jacoberstr. 6, Vienna.
Bordoni, A., e Figli, via Savona 29-31, Milan, Italy.
Deutsche Ton & Steinzeug-Werke A.G., Berlin-Charlottenburg, Germany.
Doulton et Cie., 63, boul. Bessières, Paris.
Fuisseaux, F. De, à Baudour, près Mons, Belgium.
Glashüttenwerke vormals J. Schreiber & Neffen, 22, Liechtensteinstr., IX., Vienna.
Jacob, Delafou & Co., à Pouilly-sur-Saône (Côte-d'Or), France.
Lederer et Nessényi, I. Operngasse 14, Vienna, Austria.
Reich, S., et Cie., 3, Czerningasse, II., Vienna.
Rivière, A., 36, rue de la Roquette, Paris.
Schomburg, H., & Sohn, Moabit, Berlin.

Ebonite Manufacturers.

F.—Ebonite—Fab. d'.
G.—Ebonite—Fabrikanten.

Englebert, O., fils & Cie., rue de Vennes 7, Liége, Belgium.
Indiarubber, Gutta-Percha & Telegraph Works Co., Ltd., 97, boul. Sébastopol, Paris.
Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., Meyerstr. 60, Hamburg, Germany.

Ebonite Manufacturers—*continued.*

VEREINIGTE GUMMIWAAREN-FABRIKEN HARBURG-WIEN, Wimpassing, Austria. Office: VI. Mariahilferstr. 115, Vienna.

Electricians.

F.—Electriciens.
G.—Elektriker.

Acrocca, Ing. D., via Viminale 8, Rome.
Agemian, V., 14 & 16, Ziver Bey Han, Galata, Constantinople.
Agüeras, M., Independencia 17, Zaragoza, Spain.
Alexeeff, A., Polotz-Siedletz Railways, Wilna, Russia.
Almano, —, Le Puy (Haute-Loire), France.
Andersen & Juhler, Nedergade 10, Odense, Denmark.
Andréani, R. J., Courbevoie (Seine), France.
Apolloni, G., via del Lavatore 37, Rome.
Archat, P., 14, rue St. Victor, Paris.
Arnales, S., Coso 27, Zaragoza.
Arnaud, E., rue Victor Hugo, Bayonne (Basses-Pyrénées), France.
Arnould, C., 55, rue de Rome, Paris.
Arnoult, Gabriel, 7, rue Eupatoria, Tours (Indre-et-Loire), France.
Arrasa, V., calle de Estruch 9, Barcelona.
Arrojo, H., fonda de Simon, Cordoba.
Aschner, Lipót, Árpád út 32, Ujpest, Budapest, Hungary.
Association libre d'Ouvriers, place de la Cathédrale, Liége.
Auboy, L., 4, rue de la Paille, Le Mans (Sarthe), France.
Avzin, P., Rostow-on-Don, Russia.
Aznar y Agüeras, Prudencio 23, 25 & 27, Zaragoza, Spain.
Aznar-Cabanas, F., 67, San Andres, Coruña, Spain.
Bablick, Heinr., Wahringerstr. 73, Vienna XVIII.
Bablon, V., 42, rue Boulard, Paris.
Badier & Paulin, 2, place aux Herbes, Grenoble (Isère), France.
Bailly, Armand, Société Cockerill, 2, place Cockerill Seraing, Belgium.
Baldini, V., Strada Quercia 22, Naples.
Bapst, A., 22, route de Croissy, Vésinet (Seine-et-Oise).
Barni, Edoardo, via Becchere, Brescia, Italy.
Barone, A., & Fratello, via Principe Amedeo, Bari, Italy.
Batault, Dr. Emile, Geneva, Switzerland.
Baudin, A., 10, rue Belin, Vichy (Allier), France.
Bavay, H., 96, Galerie de Commerce, Brussels.
Bayle, Jeune, Privas (Ardèche), France.
Bazin, A., 21, rue St. Petersbourg, Paris.
Becquerel, Henri, 6, rue Dumont d'Urville, Paris.
Beigbeder, R. P., 125, ave. de Villiers, Paris.
Bellagotti, F., via dei Servi 2, Florence.
Bélot, C., 24, rue du Poinçon, Brussels.

Electricians—*continued.*

Bence, A., boul. Bertrand, Caen (Calvados), France.
Benoit, Dr. René, Pavillon de Breteuil, Sèvres, France.
Bernard, J., & A. Pecourt, 86, rue d'Amsterdam, Paris.
Bertemati, Carlos, 59, rue Large, Jerez de la Frontera, Spain.
Bertrand, —, Lure (Haute-Saône), France.
Bichat, Prof. H., 6, rue des Jardiniers, Nancy, France.
Bicloteloff, A., Tvanovo-Wosnesensk, Russia.
Biervliet, H. Van, 25, rue Marie-Thérèse, Louvain, Belgium.
Bihin, Capt. E., 4, rue des Rentiers, Ettérbeck, Belgium.
Blas, Crispin de, & Co., Santander, Spain.
Blondel, —, 234, faub. St. Honoré, Paris.
Blosse Fils, 10 & 12, rue Michel-Ney, Nancy (Meurthe-et-Moselle), France.
Boch, J., 10, rue Balance, La Chaux de Fonds, Switzerland.
Boens, Oscar, rue de Marcinelle 23 (S), Charleroi, Belgium.
Boje, D., Gt. Northern Telegraph Co., Nystad, Russia.
Bolangeau & Cie., 4, rue Docteur Mazet, Grenoble, France.
Bombals, F., rue Coupure 156, Ghent.
Bonet, E., Mozas 4, Sevilla, Spain.
Bonnefils, H., Valence d'Agen (Tarn-et-Garonne), France.
Bonnet-Delaville, Dr., 25, ave. de l'Opéra, Paris.
Bordier, Dr. H., 39, rue Thomassin, Lyon, France.
Boterdaele, L., 32, rue de Bruxelles, Gand.
Boudot, F., 17, ave. MacMahon, Paris.
Bougard, X., rue de l'Ecole 25, Brussels.
Bourdon, Edmond, rue de l'Ouest, Colombes, Seine, France.
Bourseuil, H., 31, faub. du Temple, Paris.
Bouty, J., rue du Val-de-Grâce, Paris.
Bouvarel, L., 7, rue Passet, Lyons.
Bouvier-Dreux, —, 21, rue Joinville, Laval (Mayenne), France.
Brandenberger, —, 52, rue du Roi de Sicile, Paris.
Breant, —, 22, rue Jeanne d'Arc, Rouen.
Brenta, V., rue Rogier 99, Brussels.
Brocas, G., 8, rue Longue, Borgerhout, Antwerp, Belgium.
Brooze, E., boul. Ch. Sainetelette, Mons, Belgium.
Brossart, —, 46, place de la Calendre, Rouen.
Broussilovsky, J., Krementschouk, Russia.
Brozler, F., I. Predigergasse 3, Vienna.
Brunin-Lecomte, Ad., 8, rue Saint-Georges, Roubaix, Nord, France.
Brunius, Hakon, Gothenburg, Sweden.
Brusch, Dr. W., 18, Körnerstr., Lubeck, Germany.
Brylinski, T., 4, faub. d'Ambrail, Epinal (Vosges), France.
Buisine & Cie., 35, rue de Viarmes, Paris.
Buisset, Prof., University, Brussels.

Electricians—*continued.*

Bunnik, H. E., Koningin Emmakade 136, The Hague, Holland.
Buot, E., Sté. Anon. d'Electricite, Azay-le-Rideau (Indre-et-Loire), France.
Buyens, J., rue Sans-Nom 19, Ghent, Belgium.
Bytebier, E., Marché au Buerre 1, Ghent, Belgium.
Cadiot, E. H., & Co., 12, rue St. Georges, Paris.
Cahors Frères (Succs.), 4 bis, rue de la Cavalerie, Paris.
Cailletet, L., 75, boul. St. Michel, Paris; & at Châtillon-sur-Seine, France.
Camozzi, Otto, Electrizitätswerk, Niederlössnitz, Dresden.
Camus, A., 9, rue St. Ambroise, Paris.
Camusel, J., rue de la Croix de Fer 52, Brussels.
Canart, 47, rue Cérès, Rheims, France.
Candau, J. B., 15, passage Richelieu, Pau (Basses-Pyrénées), France.
Canon, L., ave. de la Gare, Attigny (Ardennes), France.
Caravaca, C., Tetuan 30, Sevilla, Spain.
Carmagnolle, Fils, 30, rue Victor Hugo, Valence (Drome), France.
Carobbi, Cesare, Pistoja, Italy.
Casalan, Maximino, Santander, Spain.
Casse, —, 19 *bis*, passage Deschamps, Paris.
Castado, G., 5, rue de la Sablonière, Brussels.
Cauderay, Jules, 28, rue d'Etraz, Lausanne, Switzerland.
Cavents, L., ave. Charlotte, Antwerp.
Ceni & C., Caravaggio, Bergamo, Italy.
Chaize, M., St. Chamond (Loire), France.
Chalaux, Eduardo, Calle Claris 30, Barcelona, Spain.
Chambon, L., ave. des Arts 45, Ghent.
Chamoine, —, Vervins (Aisne), France.
Champy, Leon, Longue rue D'Herenthals 21, Anvers, Belgium.
Chapdelaine, 19, rue Porte Basse, Bordeaux, France.
Charles, Louis, 20, rue Dulong, Paris.
Charlot, E., 4, rue des Jacobins, Le Mans (Sarthe), France.
Chatiliez, J., 6, rue du Ru, Verdun (Meuse), France.
Chauffard, A., 3 bis, place Sebastopol, Lille (Nord), France.
Chaussenot, Henri, Cie. de Fives Lille, 64, rue Caumartin, Paris.
Checa, P., Reyes Catolicos 33, Granada, Spain.
Chistoni, Prof. Ciro, R. Università, Modena, Italy.
Chollet, —, 28, rue des Fossés St. Bernard, Paris.
Chollet, Ainé, 23, avenue du Maine, Paris.
Chomeau, E., 33, passage du Navie, Paris.
Chretien, B., 2, rue du Marche-au-Felet, Arras (Pas-de-Calais), France.
Chrétien, J., & Cie., 42, rue de la Bienfaisance, Paris.
Claude, G., 4, rue Francois Rolland, Nogent-sur-Marne (Seine), France.
Clavel, A., 74 & 76, rue Amelot, Paris.

Electricians—*continued.*

Clérisse, Alb. Lefèvre & Cie., 7 *bis*, rue du Débarcadère, Paris.
Cliche-Madelenat, E., 22, rue de Paris, Valenciennes (Nord).
Clisson, A., 6 bis, rue St. Pierre, Versailles (Seine-et-Oise), France.
Closset, Emile, rue St. Jean 26, Brussels.
Closson, S., rue Bouxhate 1, Verviers, Belgium.
Clota, F., Jordana 9, Valencia.
Cobos Varona, Tomás, Jaen, Spain.
Coissac, P. A., 4, rue du Général Cérez, Limoges (Haute-Vienne), France.
Colley, Prof. R., Mojaisk Station, Moscow-Brest Railway, Russia.
Compagnie d'Electricité de Montpellier (Hérault), France.
Constañer Pages, José, conde del Asalto 157, Barcelona.
Consyns, L., Mont St. Jacques, Antwerp.
Contempré, François, 62, rue des Capucins, Brussels.
Corbin, A., 20, rue Descarte, Angers.
Corrons, J., 11, rambla de Estudios, Barcelona, Spain.
Cosmovici, Alexandre, Str. Bonaparte 6, Bucharest, Roumania.
Cosson, —, 4, rue Bosio, Paris.
Costil, E., 7, rue Solferino, Paris.
Cotrel-Decaux, —, 1, rue des Bouchers, Péronne, Somme, France.
Cotte, —, 75, Grande Rue, Tarare (Rhône), France.
Courtet, Jean Baptiste, à Romans (Drome), France.
Courtois de Langlade, Arles (Rhône), France.
Couvreux, Abel, 78, rue d'Anjou, Paris.
Cracchi, —, 5, rue de la Pomme, Toulouse (Haute Garonne), France.
Crahay, J., 96, rue de Mérode, Brussels.
Crouzatier, —, Capestang (Hérault), France.
Culmsee, V., Gt. Northern Telegraph Co., Mariehamn, Finland.
Dachsel, Edm., Gustav Adolfstr. 12, Weissensee, Berlin.
Dalloz & Gauthier, 1, cours Lafayette, Lyon (Rhône), France.
Damseaux, R., 16, rue des Ménapiens, Brussels.
Danbe fils, avenue de Villiers 47, Paris.
Daraignez, Alp., Dax (Landes), France.
Daries, Aristide, 32, rue Montpensier, Pau (Basses-Pyrénées), France.
Dary, Georges, 7, rue de l'Union, Clamart (Seine), France.
David, Henri, & Cie., 4, 6 & 8, rue de la Fontaine, Arcueil (Seine), France.
Davignon, Guillaume, rue des Bas-arts 39, Val St. Lambert lez Liége.
De Bavay, V., 68, rue du Midi, Brussels.
Debièvre, A. L. J., 98, rue de Lannoy, Lille (Nord), France.
De Blacker, O., 20, rue de Vallée, Ghent, Belgium.
Dechelette, —, 59, rue de Brest, Rennes (Ille-et-Vilaine), France.

Electricians—*continued.*

Decoulange, —, 83, G^de rue, Roubaix, France.
Dedecker, E., rue des Sœurs Blanches, Ostend, Belgium.
Defossez, —, 5, rue de Valenciennes, Caudry (Nord), France.
Degorceix, —, 15, rue Pierre Raymond, Limoges.
Degryse, —, 17, rue du Bois, Roubaix (Nord), France.
De Gryse, T., 5, rue Longue Marais, Ghent, Belgium.
Dell 'Orto, L., Cernobbio (Prov. di Como), Italy.
Deloddere, A., rue Bavière 1, Brussels.
Delvaux, —, Moulins (Allier), France.
Demaret, Léon, ave. rue d'Havré 17, Mons, Belgium.
Demarle, G., Andruicq (Pas-de-Calais).
Denacyer, Aug., Chaussée de Waterloo 483, Brussels.
Dénarier, L., 13, rue d'Alger, Toulon, France.
Denies, A., rue de Métal 23, Brussels.
Denis, Ernest, pl. de Flandre 10, Mons, Belgium.
De Proost, L., 211, rue Haute, Brussels.
De Walque, —, 26, rue des Joyeuses-Entrées, Louvain, Belgium.
Di Nardi, G., Vico Berio a Toledo 18, Naples, Italy.
Di Nasso, Arfeo, via S. Agostino 16, Pisa.
Dobou, M., Serranos 20, Valencia, Spain.
Dolbeau, M., La Flèche (Sarthe), France.
Dombrovsky, Ch., Poutilowsky Works, St. Petersburg.
Doniol, —, Brioude (Haute-Loire), France.
Dorn, E., professor at the University, Halle, Germany.
Dortet, —, Châlons-sur-Marne, France.
Doubrava, Dr. S., 95, Neugasse, Brünn, Austria.
Doumer, Dr. E., Lille (Nord), France.
Dreyfus, A., Sté. Industrielle des Téléphones, 25, rue du Quatre Septembre, Paris.
Drosten, Rob., rue du Marais 49, Brussels.
Dubois, —, 155, rue de Laeken, Brussels.
Dubois-Favresse, —, boul. Audent 46, Charleroi, Belgium.
Dubosch, Georges, La Hulpe, Belgium.
Dubreuil, L., 32, rue Denfort-Rochereau, Paris.
Ducastel, C., 61, rue Nationale, Lille (Nord), France.
Duchange, J., 108, boul. Haussmann, Paris.
Dujacquier, —, 77, rue de la Gare, Roubaix (Nord), France.
Dujardin, —, 77, rue de Tourcoing, Roubaix, France.
Dumas, Neven, Le Puy (Haute Loire), France.
Dunoyer, L., rue de Lyon, Tararc, France.
Dupraz, Henri, Geneva, Switzerland.
Dürr, R., 155–157, rue Masui, Brussels.
Dussart, Charles, Administration des Télégraphes, Liége, Belgium.
Ebert, Prof. Dr. Hermann, Technische Hochschule, München.
Edelmann & Wallin, 159, Kantstr., Berlin-Charlottenburg, Germany.

Electricians—*continued.*

Eenberg, B. Reimers, 22, place de Brouckère, Brussels. (Telegrams: "Eenberg, Brussels.")
See advt., page 1002.
Eichler, Ant., IV. Favoritenstr. 20, Vienna.
Einbeck, J., Landshuterstr. 37, Berlin, W.
Eisenstuck, Paul, Bayerischestr. 80, Leipzig, Saxony, Germany.,
Elektricitätswerk Marktbreit, Marktbreit-a-M., Germany.
Elektrisk Bureau (Luth & Rosen), Stockholm.
Elmer, J. W., Service Electrique, Geneva.
Elster, Prof. Dr. J., The Gymnasia, Wolfenbüttel.
Ermel, Frédérick, 153, rue de Rome, Paris.
Ernest, Denis, ave. d'Havre, Mons.
Ernst, Dr., Kremenezky, Mayer & Co., Oesterr. Schuckertwerke, IX. Severingasse 2, Vienna.
Escalante Gonzales, José, Santander, Spain.
Eskens, A., 1, rue Denrées, Brussels.
Eurieult, V., 123, rue de Grenelle, Paris.
Even, Victor, rue Jonfosse, Liége.
Fagard, Pierre, 16, Quai d'Amercœur, Liége.
Fahrenwaldt & Vogel, Martin Lutherstr. 18, Berlin.
Faisan, Ant., rue de la Regence 18, Liége.
Falk & Frank, Dresdenerstr. 84, Berlin.
Fargues, J., 36, Grande Rue, Enghien (Seine-et-Oise).
Fasse, J. E., 12, rue de l'Hôtel-de-Ville, Lyon.
Fastenakel, Léon, Cie. Electrique Anversoise, 45, ave. de l'Industrie, Antwerp.
Fastenakel, Victor, 21, rue de Chartres, Neuilly-sur-Seine, France.
Faure, Pierre, 21, place du Champ-de-Foire, Limoges, France.
Fayot, —, Boulogne-sur-Mer (Pas-de-Calais), France.
Fernandez, Vicente, Gijon, Spain.
Ferrari Belmonte, Julian, Puerte de Aire 57, Orease, Spain.
Ferrer, J. A., Arzobispo Mayoral D., Valencia, Spain.
Ferrini, Prof. Rinaldo, R. Instituto Tecnico Superiore, Milan.
Ferry, P., 37, rue Gambetta, Lunsville, France.
Fichant-Macret, Jules, Charleville, Ardennes, France.
Fischer, R., business manager, Hartmann & Braun, Frankfürt-am-Main, Bockenheim.
Fischmann, Léo, Totvan u. 9, Ujpest, Hungary.
Flamand, J. B., rue du Nord 25, Brussels.
Fleuranceau, Louis, 42, rue Servandoni, Bordeaux, Gironde, France.
Fleurman, A., 35, courte rue des Foulons, Bruges.
Forster, W. G., Eastern Telegraph Co., Cadiz, Spain.
Fould, Léon, 30, rue du faub. Poissonnière, Paris.
Frachebois, Ch., 66, rue Lafayette, Paris.
Fraigneux, L., rue Douffet 13, Liége.
Francette, J. J., Jauche, Belgium.
Fréchou, Émile, Nérac, Lot-et-Garonne, France.
Fredriksson, E., Graubergsdal, Sweden.
Fremin, O., Hautmont (Nord).
Frère, G., rue du Jardinier 65, Ledeberg, Ghent.

Electricians—*continued.*

Fritz, Capt., Orient, Vaud, Switzerland.
Gadois & Dumanche, 58, rue de la Faisanderie, Paris.
Gaebler, O., Hartmann & Braun, A. G., Frankfort-on-the-Main.
Gaillet, P., 8, rue Nicolas Leblanc, Lille (Nord).
Galereau, Léon, Laval, Mayenne, France.
Gallud, Ramon, Santander, Spain.
Gambs, 8, place des Jacobins, Lyon.
Gandini, Giovanni, Lodi, Italy.
Garcia, F., rue du Houblon 49, Brussels.
Garrone & Arigo, 8, via Gioberti, Turin, Italy.
Gascard, A., rue Pierre Bullet 6, Paris.
Gaudin, L., Coppet, Vaud, Switzerland.
Gautard, Pierre, Creuzot, Paris.
Gautier, Dr. Georges, 9, rue Beaujou, Paris.
Gautier, L., Monthureux - sur - Saône, Vosges, France.
Gebauer & May, Köthenerstr. 21, Berlin.
Gendrin, Léon F., 27, rue de la Paroisse, Versailles, France.
Georgeivsky, N., Institut Technologique, St. Petersburg.
Gérard, A., rue Wazon 122, Liége.
Gerard, C., Arlon.
Gérard, Eric, M.I.E.E., Directeur de l'Institut Électro-technique Montefiore, rue St. Gilles 35, Liége, Belgium.
Gerland, Prof. Dr. Ernst, Royal Academy of Mines, Clausthal, Germany.
Gerteis, R., 67, rue Rochechouart, Paris.
Gervais, F., 12, rue des Filles du Calvaire, Paris.
Geslin, A., 100, rue Guillaume Tell, Paris.
Gezen, B. J., Municipality, Perm, Russia.
Ghieu, J., 37, rue Pastorelli, Nice.
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Giraud, Sauron & Cie., 17, ave. de Vizille, Grenoble.
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Electricians—*continued.*

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Herzog, Josef, Ganz & Co., V. Erzsebet-tér 1, Budapest II., Hungary.
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Electricians—*continued.*

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Jacopetti, Alfonso, Pace a Chiaja 11 & 13, Naples, Italy.
Jacques, N., Chaussée Deurne 24, Borgerhout, Antwerp.
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Jensen, N. P., Danish Telegraphs, Helsingör.
Joergensen, A. C., Gt. Northern Telegraph Co., Ltd., Calais.
Johansson, P. A., Söderhamn, Sweden.
Jongla, Jeune, Grenade-sur-Garonne, France.
Jongla & Cie., L'Isle en Dodon (Haute-Garonne).
Joos, Ch., Hamme-lez-Termonde.
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Josse, H., 17, boul. de la Madeleine, Paris.
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Jumaucourt, —, Laon, Aisne, France.
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Junghanns & Kolosche, 7, Breitkopfstr., Leipzig, Germany.
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Lapierre, —, 16, rue Mogador, Paris.
Lapointe, 28, rue de la République, Orleans.
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Lecomte, Eugène, 6, boul. Pereire, Paris.
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Marey, E. J., 11, boul. Delessert, Paris.
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Mariner, E., Barcelona 9, Valencia.
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Martin, P., 14, rue Garnier, Nice.
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Nicole & Cie., 89, rue de Flandre, Paris.
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Petiot & Cie., 63, rue de la République, Lyon.
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Renou & Cie., 45, rue St. Aubin, Angers.
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Richard, Radisson & Cie., 7, rue de la Préfecture, Lyons, France.
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Richter, Adolf, & Co., II. Donaustr. 63, Vienna.
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Rodais, —, 60, rue Gambetta Poitiers, France.
Rodriguez, Andrés, Consejo de Ciento 291, Barcelona, Spain.
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Romier & Bouladon, 42, rue d'Arcole, St. Etienne, France.
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Rousseau & Cie., 93, rue de Provence, Paris.
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Sassot, —, 5, rue de Provence, Paris.
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Viau, —, 41, rue d'Amsterdam, Paris.
Viellard-Migeon & Cie., Morvillars, France; & 7, rue du Chateau d'Eau, Paris.
Villanueva, Rafael Justo, 40, calle de Silva, Madrid.
Villegoureix, —, 3, rue des Tanneries, Limoges France.
Villy, P., 66, boul. Lafayette, Calais.
Voegelin, F., 130, rue Mozart, Paris.
Vogel, Robert, Solothurn.
Vogels, Ch., Flamande 32, Bruges, Belgium.
Vogels-Dolhain, B. L., Juliana van Stolberglaan 1, The Hague.
Voorspoels, P., 33, rue de Flandre, Brussels.
Wachsmuth, Dr. R., Kgl. Kriegsakademie, Berlin.
Wachsmuth, K., Hohenstaufen Ring, Cologne.
Wadén, Dan. Joh., Helsingfors, Finland.
Waegeneer, R., 233, ave. du Sud, Antwerp.
Wagner, F., Arlos, Belgium.
Wallut, Raymond, 168, boul. de la Villette, Paris.
Walraff, J., rue Crapaurue 206, Verviers.
Walter, Jos., 21, rue du Chevalier, Antwerp.
Wanson, J. N., 47, boul. Emile Van de Putte, Brussels.
Wargnier, —, rue du Palais de Justice, St. Quentin, France.
Wasilewski, J. (Messrs. Lilpop, Rau & Lœwenstein), Warsaw, Russia.
Wassmann, Jacob, Sudermanplatz 12, Cologne.
Watrin, H., 58, rue Maghin, Liége.
Weber, Dr. H. F., Eidgenossisches Polytechnikurn, Zurich, Switzerland.
Weeger Aîne & fils, 322, rue Saint-Martin, Paris.
Weiler, Prof. W., Esslingen, Germany.
Weiskirchen, Eugène, la Louvière, Hainault, Belgium.
Weiss-Heinrich, Gesellschaft für Electrische Industrie, 3, Volksgartenstr., Vienna I.

Electricians—*continued.*

Weissenbruch, L., 238, chaussée de Vleurgat, Brussels.
Weuste, Chr., & Overbeck, G. m. b. H., Duisburg, Germany.
Wibratte, E., 36, rue des Pyramides, Lille (Nord), France.
Wilbrant, H., rue Charles-Quint 136, Brussels.
Wilga, A., Wladikavkas, Russia.
Winandy, C., VII. Kirchengasse 11, Vienna.
Wineq, Pr., 7, rue Longue du Marais, Gand.
Wonters, N., Arlon, Holland.
Worms, E., 24, rue de la Chaussée d'Antin, Paris.
Wust, J., Fonds de Loup 15, Verviers.
Yantz, C. E., ave. d'Ouchy, Lausanne.
Yseux, E. C. J., 97, avenue du Midi, Brussels.
Yung & Cie., 19, rue de Penthièvre, Paris.
Zanini, P., Asiago, Prov. di Vicenza, Italy.
Zay, E., 73, rue de Monceau, Paris.
Ziane, Jules, 2, rue Hôtel des Monnaies, Brussels.

Electricians—Consulting.

F.—Électriciens—Consultants.
G.—Elektriker—Beratende.

Banti, Prof. Dr. Angelo, 222-226, via Cavour, Rome, Italy.
Bayerisches Gewerbemuseum, Electrotechnical Section, Nürnberg, Germany.
Bernard, J., 10, rue Hélène, 34, ave. de Clichy, Paris.
Bignami, Enrico, Lugano, Switzerland ; & 2, via Berchet, Milan, Italy.
Colnet d'Huart, F. De, Luxembourg, France.
Colombo, Comm. Prof. Giuseppe, via Monte Napoleone 22, Milan.
Danielson, Ernst, M.I.E.E., Stopsjön, Fogdhyttan, Sweden.
Denzler, Dr. Albert (lecturer), Zürich, Switzerland.
Desroziers, E., 10, Avenue-Frochot, Paris.
Dessendier, —, Roanne (Loire), France.
Doumer, Dr. E., Lille, Nord, France.
Dreyer, Rosenkranz & Droop, Hanover, Germany.
Dufour, Henri, The University, Lausanne, Switzerland.
Dupuy, C., 6, rue Docteur Rayer, Caen, France.
Estelle, A., Malmö, Sweden.
Goffin, Jos., 63, ave. de la porte de Hal, Brussels.
Grotrian, Dr. O., Technische Hochschule, Aachen, Germany.
Hasslacher, Franz, 26, Bleichstrasse, Frankfurt-am-Main.
Howe, Dr. W., 4, Kastanien Allee, Westend, Berlin.
König, Carl, Breinholder & Co., IX. Pramergasse 6, Vienna.
Leblanc, M., 1, ave. Boufflers, Auteuil, Paris.
Lehmann, Dr. Otto, Technische Hochschule, Karlsruhe, Germany.
Raine, A. D., 9, rue République, Toulon (Var), France.

Electricians—Consulting—*continued.*

Richard, F., rue du Musée 4, Brussels (electrochemist).
Richez & Co., rue Pont-Neuf 64, Brussels.
Santarelli, Georges, via Giotto 2 *bis*, Florence, Italy.
Schiemann, Max, & Co., Wurzen, Saxony.
Sieg, Dr. E., Kölner Akkumulatorenwerk Gottfried Hagen, Kalk bei Köln, Germany.
Van Mens, H. C., Rijklof van Goensstraat 44, The Hague, Holland.
Voller, Dr. A., Physikalische Staatslaboratorium, Hamburg, Germany.
Weber, Prof. Leonh., Kiel, Germany.
Welsbach, Dr. Karl Auer von, Oesterr. Gasglühlicht und Elektr. Gesellschaft, IV. Schleifmühlgasse 4, Vienna.
Wiedemann, Prof. Gustav, University of Leipzig, Germany.

Electricians—Domestic.

F.—Électriciens—Inst. de maisons, &c.
G.—Elektriker für Hausanlagen.

Gantke, Hugo, Friedrichstr. 105A, Berlin, N.

Electricians—Experts.

F.—Électriciens—Experts.
G.—Electriker—Fachkundige.

Banti, Dr. Prof. Angelo, via Cavour 222-226, Rome.
Chavannes, R., rue Toepfer 3, Geneva, Switzerland.

Electricians—Manufacturing.

F.—Électriciens—Constructeurs.
G.—Electriker—fabr.

Accumulatorenfabrik, Hagen i. W., Germany.
Amoudrez, L., 236, cours Lafayette, Lyon, France.
Antwerp Telephone & Electrical Works, Ltd., Rod. B. Bumiller, manager, Antwerp, Belgium. (Telegrams : "Electrical, Anvers.")
Ateliers Jaspar (Sté. Anon.), 2 & 20, rue Jonfosse, Liége, Belgium.
Bachmann, Hermann, Weimar, Germany.
Baillot, Joseph, fils, Yvoir, Belgium.
Bergerot, H., 19, rue Molière, Paris.
Beauduin, —, Sedan, Ardennes, France.
Becker, B., & Cie., 18, ave. de Tourville, Paris.
Bégol & Cail, 45, rue du Ponceau, Rheims, France.
Belle, R., 25, Damengraben, Aachen, Germany.
Blondel & Crépin, boul. Barrabant, Amiens.
Boet, P., chaussée de Wavre 148, Brussels.
Bonnier, M., 20, rue St. Gilbert, Lyon-Monplaisir, France.
Bormfeldt & Salewski, Danzig, Germany.
Bosshard, H., Charleville, Ardennes, France.
Böttcher, Oskar, Berlin W. 57. Works in Gebirge Poberschau, Marterbäschel, Saxony.

Electricians—Manufacturing—*continued.*

Bouilhet, Ch. H., 56, rue de Bondy, Paris.
Brézol, Ch., Charleville (Ardennes).
Bricard Frères, 39, rue Richelieu, Paris.
Buchmeyer, F. W., Knochenhauerstr. 40, Bremen.
Buderus & Co., 19, Keslnerstreet, Hanover.
Burri, W., Knobelstr. 14, Munich.
Carrier, B., 7, rue Fénélon, Paris.
Coca, José, Tolosa (Guipuzcoa), Spain.
Collet, C., Aigle, Switzerland.
Conti, Bruno & Biraghi, 4, via Sant' Ugo, Genoa.
Danière Frères, 20, rue Jules Janin, Roanne (Loire), France.
Dasse, G., 49, rue David, Verviers, Belgium.
Deckert & Homolka, IV., Favoritenstrasse, 42, Vienna; & V. Doruttya-u., Budapest.
De Cock, P., quai au Bois 8, Ghent.
Deffez, L., & Fils, 34, rue Saint-Séverin, Paris.
Deligny et Bernard, 16, boul. St. Denis, Paris.
Desseux, David, 61, place Badouillère, St. Etienne, France.
Devarennes, Vve. Constant, & Cie., 125 & 127, rue du Mont-Cenis, Paris.
Dieterichs & Löffelhardt, 9, Hansaplatz, Hamburg, Germany.
Dieudonné & Malot, rue de Mars 253, à Reims.
Dreyer, Rosenkranz & Droop (patent indicators), Hanover.
Ducas, E., rue de Guérande 3, Nantes (Loire-Inférieure), France.
Dumichel, L., place du 14 Juillet, Aiguillon (Lot-et-Garonne), France.
Dumonchel, P., 40, rue de Verneuil, Paris.
Dupont, D., 1, rue Ami-Lullin, Geneva, Switzerland.
Duval, A., 45, rue Casimir Périer, Le Havre.
Eggermont, E., boul. du Petit Dock 9, Ghent.
Electricitätswerk a. d. Sihl, Wädensweil, Zurich.
Electrisk Bureau, 4, Boldhusgade, Copenhagen.
Elektrizitäts Gesellschaft Haas & Stahl, Aue-i.-Erzgeb, Germany.
Esteulle, E., 12, rue Daumesnil, Paris.
Établissement Dynamothérapique, 27, rue de Londres, Paris.
Etablissements J. J. Heilmann, 38, rue de Laborde, Paris. Works: Le Hâvre.
Fabrik für Electrotechnik und Maschinenbau Bamberg, Bamberg, Germany.
Fallou, J., rue St. Ambroise 33, Paris.
Felten & Guilleaume Lahmeyer Werke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Feugray, E., 36, rue de Dunkerque, Paris.
Fielder, R., Kreuzbergstr. 42F, Berlin, S.W.
Focquet, Ch., Chaussee St. Pierre, Brussels.
Freund, M., Wilhelmstr. 23, Gleiwitz, Germany.
Gavazzi, Ad., via S. Nicolao 2, Milan.
Gérard, E., et Cie., 40, quai d'Amercœur, Liége.
Graf, L., Bar-le-Duc (Meuse), Paris.
Gruet & Viard, 67, rue de la Liberté, Dijon (Côte d'Or), France.
Guénée, A., & Cie., 14 & 16, rue des Bois, Paris.
Hammacher & Paetzold Kommanditgesellschaft, Chausseestr. 2A, Berlin, N.
Hannot, Albert, ave. van Volxem 387, Brussels.

Electricians—Manufacturing—*continued.*

Hauptmann, J. C., Eilenburgerstr. 11, Leipzig.
Henriksen's Elektriske Fabrick, 29, Nörrefarimagsgade, Copenhagen, K.
Hillairet-Haguet, 22, rue Vicq d'Azir, Paris.
Hinterholzer & Co., Fraunhoferstr. 4, Munich.
Hoffmann, J., 13, place des Wallons, Liége, Belgium.
Huguenin, L., & Fils, La Sarras, Vaud.
Jacobs, Andre, 26, rue Saxe-Coburg, Brussels.
Jacobs, Th., rue Carnot 135, Antwerp.
Jahn & Cie., rue Zérézo, 9, Brussels.
Jainin, L., 2, rue du Cheval Blanc, Montpellier (Hérault), France.
Jenkins, F. C., Koenigstr. 7, Hamburg.
Jensch, Gebr., Hirschberg i. Schl.
Kaehler, Max, & Martini, Chausseestr. 3, Berlin, N.
Keiser & Schmidt, 20, Johannisstr., Berlin, N. 24.
Koerting Frères, boul. Badouin, Brussels.
Köhler, Otto, 57, Bulowstr., Berlin, W.
Kruger, R., 41, Michaelkirchstrasse, Berlin.
Laffay, A., 25, rue Amiral Roussin, Dijon (Cote-d'Or).
Lagarde, —, 41 bis, rue des Contours, Puteaux (Seine), France.
Lainé, E., 49, rue Notre Dame de Nazareth, Paris.
Lascenne, J. B., rue des Ottats, Créteil (Seine), France.
Laurent, F., rue des Gargattes, Vienne (Isère), France.
Leclaire, J., 6, Square de l'Opéra, Paris.
Leclanché et Cie., 158, rue Cardinet, Paris.
Leclers, G., 1, rue des Fours, Sedan (Ardennes), France.
Lépine, A., 8, avenue Carnot, Paris.
Luher & Aigner, Häberistr. 12, Munich.
Lutéce Electrique, La, 49, rue Buffault, Paris.
Marcus-Julien, H., Longue rue de Vanneau 58, Antwerp.
Martineau, —, 36, boul. Diderot, Paris.
Masson, M., & Cie., 25, rue de Senlis, Asnières, France.
Mathieu, Péronne & Humbert, Mulhouse à Reims, France.
Midoz, C., 8, rue Gambetta, Besancon (Doubs).
Migeon, Raoul, et Fils, 10, rue de l'Arsenal, Angoulême, Charente, France.
Mildé, Chas., Fils et Cie., 51, 60, & 62, rue Desrenaudes, Paris.
Petit, L., & Cie., 6, rue Notre Dame de Nazareth, Paris.
Picard, L., 8, rue St. Claude, Paris.
Planas, Flaquer & Co., Plaza de Cataluña 12, Barcelona, Spain.
Pöschmann & Co., Zwingerstr., Dresden, A.
Poulain, A., et Fils, route Nationale 5 et 9, Charleville (Ardennes), France.
Pundsack, J. R., Ansgarütorstr. 11, Bremen, Germany.
Quaedvlieg, C. F., rue des Grandes Halles 11, Courtrai.
Ravet, 83, rue Nationale, Lille; & 13, Coutour St. Martin, Roubaix, France.
Rigaux, Ch., rue Destouvelles, Brussels.

Electricians—Manufacturing—*continued.*

Rousselle & Tournaire, 52, rue de Dunkerque, Paris.
Ruhstrat Gebrüder, Göttingen, Germany.
Salomon, E., 21, rue de Strasbourg, Vincennes (Seine), France.
Schaefer, C. A., 34, Marstallstr., Hanover.
Schliemann, E., New-Isenburg, nr. Frankfort-on-Main.
Schneider, Jean, 29, rue de la Limité, Brussels.
Schwaan, Ernst, & Zimmermann, 15, Gruner Weg, Berlin, O. 27.
Schwabe & Co., 55, Wallstr., Berlin, S.
Société Alsacienne de Construction Mécanique, 4, rue de Vienne, Paris.
Société d'Appareillage Electrique & Industriel (Anc. Etab. Gardy Frères & Cie.), 13, rue Caumartin, Paris.
Société de Construction Electrique, rue Molière 67, Lyon, France.
Steck, R., Halleschestr. 22, Berlin, S.W.
Taillefer, A., & Cie., 6, cité Reverin, Paris.
Thirel, J. (Renard Suc.), 41, rue de Bellefond, Paris.
Umbreit & Matthes, Leipzig-Plagwitz, Germany.
Uster Fabrik für electrische Apparate, Uster, Switzerland.
Verdan & Wanger, Yverdon, Vaud, Switzerland.
Wagner, C. T., Wiesbaden, Germany.
Wehrle, E., & Co., Furtwangen, Baden.
Zimmerli & Kaser, Kirchberg-Berne, Switzerland.

Electricians—Medical.

F.—Électriciens—Médicins.
G.—Electrothérapie.

Branly, Ed., D.SC., M.D. 21, ave. de Tourville, Paris.
Brasse, Dr. Léon, 47, rue Chasselievre, Rouen, France.
Hamelin, Dr., Montpellier, Hérault, France.
Huguet de Vars, Dr., 27, rue de Londres, Paris.
Laisné, Dr. Alfred Louis, 2, rue Guichard, Paris.
Longfils, —, Ransart, Belgium.
Machado, V., rua Instituto Virgilio Machado 12, Lisbon.
Rousse, J., 9, place Marengo, Saint-Etienne.
Senftleben Gebr., 53, Waldemarstr., Berlin, S.O. 26.
Tripier, Dr. A., 8, rue Vignon, Paris.

Electricians—Medical Manufacturing.

F.—Appareils Electro-Medicaux—Fabr. de.
G.—Elektrotherapeutische Instrumente—Fab.

Aubry, —, 6, boul. St. Michel, Paris.
Bandekow Bros., Belle Alliance platz 7, Berlin, S.W.
Blaensdorf, R. Nacf., 28, Schillerstr., Frankfort-on-the-Main, Germany.
Boyères, F. de, 4, rue Bourg-Tibourg, Paris.
Brunet-Loiseau Frères, 13, rue des Francs Bourgeois, Paris.

Electricians—Medical Manufacturing—*continued.*

Bunon, —, 27, rue Vieille du Temple, Paris.
Clasen, G., 38, rue de l'Hôpital, Brussels.
Demaurex, M., place Fusterie 10, Geneva.
Eck, A. R., Wilhelmstr. 121, Berlin, S.W.
Elektricitätsgesellschaft "Sanitas," Friedrichstr. 131D, Berlin, N. 24.
Elektrotechnisches Institut Frankfurt, G. m. b. H., Frankfurt-am-Main.
Fallou, R., 5, rue Hautefeuille, Paris.
Figueras, E., 162, faub. St. Denis, Paris.
Fosse, —, 12, rue de l'Hôtel de Ville, Lyons.
Francois, —, 114 bis, ave. des Batignolles, S. Ouen près Paris.
Gaife, G., 9, rue Méchain, Paris.
GALLE, RICHARD, 8, Alte Jacobstr., Berlin, S.W.
Gauernack & Reinboth, Dresden, Germany.
Grazzini, Dr. Gio. Batta, Piazzi Strazzi 3, Florence.
Heller, Richard & Cie., 18, cité Trévise, Paris.
Hinaux, E., & H. Thomas, formerly Pericaud & Cie., manufacturers, 9, rue St. Maur, Paris. Induction coils, scientific & medical apparatus. Scientific toys.
Jirasko, A., Margarethenstrasse 36, IV., Vienna.
Kallmeyer, R., & Co., Oranienburgerstr. 45, Berlin, N.
Krause, W., & Co., 106, Friedrichstr., Berlin.
Maack, Ernst, Lübeckerstr. 77, Hamburg.
Marie Frères, 108, rue de Rivoli, Paris.
Mayer et Wolf, 12, Van Swietengasse, IX., Vienna.
Nyrop, Camillus, Kjöbmagergade 43, Copenhagen.
Pech, M., G. m. b. H., 15, am Karlsbad, Berlin, W.
Penning, Alfons, Rheinwerstr. 24, Bonn-am-Rhein.
Rebeyrotte & Cie., 48, rue Monsieur le Prince, Paris.
Reiniger, Gebbert & Schall, Erlangen, Bavaria.
Schulmeister, Louis, 5, Spitalgasse, IX., Vienna.
Seifert, W. R., Neugasse 20, Dresden.

Electricity Meters—Makers of.

F.—Compteurs d'électricité—Fabr. de.
G.—Electricitäts Zähler—Fabr. von.

Allain, F. J. Ch., 235 bis, rue de Vaugirard, Paris.
Aron, H., G. m. b. H., Wilmersdorferstr. 39, Charlottenburg, Berlin.
Aubert, A., Lausanne, Switzerland.
Campiche, Henri A., Geneva.
Compagnie Belge pour la Fab. des Compteurs et Materiel Gaz, Eau, Electricité (Soc. Anon.), Brussels.
Compagnie Française des Compteurs "Système Aron," 200, quai de Jemmappes, Paris.
Compagnie pour la Fabrication des Compteurs & Matériel d'Usines à Gaz, rue des Palais 149, Brussels.
Compteurs d'Energie Électrique, système Aron, 200, quai de Jemmappes, Paris.

Electricity Meters—Makers of—*continued.*

Deutsch - Russische Elektrizitätszahler, Ges. m. b. H., Ehrenfeld, Cologne.
Etoile Magnetique, L', 45, rue Jacob, Paris.
Gabriel, R., III. Dreilaufergasse 11, Vienna X.
Isaria Zahlerwerke G. m. b. H., Munich X., Germany.
Ketterer, B., Söhne, Furtwangen, Bad. Schwarzwald, Germany.
Maatschappij ter Vergaardiging van Gas-Water en Electriciteitsmeters, Dordrecht, Holland.
Michel & Cie., 16, boul. de Vaugirard, Paris.
Peloux, A., quai de la Poste 10, Geneva, Switzerland.
Reimer & Seidel, Gentzgasse 34 & Rieglergasse 4, Vienna XVIII.
Schiersteiner Metallwerk, G. m. b. H., Schwerinstr. 3, Berlin, W. 30.
Seiler Frères, 17, rue Martel, Paris.
Società Italiana gia Siry, Lizars & C., viale Porta Lodovica 21–23, Milan.
Soulat, J., 25, rue Michel le Comte, Paris, IIIe.
Wiener Elektricitäts Zählerwerk, Vienna III.

Electricity Works.

F.—Usines électriques.
G.—Elektricitäts Centrale.

Compagnie d'Eclairage Electrique, Tours, France.
Compagnie du Gaz de Saint-Quentin, Saint-Quentin, France.
Compagnie Electrique du Bassin de Charleroi, Roux, nr. Charleroi.
Electra Naamlooze Vennootschap, Amsterdam.
Freiburgische Städtisches Elektricitätswerke, Freiburg-i.-Breisgau, Germany.
Karlskoga's Electric Light & Power Station, Karlskoga, Sweden.
Magyar villamossági részvény tarsulat váczi-ut. 72, Budapest.
Mjölby Electric Power Station, Mjölby, Sweden.
Municipal Central Electric Illuminating Station, Modena.
Örebro Central Electric Station, Örebro, Sweden.
Pausa i. V., Germany.
Penzig (Oberlausitz), Germany.
Società Elettrica Bellini, via Cavour 29, Naples, Italy.
Société Anonyme de Cocq sur Mer, Clemskerke, Belgium.
Société Bruxelloise d'Electricité, 22, rue d'Assaut, Brussels.
Société Electrique de Bulle, Bulle, Canton de Fribourg, Switzerland.
Société Meridionale d'Electricité, Carcassonne & Narbonne (Aude), France.
Städtisches Elektricitätswerk, Elberfeld.
Station Centrale d'Eclairage Electrique, Clamecy (Nièvre), France.
Station Centrale d'Eclairage Electrique, Auxerre (Yonne), France.
Station Central d'Eclairage Electrique de Roybon, Roybon (Isère), France.

Electricity Works—*continued.*

Station Centrale d'Electricité, boul. du Port, Amiens.
Station Centrale d'Electricité, Antoing, Hainaut, Belgium.
Station Centrale d'Electricité, Autun (Saône-et-Loire).
Station Centrale d'Electricité, Bourg (Ain), France.
Station Centrale d'Electricité, Charleroi, Belgium.
Station Centrale d'Electricité, Dijon (Côte d'Or), France.
Station Centrale d'Electricité, Fleurus, Belgium.
Station Centrale d'Electricité, Manosque (Basses Alpes), France.
Station Centrale d'Electricité, Melun (Seine-et-Marne), France.
Station Centrale d'Electricité, Merves le Chateau.
Station Centrale d'Electricité, Moulins (Allier), France.
Station Centrale d'Electricité, Orleans (Loiret), France.
Station Centrale d'Electricité, Ostend, Belgium.
Station Centrale d'Electricité, Poitiers (Vienne), France.
Station Centrale d'Electricité, St. Brieuc, France.
Station Centrale d'Electricité, St. Marcellin (Isére), France.
Station Centrale d'Electricité, Saumur, France.
Station Centrale d'Electricité de Notre Dame des Arts, Alisay, Pont de l'Arche (Eure), France.
Station Centrale de Marennes, Marennes, France.
Station Centrale de Nancy, rue de Tapis Vert, Nancy.
Station d'Electricité, rue du Beffroy Troyes, France.
Station d'Electricité, rue Pierre Sauvage, Compiègne, France.
Station d'Electricité, Guéret (Creuse), France.
Station d'Electricité de Gençay (Vienne), France.
Station d'Electricité de Vinay, Vinay (Isère), France.
Station d'Energie Electrique des Boulevards, rue du Ct. Marchand, Bordeaux.
Uddevalla Electric Light Station, Uddevalla, Sweden.
Usine à Gaz & Electricité, Elbeuf (Seine-Inf.).
Usine à Gaz & Electricité, Luneville, France.

Electro-Platers' & Electro-Typers' Plant & Material.

F.—Galvanoplastie—Electrotypie—Fournitures pour.
G.—Alfenide und Galvanoplastie—Materialen für.

Norddeutsche Affinerie Actiengesellschaft, Hamburg, Germany.
Pfanhauser, Wilh., 13, Jakobstr. 5, Berlin, S.W.
Tichomiroff, Was. Alex. et Lid. Alex., Pawlowitsch, Baranowa, Russia.
Werth, F., & Co., 3, via L. Cagnola, Milan.

Electro-Plating & Depositing Machine Manufacturers.

F.—Machines pour Dorure, argenture et galvanisation—Fabr. de.

G.—Maschinen für Galvanoplastik—Fabr. von.

Electro-Silver & Nickel Platers & Gilders.

F.—Doreurs & Argenteurs.
G.—Galvanoplastik, &c.—Materialen für.

Berliner Electro-Plated Waarenfabrik G.m.b.H., Ritterstr. 90, Berlin, S.
Bloch, F., 39, Östergade, Copenhagen.
Christofle et Cie., 56, rue Bondy, Paris.
Couturier, L., 39, rue de la Paroisse, Versailles, France.
Dansk Forsölvnings-Anstalt, Kjöbmagergade 50, Copenhagen.
Demarquet Frères, 79, rue du Temple, Paris.
Drewsen, C. C., Östergade 1, Copenhagen, K., Denmark.
Drewsen, H. C., Amagertorv 6, Copenhagen, Denmark.
Ekman, A., & Co., Toldboden, Copenhagen, Denmark.
Frenais, A., 65, boul. Richard Lenoir, Paris.
Galvanophoren fabrik System Vogt, S. Szubert, Berlin-Schöneberg.
Gasterstaedt, J., VII., Zieglerglasse, 69, Vienna, Austria.
Langbein, Dr., & Co., via Brera 12–14, Milan, Italy.
Le Clère, E., 58, rue Bonaparte, Paris.
Madsen & T. Baagoë, 30, Tordenskjoldsgade, Copenhagen.
Nava, L., via St. Stefano del Cacco 2, Rome.
Paolucci, E., & Grandi, via Barberia 7, Bologna, Italy.
Rocher, J., 75, rue des Gravilliers, Paris.
Schenone, Benvenuto, via Ponte Nuovo 4, Leghorn, Italy.
Société l'Orfèvrerie d'Ercuis, Ercuis, et 64, rue de Bondy, Paris.
Wiskemann, Otto, rue du Chêne, Brussels.

Electroliers, Brackets & Pendants.

F.—Lustres et Appliques.
G.—Candelaber, Konsole und Hängelampen.

Ahrendt & Co., Alexandrinenstr. 118, Berlin, S.W.
Bakalowits Söhne, E., I. Kärnthnerstr. 12, Vienna.
Beyer, M., & Co., Wensky prosp. 92, St. Petersburg.
Bosselut, A., 4, cité de Phalsbourg, Paris.
Campe & Co., 26, Neue Grünstr., Berlin.
Compagnie des Bronzes, 28, rue d'Assaut, Brussels.
Danubia Actien-Gesellschaft, 49, Porzellangasse, Vienna IX.

Electroliers, Brackets & Pendants—*continued.*

Eckel & Glinicke, Wassertorstr. 50, Berlin, S.
Eiffe & Fehr, Rodingsmarkt, Hamburg.
Erste Productiv Gesellschaft der Bronze Arbeiter, VII. Schottenfeldgasse 66, Vienna.
Fabrique Suisse de Lusterie, Le Pont, Vaud, Switzerland.
Falbe, Osc., Manteuffelstr. 77, Berlin, S.O. 36.
Faure, J., 47, rue de Chateaudun, Paris.
Fonderia del Pignone, Florence; & Piazza St. Marco, Rome.
Gervais, L. (Ancienne Maison Monniot), 8, rue Martel, Paris.
Hees, Peter, Sebastianstr. 3, Berlin, S.
Heichemer & Schmeidel, Obennarspforten 5, Cologne.
Hollenbach's, D., Neffen Ed. & F. Richter, VIII. Josefstædterstr. 44, Vienna.
Huth, L., & Co., Prenzlauerstr. 41, Berlin.
Jellinek, Friedrich, VII. Kirchengasse 24, Vienna.
Kreuzberger & Sievers, 25, Ritterstr., Berlin, S.W.
Mundt, Nic., 31, Starhemberggasse, IV., Vienna.
Pannke & Co., Fürstenstr. 5, Berlin.
Pavesi, V., di R. Radaelli & C., via Vittoria Colonna 2, Milan.
Ranvier, J., 116, rue de Turenne, Paris.
Rheinische Bronzewaarenfab. Schüz & Beringer, Mainz.
Rosenberg & Stern, Wallstr. 62, Berlin, S.
Sächsische Bronzewaarenfabrik Actien-Gesellschaft, Wurzen-in-Sachsen, Germany.
Schaefer & Hauschner, 233, Friedrichstrasse, Berlin, S.W.
Schuster & Baer, Akt. Ges., Prinzessinnenstr. 18, Berlin, S.
Schwinzer & Graff, 18, Sebastianstr., Berlin, S.
Snigola Gebr., Alte Jakobstr. 8, Berlin, W.
Susse Frères, 2, place de la Bourse, & 31, rue Vivienne, Paris.

Electrotypers.

F.—Électrotypie.
G.—Galvaniseure.

Beaudoire, Th., et Cie., 13, rue Duguay-Trouin, Paris.
Delaunay, E. B., 12, rue Saint Gilles, Paris.
Dewez, —, 219 & 239, rue Saint-Denis, Paris.

Engine & Boiler Makers.

F.—Machines et chaudières à Vapeur.
G.—Dampf-Maschinen und Kesseln.

Boulet, J., et Cie., St. Denis (Seine), France.
Farcot, Joseph, 17, avenue de la Gare, St. Ouen, France.
Kuhn, G., Stuttgart-Berg, Germany.
Nordhauser Maschinenfabrik u. Eisengiesserei, Schmidt, Kranz & Co., Ulrichstr. 1/2, Nordhausen, Germany.

Engine & Boiler Makers—*continued.*

Pilter, 24, rue Alibert, Paris.
Rikkers, St. Denis, Seine, Paris.
Société Anonyme des Etablissements Delaunay Belleville, Ateliers de l'Ermitage à Saint Denis (Seine), France.
Soc. Centrale de Construction de Machines, 30, route d'Aubervilliers, Pantin (Seine), France.
Soc. Française des Balances Automatiques et Engins Spéciaux, 15, avenue de l'Opéra, Paris.
Sulzer Brothers, Winterthur, Switzerland.
Swiderski, Ph. (steam), Plagwitz-Leipzig, Germany.

Engine Makers—Gas.

(*See also* MOTORS.)

F.—Machines à Gaz—Fab. de.
G.—Gas-Maschinen—Fabr. von.

Benz & Co., Mannheim.
Compagnie des Moteurs Duplex, 130, rue Lafayette, Paris.
Compagnie des Moteurs Niel, 22, rue Lafayette, Paris.
Compagnie Française des Moteurs à Gaz et des Constructions Mécanique, 135, rue de la Convention, Paris.
Danneels (Soc. Anon. des Ateliers), rue des Remouleurs 69, Gand, Belgium.
Dresdner Gasmotorenfabrik, vorm. Moritz Hille, Dresden, Saxony.
Gasmotoren Fabrik Deutz, Cologne-Deutz.
Körting, Gebr., Körtingsdorf, nr. Hanover.
Langen & Wolf, Laxenburger-strasse 53, X., Vienna, Austria.
Niel, —, rue Lafayette 22, Paris.
Pierson, J. & O. G., 47, rue Lafayette, & 54, faub. Montmartre, Paris.
Taylor, M., et Cie., 16, rue de la Grange Batelière, Paris.

Engine Makers—Petroleum.

F.—Machines à Pétrole—Fab. de.
G.—Maschinenbauer Petroleum.

Dresdner Gasmotorenfabrik vorm. Moritz Hille, Dresden, Saxony.
Von Mulmann & Forkel, rue de Laeken, Brussels.

Engine Makers—Steam—Electrical Purposes.

F.—Machines à Vapeur pour l'électricité—Fab. de.
G.—Dampf-Maschinen für elek. Zwecke—Fabr. von.

Aktiengesellschaft der Maschinenfabrik Escher Wyss & Cie., Zürich, Switzerland.
Arndt Gebrüder, Fenstrasse 21, Berlin, N.
Ateliers de Construction (H. Bollinckx) (soc. anon.), Brussels.
Berlin-Anhaltische Maschinenbau-Aktiengesellschaft, Dessau, Germany.
Biétrix, Leflaive & Cie., Saint-Etienne (Loire), France.

Engine Makers—Steam—Electrical Purposes—*continued.*

Boulet, J., et Cie., 31 & 33, rue Boinod, Paris.
Bresciani, Michele, Mondovi, Italy.
Dingler'sche Maschinenfabrik A.G., Zweibrücken, Germany.
Douane, —, 23, avenue Parmentier, Paris.
Erste Brünner Maschinenfabrik Ges., I., Brünn, Austria.
Farcot, J. O., 1, avenue de la Gare, St. Ouen, France.
Fouché & de Laharpe, 38, rue des Ecluses St. Martin, Paris.
Fürstlich Stolbergische Maschinenfabrik, Magdeburg; & Ilsenburg a/Harz.
Hiltmann & Lorenz, Aue i. S.
Hohenzollern Maschinenfabrik, Dusseldorf-Grafenburg.
Hörenz, Otto, Dresden.
Koch, Bantelmann & Paasch, Magdeburg-Buckau, Germany.
Kuhn G. m. b. H., Stuttgart-Berg, Germany.
Le Blanc, J., & fils, rue du Rendez-Vous 52, Paris.
Maschinenbau Anstalt und Eisengiesserei, A. Borsig, Tegel, nr. Berlin.
Maschinenbau-Gesellschaft Basle, Basle, Switzerland.
Maschinenfabrik Esslingen, Abtheilung fur Elektrotechnik, Esslingen, Germany.
Naeyer, De, et Cie., Willebrouck, Belgium.
Neville, E. G., & Co., Venezia, Italy.
Pilter, Th., 24, rue Alibert, Paris.
Sack & Kiesselbach, Maschinenfabrik G. m. b. H., Rath, bei Düsseldorf.
Schickau, F., Elbing, Germany.
Siegel, Feodor, Schönebeck-am-Elbe, Germany.
Société Centrale de Construction de Machines, 30, route d'Aubervilliers, Pantin, Paris.
Société Française des Balances Automatiques et Engins Spéciaux, 15, avenue de l'Opéra, Paris.
Sté. Anon. des Ateliers Carels Frères, Dock 53, Ghent, Belgium.
Stettiner Oderwerke Akt. Ges. für Schiff und Maschinenbau, Stettin-Grabow, Germany.
Sulzer Brothers, Winterthur, Switzerland.
Sundwiger Eisenhütte Maschinenbau Actiengesellschaft, Sundwig i. Westf., Germany.
Vereinigte Maschinenfabrik Augsburg und Maschinenbaugesellschaft Nürnberg, Nürnberg, Germany.
Weyher et Richemond, 50, route d'Aubervilliers, Pantin, Paris.

Engines—High Speed—Makers of.

F.—Machines à Grande Vitesse—Fabr. d'.
G.—Dampfmaschinen—Grosse Schnelligkeit—Fab.

Boulte, Larbodière & Cie., 6, rue De Laborde, Paris. Works: Aubervilliers.

Engines—High Speed—Makers of—*contd.*

Clement & Jacqmain, 1, rue des Orchides, Brussels.
Kieler Maschinenbauanstalt Act. Ges., Kiel, Germany.
Lanz, Heinrich, Mannheim, Germany.
Maschinenbaugesellschaft Karlsruhe, Karlsruhe, Baden.
Maschinenfabrik Buckau, Ltd., Magdeburg-Buckau, Germany.
Salmson, E., & Co. (agents for E. S. Hindley & Sons), 55, rue de la Grange aux Belle, Paris.
Wolf, R., Magdeburg-Buckau, Germany.

Engineers—Civil.

F.—Ingénieurs—Civils.
G.—Ingenieure—Civil.

Arnoux, Réné, 16, rue de Berlin, Paris.
Baert, A. G. T., Laan van Meerdervoort 298, The Hague, Holland.
Barillet, L. F., 6, avenue de la Motte Picquet, Paris.
Bidet, V. A., 20, quai de la Mégisserie, Paris.
Boulte, Henry, 7, rue de Clichy, Paris.
Broeck, C. C., Horsens, Denmark.
Delgay, L., 31, rue Porteneuve, Pau (Basses Pyrenees).
Du Welz, Edward, rue du Chalet, 14, Brussels.
Floris-Thorel, Ing. F., vico 3° Lamarmora 4, Cagliari, Italy.
Griffisch, G. J., 27, rue Descombes, Paris.
Hennicke & Goos, Börsenbrücke 6, Hamburg, Germany.
Huici, Em., "La Electrica de la Vega de Amijo," Marmolejo, Spain.
Lavezzari, A., 41, rue Blanche, Paris.
Loder, C. F., Southern Tramway Co., Breda, Holland.
Nagtglas Versteeg, C. D., 78, N. Z. Voorburgwal, Amsterdam.
Odazio, Conte Arnaldo, Carrara, Italy.
Tobiansky, Leopold, 41, rue des Comediens, Brussels.
Van Drunen, J., rue des Champs Elysées 9, Brussels.

Engineers—Consulting.

F.—Ingénieurs—Consultants.
G.—Ingenieure—Beratende.

A. E. G. Union Elektricitäts Ges., Gumpendorferstr., "Rahlhof," Vienna VI/1.
Agence de Brevets A. Wunderlich & Co., Ltd., ave. des Arts 3, Brussels, Belgium.
Allgemeine Elektricitäts Ges., Waisenhausstr. 4, Dresden.
Becker, H., 5, rue Guy Patin, Paris.
Bède, E., & Co., 10, Square Guttenberg, Brussels.
Bellens, C., 43, rue de Chézy, Neuilly sur Seine, France.

Engineers—Consulting—*continued.*

Böhm-Raffay, Br., VII./2 Siebensterngasse 25, Vienna.
Bouvier, Adolphe, 25, avenue de Noailles, Lyon, France.
Cserhati, Jenö, 1, Szilágyi Dezsötér, II., Budapest.
Dax, Armand de, 19, rue Blanche, Paris.
De Wit, W. C. & K., 183, Prins Hendrikkade, Amsterdam.
Elektriska Pröfningsanstalten Holmgren & Rossander, Regeringsgatan 38, Stockholm.
Fischinger, E. G., Johanngeorgenallee 13, Dresden.
Fontaine, E. P., 27, rue Tronchet, Paris.
Hauman, H., 91, rue Hotel des Monnaies, Brussels.
Hospitalier, E., 87, boul. Saint Michel, Paris V°.
Jervis, Ing. T., via Principe d'Acaja 10, Turin, Italy.
Lehmann-Richter, Dr. E. W., Beethovenstr. 51, Frankfurt-a.-M.
Lemonnier, M., 37, boul. du Midi, Brussels.
Raclot & Cie., 24, rue de l'Evèque, Brussels.
Ransy, A., 11, cours des Minimes, Liége, Belgium.
Rotten, M. M., 29, Luisenstr., Berlin.
Routin, J. L., 15, rue Emile Zola, Lyon (Rhône), France.
Taaks, H., Filderstr. 55, Stuttgart.
Wahlstrom, Emil. A., Seestr. 4, Stuttgart, Germany.
Weizsaecker, Hugo, Moserstr. 91, Stuttgart, Germany.
West, Jul. H., Am Karlsbad 21, Berlin, W.
Wiesemann, Th., 11, rue le Corrège, Brussels, N.E.
Wissing, C. P., Ostre Gaswork, Copenhagen.
Zahn, Dr. G. H., Rathenowerstr. 2, Berlin, N.W

Engineers—Electric Light & Power.

(*See* CONTRACTORS—INSTALLATION.)

Engineers—Electrical.

F.—Ingénieurs—Électriciens.
G.—Elektrotechniker.

Acerboni, C., S. Marco 96, Venice.
Ackere, G. van, 13, rue Esquermoise, Lille (Nord), France.
Act. Ges. für Gas, Wasser & Elektricitäts Anlagen, 14, Altonaerstr., Berlin, N.W.
Actien-Gesellschaft für Automatischen Verkauf, neu-Kölln am Wasser 24, Berlin.
Actien Gesellschaft Sächsiche Elektricitätswerke vorm. Pöschmann & Co., Dresden. Works: Heidenau.
Adams, H. F., Stephensonstraat 19, The Hague, Holland.
Adler, W., jun., 90, Buchengasse, Vienna X.

Engineers—Electrical—*continued.*

Agnus, —, 4, rue Alboni, Paris.
Agthe, K., 4, Chausseestrasse, Berlin, N.
Aguire, D. Manuel, Compa. de Luz Electrica, Granada, Spain.
Ahles, K., Herdweg 76, Stuttgart.
Ahlsell, Ad., Stockholms Stads Electricitetsverk, Stockholm.
Aktiengesellschaft für Elektrotechnik, vorm. Graetzer & Ipsen, 20, Cuvrystr., Berlin, S.O.
Aktiengesellschaft Mix & Genest, 67, Bülowstr., Berlin, W.; Hamburg; & Cologne.
Aktieselskabet Elektrisk Bureau, Middelthunsgade 17, Christiania, Norway.
Albors Raduán, Francisco, Alcoy, Alicante, Spain.
Alcaz, E., 61, faub. St. Denis, Paris.
Aldighieri, A., Sebenico, Austria.
Alewijnse, C., Waalkade 64, Nijmegen, Holland.
Alker, C., 23, rue du Gouvernement Provisiré, Brussels.
Allgemeine Electricitäts Gesellschaft, Gartenstr. 9, Breslau.
Allgemeine Electricitäts Gesellschaft, Bismarckstr. 1, Posen, Germany.
Allgemeine Elektricitäts Gesellschaft, Dammthorstr. 30, Hamburg.
Allgemeine Elektricitäts Gesellschaft Basel, 44, Gerbergasse, Basle, Switzerland.
Amici, Ing. V., via Crociferi 23, Rome.
Ammen, W., Siemens-Schuckert Werke G. m. b. H., 3, Askanischer-platz, Berlin, S.W. 11.
Anastassiu, J. C., Strada Matei-Voevod 31, Bucharest, Roumania.
Andouche, C., Sté. Anon. Electricité & Mécanique, Charleroi, Belgium.
Andreu, José, Cia. de Pamplona de la Sociedad Electricista, Pamplona, Spain.
Andreu, F. F., & Co., Mahon, Balearic Islands, Spain.
Andrews, G. L., Lisbon Electric Tramways, Ltd., Lisbon.
Andrews, T., M.I.E.E., Anglo-American Telegraph Co., 18, boul. de Strasbourg, Havre.
Andriessen, E., 511, Neefestr., Chemnitz, Saxony.
Anger, P., 45, Holtenauerstr., Kiel.
Ansaldo, Gio., Armstrong & Co., Cornigliano, Ligure, Italy.
Antipin, Nic., 34, Nylandsgatan, Helsingfors, Russia.
Antoniotti, R., 10, corso Vinzaglio, Turin.
Antwerp Engineering Co., rue des Indes, Antwerp.
Appelius, C., Officine Elettriche Genovesi, Genoa.
Arendt, R., "Electrica Bucharest," Bucharest.
Arldt, Dr. C., 8, Habsburgerstr., Berlin, W. 30.
Aron, Prof. H., Kaiser allée 219 & 220, Berlin, W.
Arsumanoff, M. A., Moscow-Koursk Railways, Moscow, Russia.
Artom, A., via Venti Settembre 3, Turin.
Ashcroft, E. A., M.I.E.E., Vadheim, Sogne, Norway.
Astafieff, N., Kolomna, Russia.
Ateliers de Construction Electriques de Charleroi (Soc. Anon.), Charleroi.

Engineers—Electrical—*continued.*

Ateliers de Constructions Electriques et Mécaniques Egide Cornet, 56, rue de Birmingham, Brussels.
Ateliers de Constructions Mecaniques, Mulhouse (Alsace); & 18, boul. Magenta, Paris.
Aubert, A., Basel, Switzerland.
Audemars Frères, Se Sentier, Vaud, Switzerland.
Ausfeld, F. R., Basel, Switzerland.
Autran, G., 19, rue du Général Dufour, Geneva, Switzerland.
Avaeff, P. M., St. Petersburg, Russia.
Avakiawz, G. S., Armavir, gouv. Coubane, Caucase, Russia.
Avenarius, A., Siemens & Halske Co., Was. Ostr. 6 l., 61, St. Petersburg.
Averdieck, W., Bankstr. 4, Dresden, A.
Avril, C. L. R., 58, rue Monsieur le Prince, Paris.
Azarola y Solorzano, General Chinchilla 7, Pamplona, Spain.
Badenberg, G., via Stabile 123, Palermo.
Bagge, C., Fiskebryggen 6, Christiania, Norway.
Baillat, Ernest, Maison Grammont, Pont de Chéruy, Isère, France.
Baillehache, E. J. J. (Comte de), 12, boul. Pereire, Paris.
Balbach, M., Mainz, Germany.
Ballantine, J. B., Dunderland Works, Guldsmedvik-i-Ranen, Norway.
Balme, E. J., 18 bis, rue de Chartres, Neuilly-sur-Seine, France.
Bamberger, Dr. C., 19, Genthenerstr., Berlin, W. 35.
Baranovsky, N., Swerinskaya 7–9, St. Petersburg.
Barassi, V., Foro Bonaparte 65, Milan.
Barbey, L., 69, rue Louis Blanc, Paris.
Barbier et Turenne, 82, rue Curial, Paris.
Barbou, A., Société Gramme, 7 bis, rue de l'Aqueduc, Paris.
Baril & Co., 27, rue des Croisades, Brussels.
Barnet Lyon, L. M., Zuid Hellandsch Electrische Spoorneg Maatschappij 7, The Hague, Holland.
Bartelous, Victor, 8, rue Wauvermaus, Brussels.
Barth, P., 24, place St. Jean, Liége.
Bartoli, Gioacchino, Sebenico, Italy.
Bary, Paul, 33, rue des Jeûneurs, Paris.
Bas, Giov., 1, Foro Bonaparte, Milan, Italy.
Basse, B., Bentitzstr. 11, Weissenfels.
Bast, Omer de, 20, rue Cesar Franck, Liége, Belgium.
Basterrechea, José, Izurza (Vizcaya), Spain.
Baumann, J., Viktoriastr. I., Munich.
Baur, John, Ganz & Co., Budapest, Hungary.
Bayer, Hans H., Beatrixg 16a, Vienna III.
Bayerische Elektricitäts Werke, Thierschstr. 1/I., Munich.
Becce, Ch., Gio. Ansaldo, Armstrong & Co., Cornigliano Ligure, Genoa.
Becks & Cie., 3, rue de l'Harmonie, Liége.
Bede, P., 91, boul. d'Anderlecht, Brussels.
Beekman, L. M. A., The Electra, Amsterdam.
Beer Maison (Soc. Anon. Ateliers de Construc. Mecaniques et Fonderies), Jemeppe, près Liége.

Engineers—Electrical—*continued.*

Bekking, J. A. M., Boerenvischmarkt 9, Rotterdam.
Bellenot, A., 7, faub. du Château, Neuchatel, Switzerland.
Belliol, E. J., & Reiss, J., 30, rue des Bons Enfants, Paris.
Belloni, Emilio, via Porta Tenaglia 5, Milan.
Belloni, Ernesto, 19, via Calmaggiore, Treviso, Italy.
Benack, A., Sternstr. 43, Gr. Lichterfelde, Germany.
Benavides, Mariano, Almirante, Medina del Campo, Valladolid.
Benoit, A., Nyon, Vaud.
Bentheim, Wm., Landsbergerstr. 82, Berlin, C.
Berg, Fr., 21, Amagertorv, Copenhagen K.
Bergé, H., 39 & 41, rue de Flandre, Paris.
Bergès, G., 38, rue de la Chaussée d'Antin, Paris.
Bergh, Ch., & Co., Malmö, Sweden.
Bergmann & Westphal, Mühlenstr. 73, Berlin.
Bergstrom, E., & Co., 22, Scheelegatan, Stockholm.
Berlier, J. B., 50, boul. Malesherbes, Paris.
Berlin, C., Weissenfels, Germany.
Berliner, Dr. A., Askanischerplatz 3, Berlin.
Berliner Elektricitäts-Werke, 22, Schiffbauerdamm, Berlin, N.W.
Berlow, M., The Polytechnic, Riga, Russia.
Bernard, O., Poulangy (Haute-Marne), France.
Bernaville, A., 5, boul. St. Martin, Paris.
Berner, Otto, & Co., Admiralitätstr. 58, Hamburg.
Bernollin, Joseph, Société Toulousaine d'Electricité, 10, quai St. Pierre, Toulouse (Haute-Garonne), France.
Berthon, A., 51, rue de la Chaussée d'Antin, Paris.
Bertini, Angelo, via Tommaso Grossi, Milan.
Beugnot, Ch., 36, boul. Henri IV., Paris.
Beutier, L., & Ch. Vernier, 37, rue Sedaine, Paris.
Bieber, J. A., 3, Askanischer Platz, Berlin, S.W.
Biedermann, A., Breslauerstr. 9, Posen.
Biedermann & Czarnikow, 7, Kreuzbergerstrasse, Berlin, S.W.
Bielefelder Elektrotechnische Fabrik, H. W. Schröter, Bielefeld, Germany.
Bieloy, A., Ismailovsky polk, 2 rota, 16, St. Petersburg.
Bierenz & Co., 6, Giselastr., Vienna I.
Bihet, Oscar, M.I.E.E., Société Metallurgique Russo-Belge, Petrovsky-Zavod, Russia.
Bindemann, H. O. F., M.I.E.E., Soc. de Gasificacion Industrie, Alcalá, 49, cuadupdo., Madrid.
Binsfeld, Johann, The Electra, Amsterdam.
Bion Fils, Dunkerque (Nord), France.
Bischoff & Hensel, Mannheim.
Biske, M., 40, rue des Augustins, Liége, Belgium.
Biskupski, F., 41, St. Martinstr., Posen, Germany.
Bissmark, A. I. G., & Co., Gothenburg, Sweden.
Bitter, J., 19, Grosse Gallus-str., Frankfort-on-the-Main.
Bizeski, S., St. Martinstr. 64, Posen.
Björkegren, Emil, Tegnérgatan 2, Stockholm.

Engineers—Electrical—*continued.*

Blackwell, Robert W., 20, ave. du Boulevard, Bruxelles-Nord, Brussels.
Bladin, Kristofer, General Swedish Electric Co., Stockholm, Sweden.
Blakstad, R., Electrical Works, Arendal, Norway.
Blanchet, A., 18, boul. de Vaugirard, Paris.
Blanke, H., Naumburgerstr. 11, Leipzig.
Blau & Lukács, 38, Eötvös utcza, Budapest VI.
Bloch, Dr. L., 11, Schumannstr., Berlin, N.W. 6.
Bloch, Emmanuel, Maison Bréguet, 4, rue Bara, Paris.
Bloxham, E., M.I.E.E., 12, rue du Delta, Paris.
Bochet, A. C. A. M., 14, rue de Passy, Paris.
Böckh, C., 21, Demminerstr., Berlin, N.
Boettcher, Alfred, Magdeburg, Germany.
Bogdanoff, N., Obouchowsky Steel Manufactory, St. Petersburg.
Bois Fils, Gien (Loiret), France.
Bois-Reymond, A., du, 29ª, Schiffbauerdamm, Berlin, N.W.
Boisard, —, Chinon (Indre-et-Loire), France.
Boischevalier, F. de, 19, rue Téhéran, Paris.
Boissonnas, August, Ch. de la Chevillarde 200, Geneva.
Boistel, E., 66, rue de Vaugirard, Paris.
Bolle, Oscar, 33, Leipzigerstrasse, Berlin, W.
Bolze, H., Louisenstr. 24, Munich.
Bonelli, Enrico, via Sacchi 18, Turin.
Bonghi, M., 5, Parco Regina Margherita, Naples, Italy.
Borel, H. H., Sté. Anon. Westinghouse, 71, rue de Chaillot, Paris.
Borck & Goldschmidt, 145, Köpnickerstr., Berlin, S.O.
Borsig, A., Tegal, nr. Berlin.
Bosch, A. ten, Zuidblaak 24, Rotterdam.
Boschan, Arthur von, II. Nordbahnstr. 50, Vienna.
Bosnische Elektricitäts Actienges., Jajce, Bosnia; & Magdalenstr. 8, Vienna VI/1.
Bottiglia, Prof. A., Museo Industriale, Turin.
Böttner, A., 33, Wilhelmstr., Zwickau, Saxony.
Boty, P., 51, rue Paul Lauters, Brussels.
Bouchard, —, 19, quai d'Orléans, Rennes, Paris.
Boucher, A., Prilly, Canton de Vaud, Switzerland.
Boucherot & Cie. (Soc. Anon), 14, rue Daumier, Paris XVIe.
Bouchon, —, Société Electrique, 56, rue de la Victoire, Paris.
Boulanger, Albert, 47, rue Jean de Boulogne, Douai, France.
Bouquet, R. P., Moret sur Loing (Seine-et-Marne), France.
Bour, Paul, 2, rue Greuze, Paris.
Bourdel, J. M. A., 11, ave. Céline, Neuilly-sur-Seine, France.
Bourdin, J., 57, avenue Victor-Hugo, Boulogne, France.
Bourquin, J., 15, rue Huguerie, Bordeaux.
Bouvette, W. E., Hôtel Metropôle, Monte Carlo, Monaco.
Bovy, Hugues, rue de l'Arquebuse 20, Geneva.

Engineers—Electrical—*continued.*

Boy de la Tour, H., Cie. de Fives-Lille, 64, rue Caumartin, Paris.
Boye & Thoresen's Elektriska Aktiebolag, Gothenberg, Sweden.
Bragstad, O. S., Karlsruhe, Germany.
Brandenburg, E., 8, quai des Usines, Laeken-Brussels.
Brandes, Ludwig, 13, Stiftstrasse, Hanover.
Brandt, G. J. C., Joh. Verhulststraat 84, Amsterdam.
Brault, C., 73, boul. Haussmann, Paris.
Brauner & Elben ,Wasiliewsky Ostrow 3 l. 26, St. Petersburg.
Braunschweigische Maschinenbauanstalt, Brunswick.
Brell, H., Electricity Works, Berlin, N.
Bressius, Emil, Rödelheim, near Frankfort-on-the-Main.
Bresson, L., 1 bis, rue de l'Elysée, Grenoble (Isère), France.
Brillé, L. V., 64, boul. Bineau, Neuilly, Seine, France.
Brilluoin, André, 92, boul. Haussmann, Paris.
Bröderna Haglind, 7, Tekusloggatan, Stockholm.
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Brunn & Sörenson, Lille Torv, Aarhus; & Palasgade 8, Copenhagen K., Denmark.
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Engineers—Electrical—*continued.*

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Charles & Cie., 40, rue Lafitte, Paris.
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Engineers—Electrical—*continued.*

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Croon & Co., Rokin 154, Amsterdam.
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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Gernaert, J., 13, rue Ducale, Brussels.
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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Vaillant, —, Barjols (Var), France.
Valatin, Béla, Ganz & Co., Budapest.
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Engineers—Electrical—*continued.*

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Van de Wiele, F., Sté. Anon. Accumulateurs Tudor, rue Joseph II., Brussels.
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Van Rietschoten & Houwens, Rotterdam.
Van Zwieten, J., Ryswick, S. Holland; & P.O. Box 1075, Pretoria.
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Vasilesco-Karpen, N., II. Jules Michelet, Bucharest.
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Ventzke, H., 9, Grüner Weg, Berlin, O.
Verband Deutscher Elektrotechniker, 3, Monbijouplatz, Berlin, N. 24.
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Vernes, Am., 11, avenue Trudaine, Paris.
Verrue, F., 112, rue Malibran, Brussels.
Vértesi, K., Ganz & Co., Budapest.
Vetschipolsky, A., Coin des rues Sobornaya et Bolshaya Morskaya, Nicolaiev, Russia.
Victor, E., Service Electrique à l'Usine à Gaz de Reims (Marne).
Vicsca, Francisco de la, Cadiz, Spain.
Vigneron, E., 25, rue Poussin, Paris.
Vimercati, Prof. Guido, Lungarno Zecca 2, Florence.
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Vittoz, J., Vevey, Switzerland.
Vivanco, Casto de, calle de Hernani 18-4, Bilbao, Spain.
Vogt, Cæsar, & Co., Elek. Ges., Pallastr. 2, Berlin, W.
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Völker, W., Hinlere Bleiche 18, Mainz.
Volker & Täger, Kattowitz, Germany.
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Voronoff, A., St. Petersburg, Russia.
Vosmaer, A., Electrical Research Laboratory, de Bilt, Holland.
Vucht, Armand, ave.-Ducpétiaux, 22, Brussels.
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Wagin, A. A., Orel, Russia.
Wagmüller, Ernst, Schwerinstr. 3, Berlin, W.
Wagner, H., Zurich.
Waldek & Wagner, Hybernerg., Prague, Austria.
Waldt, A., st. Strelna, Baltisky Railway, Russia.
Waligorski, B., Ritterstr. 10, Posen.
Wall, P., Viborg, Russia.
Wallaert, Aug., fils, 76, rue Wauthier, Brussels.
Walloch, F., Gitschinerstr. 14, Berlin, S.W. 61.
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Weber, W. K., Nijni-Nowgorod, Russia.
Wechtel, D., Victoriastr. 9, Posen, Germany.
Weinberger, M., 135, Heerengracht, Amsterdam.
Weiss, H. & V., Margarethenstr. 93, Vienna V., Austria.

Engineers—Electrical—*continued.*

Weizer Electricitätswerk Franz Pichler & Co., Weiz, Steiermark.
Welcker & Co., Solingen, Germany.
Welter, Heinrich, Schilderhof, Cologne.
Wenström, Georg, managing director, General Swedish Electric Light Co., Ltd., Stockholm.
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Westren-Doll, M., Tudor Accumulator Co., Armjanssi Pereulok 3, Moscow.
Wettler & Nassius, Warsaw.
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Wiener Elektricitäts Gesellschaft, VI. Kaunitzgasse 8, Vienna.
Wilkens, K., 80, Mauerstr,, Berlin, W.
Wilskov, H., Christianssand, Norway.
Wisliceny, H., Halle-a-S.
Witold von Zakrewski, Theaterstr. 5, Posen, Germany.
Wittenberger Elektricitäts-Werke, 11, Dresdenerstrasse, Wittenberg.
Wittsack, P., Ingenieurschule, Mannheim.
Wockatz & Co., Gothenburg, Sweden.
Woitak, J. F., Gagry, gouv. Koutaise, Russia.
Wold, L., Electrical Works, Skien, Norway.
Wolfes, R., Museum Platz 8 pt., Breslau, V.
Wolff, S., 16 & 17, St. Martin, Posen, Germany.
Wolgien, J., Handjerystr. 53, Friedenau, Berlin.
Wolters, Wilhelm, V. Kohlgasse 31, & Maysebergasse 3, Vienna.
Wrana, Ed., IX. Porzellangasse 54, Vienna, Austria.
Wroblewski & Binzer, 6, Krakowskie Przedmiescie, Warsaw.
Wuillot, M., 53, rue Vilain XIII., Brussels.
Wunder, W., Munich.
Wunderlich & Herrman G. m. b. H., Rotermundstr. 28, Hanover.
Wüst, C., & Co., Seebach-Zürich, Switzerland.
Wybauw, — (city), Brussels.
Wyhowski, E., Avenue Brugmann 14, Brussels.
Wyssling, W., Wadenswil.
Zamberletti, Ing. Vittorio, Grosseto, Italy.
Zateplinsky, A., Franscaucase Railway, Tiflis, Russia.
Zeister Machinefabriek, Zeist, Holland.
Zelander, L., 241–343, Spuistraat, Amsterdam.
Zelewski, A., Ganz & Co., Budapest.
Zetter, Ch., Appareillage Electrique Grivolas, 16, rue Montgolfier, Paris.
Ziegler, Jules, Basle, Switzerland.
Zier, P., 44, boul. de Belleville, Paris.
Zillich, Prof. Ad., 2, Waisenhausgasse, Brünn, Austria.
Zimmer Broderne, Dronn. gd. 4, Christiania, Norway.
Zoccheddu, G., via Torino 2, Cagliari.
Zosi, A., Veytaux, Vaud, Switzerland.
Zündel, Julius, Engineer's Office, Oesterr. Siemens-Schuckertwerke, Teplitz i. B.

Engineers—Electrical—*continued.*

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Zweifel, G., Sté. Alsacienne de Construction Mécanique, Belfort.
Zwirner & Dörff, Beaumontstr. 16, Magdeburg, Germany.
Zwoll, Herm. v., Leer, Germany.

Engineers—Electrical Consulting.

F.—Ingénieurs—Electriciens consultants.
G.—Ingenieure—Electr. Beratende.

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Altschul, H., IX. Horlgasse, 10, Vienna.
Atmer, G., Hopfensack 20, Hamburg, Germany.
Bède, Prof. Emile, 37, rue Philippe-le-Bon, & 41, rue de Marteau, Brussels.
Behn-Eschenburg, Dr. Hans, Maschinenfabrik-Oerlikon, Oerlikon, bei Zürich.
Behrend, G., Papenhuderstr. 28, Hamburg.
Bentabol, Horacio, Velazquez, 40, Madrid, Spain.
Beringer, A., Wilmersdorferstr. 39, Charlottenburg, Berlin.
Blochmann, Dr. R., 24, Lorsenstr., Kiel, Germany.
Bosquet, L., rue Chartriers 8, Mons.
Brown, Sidney W., Brown, Boveri & Co., Baden, Switzerland.
Champy, Léon, Longue rue d'Herenthals, Anvers, Belgium.
Comerma, General Andres A., M.I.E.E., Ferrol, Spain.
Corsepius, Dr. M., Cöln, Germany.
Danioni, Cav. Filippo, San Marco 386, Venice, Italy.
Duflon, Louis, Lopouchinskaya 8, St. Petersburg, Russia.
Engelfred, Arth., 6, rue de la Pompe, Paris.
Fumero, F. E., 12, Foro Bonaparte, Milan.
Gérard, L., Prof., ave. de Tervueren 102, Brussels, Belgium.
Haessler, Ch. J. F., Drottninggatan 3, Stockholm, Sweden.
Holmgren, T. F., Regeringsgatan 38, Stockholm.
Hospitalier, E., editor of *l'Industrie Electrique*, 87, boul. Saint Michel, Paris V^e^.
Hubrecht, Dr. H. F. R., Netherland Bell Telephone Co., Amsterdam.
Huebner, Dr., Schweidnitz, Germany.
Laffargue, J., 138, boul. Magenta, Paris.
Larmoyer, Georges, 58, ave. du Roi, Brussels, Belgium.
Lépinette & Rabillond, 66, avenue de Saxe, Lyons, France.
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Martos, Victor, A.M.I.E.E., VII. Erzsébetkörút 44, Budapest.
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Engineers—Electrical Consulting—
continued.

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Ross, F., III., Rechte Bahngasse 48, Vienna, Austria.
Schœn, Aug., 22, rue Margnolles, Caluire et Cuire, Rhône, France.
Strelin, A., Zurich, Switzerland.
Verdier, F., 8, rue de la Fidélité, Paris.
Wust, A., Quai Cockerill 8, Antwerp.
Zacharias, J., Spreestr. 34, Charlottenburg, Berlin.

Engineers—Electrical Manufacturing.
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G.—Ingenieure—Elek. & Fab.

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Allgemeine Elektricitäts Gesellschaft Thomson-Houston, 5, piazza Castellano, Milan.
Allgemeine Electricitäts Gesellschaft, Galernaya 10, St. Petersburg,
Bartelmus, Donat & Co., Kettenbrückengasse 21, Vienna V.
Berlin-Charlottenburger Elektricitäts Ges. m. b. H., Mommsenstr. 11, Charlottenburg.
Berliner Maschinenbau Aktien-Gesellschaft, 17 & 18, Chausseestrasse, Berlin, N.
Boissier, Louis, et Cie., 18ABC, Vieux Chemin de Rome, Marseille.
Brown, Boveri & Co., Ltd., Baden (Suisse); & Mannheim, Germany.
Chisholm, J. W., M.I.E.E. Galdo 3, Entlo, Madrid.
Compagnie de Constructions Electriques (Soc. Anon.), 33 bis, quai d'Issy, Issy les Moulineaux, Paris.
Couffinhal & Fils, 1, rue du Lycée, St. Etienne, France.
Dreyer, Rosenkranz & Droop, Hanover, Germany.
Electricité Industrielle, 13, place de l'Hôtel de Ville, Havre.
Electrotech. Industrie, Slikkerveer, Holland.
Elektrotechnische Gesellschaft zu Leipzig, Königstr. 2, Leipzig.
Fabrica de Electricidad de la Cia. de Tranvias de Madrid, Bernardo 105, Madrid.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Frémy, E., 57, boul. du Hainaut, Brussels.
Grund & Ohmichen, Karlsruhe, Baden, Germany.
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Hedoin, G., rue Princesse 69, Lille (Nord), France.
Huguet, V., 72, rue d'Alésia, Paris.
Keirsschieter, Remy de, Iseghem, Belgium.

Engineers—Electrical Manufacturing—
continued.

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Lamerand-Gronier, boul. Victor Hugo, 45, Lille, France.
Maison Brèguet, 19, rue Didot, Paris.
MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilator, Milan." Teleph. Nos. 809-3150.) Works in Sesto, S. Giovanni. Electric Fans. Single & Polyphase Current Motors. *See advts., pages* 997, 998, 1227 & ENGINEERS—VENTILATING & FAN MOTORS—BRITISH DIVISION.
Martin, Antoine, 52, avenue de la Gare, Nice (Alpes Maritimes), France.
Mitteldeutsche Elek. Werke G. m. b. H., Berlin.
Morane Jeune & Cie., 23, rue Jenner, Paris.
Neue Berliner Elektrizitätswerke G. m. b. H., Hannoverschestr. 30, Berlin.
Neumüller, A., Reisingerstr., 7, Munich.
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Richard, J., 25, rue Melinque, Paris.
Roche-Grandjean, 27, boul. de la Chapelle, Paris.
Schmidtsdorff, R., & Co., 146, Kurfürstenstr., Berlin, W.
Schweizerische Druckluft & Elektricitäts-Gesellschaft, 5, Amthausgasse, Berne.
Smulders, A. F., Utrecht, & Slikkerveer, Rotterdam.
Société Anonyme des Anciens Ateliers de Construction Van den Kerchove, 189, Coupure, Ghent, Belgium.
Société Anonyme des Anciens Établissements Cail, 21, rue de Londres, Paris.
Societé Anonyme Gramme, 20, rue d'Hautpoul, Paris.
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Stettiner Elektricitätswerke, Stettin, Germany.
Thury, René, 25 *bis*, route de Florissant, Geneva.
Trémeau, J., Châlon-sur-Saône, France.
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Engineers—Electrical Testing.
F.—Ingénieurs—Essais électriques.
G.—Ingenieure für Electr. Prüfungen.

Bayerische Revisions-Verein, Elektrotechnische Abteilung, Kaiserstr. 14, Munich.
Neustadt, Leopold, c/o Ganz & Co., V. Hold-utcza 25, Budapest.
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Engineers—Electricity Works.
F.—Ingenieurs—Usines élec.
G.—Ingenieure—Elektricitäts Centrale.

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Crawshaw, E., Malaga Electricity Co., Malaga.

Engineers—Electricity Works—*continued.*

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Heydtmann, H. P. J., 8, Zülpicher Wall, Cologne.
Meng, Walter, City Electric Light Works, Dresden.
Reynier, Edouard, Station d'Eclairage Electrique, Cannes (Alps Maritimes), France.
Schüdlich, K., Elberfeld, Germany.
Süchting, Fr., Bremen.
Van Dam, J., Electra Lighting Station, Haarlem.
Voss, G., Städt. Elektricitätswerkes, Kaiserlautern.

Engineers—General.

F.—Ingénieurs—en général.
G.—Ingenieure—Allgemeinen.

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Brocq, F. A., 18, boul. de Vaugirard, Paris.
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Calvert & Co., Gothenburg, Sweden.
Chatiliez, J., Verdun-sur-Meuse (Meuse).
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Demerbe, V., & Co., Jemeppes, Mons, Belgium.
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Figee & de Kruijff, Nz, Voorburgwal 28 & 30, Amsterdam, Holland.
Fischinger, E. G., Niedersedlitz bei Dresden, Germany.
Forns, P., y Cia., D. Jaime I. 54, Zaragoza, Spain.
Gandolfi, Cesare, P. Brasata al Lauro; & via Vittorio Emanuele, Bergamo.
Garcia, A., & Co., 8, rue du Marché, Brussels.
Garrett, Smith & Co., Magdeburg-Buckau.
Giovanni, Ansaldo, Armstrong & Co., Sanpierdarena, Genoa.
Goliasch, G., & Co., 23, Lindenstr., Berlin, S.W.
Grouvelle, Jules, & H. Arquembourg, 71, rue du Moulin Vert, Paris.
Guilbert, Cyrille, 18, rue de la Jonquières, Paris.
Guller & Züst, R., Lago Maggiore, Intra, Italy.
Gwyther y Cañeta, Fuencarral 135, Madrid.
Hald, D., & Co., Stockholm.
Hillerscheidt & Kasbaum, 44, Schönhauser-Allée, Berlin, N.
Kleeman, Gustav, Hamburg.
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Manne, J., 15, rue de Douvres, Brussels.
Meyer, Marcel, 90, rue du faub. Poissonnière, Paris.
Odero Fratelli, Sestri Ponente & La Foce, Genoa.
Paevsky, K., Odessa, Russia.
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Engineers—General—*continued.*

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Scharrer & Gross, Nürnberg.
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Société Anonyme des Moteurs, Sclessin, Liége, Belgium.
Sonnenthal, E., jun., Berlin, C.
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Van Vrijberghe de Coningh, G. J., Tr. State Railways, Utrecht, Holland.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Hydraulische.

Actiengesellschaft vorm. Joh. Jacob Rieter & Cie., Winterthur, Switzerland.
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Fiorenzi, G., Osimo, Italy.
Società per le Forze Idrauliche, Tivoli, Rome.
Van Lint, V., 73, Avenue Michel-Ange, Brussels.

Engineers—Mechanical.

F.—Ingénieurs—Mécaniciens.
G.—Ingenieure—Mechanische.

Aktien Maschinenbau Anstalt vorm. Venuleth & Ellenberger, Darmstadt.
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Björk & Jansson, N. Hamngatan 22, Gothenburg.
Boccasavia, Gaetano, via Stella 25, Milan.
Bolibar, Gerónimo, Ronda Universidad 17, Barcelona, Spain.
Etablissements Decauville, ainé Soc. Anon., Petit Bourg, Seine-et-Oise, France.
Fautrier, P., St. Vio 704, Venice.
Geveke & Co., 408, Heerengracht, Amsterdam.
Gritters, H. C. J., Rotterdam, Holland.
Linders, Olof, Stockholm, Sweden.
MacDowall, J., & Barbour, Vulcan Engine Works, Piræus, Greece.
Maschinenbau-Anstalt Humbolt, Kalk, near Cologne.
Neuwinger, Markert & Seiffert (manufacturing), 67, Lothringerstrasse, Berlin, N. 54.

Engineers—Mechanical—*continued.*

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Richard, F. M., 23, ave. de la Grande Armée, Paris.
Salari & Albaredi, Frazione Foce, Genoa.
Servettaz, Giovanni, Savona.
Società Costruzione Meccaniche, Trevise.
Société Anon. John Cockerill, Seraing, Belgium.
Société Générale de Chemins de fer économiques (soc. anon.), 54, rue de Namur, Brussels.
Tamagno, Musso & Squindo, Biella, Italy.
Venturini, L., Treviso, Italy.
Weiler, Max, Morlanwelz, Belgium.
Wilson & Maclaren, piazza d'Armi, San Pier d'Arena, Italy.

Engineers—Mining.

F.—Ingénieurs des Mines.
G.—Ingenieure—Gruben.

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Craven, Robert H., Mineira de Libiola, Sestri Levante, Italy.
Cuyper, — De, Montigny-sur-Sambre, près Charleroi, Belgium.
Grohmann, G., Seriphos, Greece.
Hauser, H., 33, Calle Zorrilla, Madrid, Spain.
Lacasa, M., 11, Lealtad, Madrid.

Engineers—Telegraph.

F.—Ingénieurs—Télégraphes.
G.—Ingenieure—Telegraphenbau.

Aarstad, T. I., Egersund, Norway.
Agémian, Mighirditch, Turkish Posts & Telegraphs, Constantinople.
Anastassiades, Anastasse E., Vilayet d'Aïdin, Smyrna.
Anderson, James (divisional manager), Eastern Telegraph Co., Athens, Greece.
Andrews, T., Anglo-American Telegraph Co., Havre, France.
Baboulet, G. Louis M., Posts & Telegraphs, Toulouse, France.
Banneux, J., M.I.E.E., Director State Telegraphs Department, Brussels (Central).
Bernheim, E., 20, rue Lafayette, Paris.
Billing, E. I., Royal Swedish Rlys., Stockholm.
Binet, L., Service Technique des Télégraphes de la Cie. de l'Ouest, 1, place St. Thomas d'Aguin, Paris.
Bing, E. A., Govt. Telegraphs, Arendal, Norway.
Blackwood-Price, Henry N., M.I.E.E., 5, via Fabio Severo, Trieste, Austria.
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Boomsma, A., Chief Telegraph Office, Amsterdam, Holland.
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Engineers—Telegraph—*continued.*

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Browne, H. V., Direct Spanish Telegraph Company, Barcelona, Spain.
Bugge, J. U. F., Norwegian Telegraphs, Christiania, Norway.
Cael, A., 31, rue Saint Guillaume, Paris.
Cailho, Marius, M.I.E.E., 111, rue Mozart, Paris.
Cardarelli, Comm. F., Posts & Telegraphs, Rome.
Chewki Effendi, Constantinople.
Collette, A. E. R., M.I.E.E., The Hague, Holland.
Constantinis, A., Athens, Greece.
Cramer, Hans, Blankenburg-Harz.
Curman, N. R., Stockholm, Sweden.
Dalan, E., Chinon, Indre et Loire, France.
Dauphin, Eugène, Troyes, Aube, France.
Delarge, Frédéric, M.I.E.E., Hôtel Central des Postes et des Télégraphes, Brussels.
Delville, Trophime, Bell Telephone Manufacturing Co., Anvers, Belgium.
Depauw, J. F., 10, rue Courbe, Brussels.
Desperssés, L. H., 3, rue du Mont Thabor, Paris.
De Vere, A. V., Tobacco & Co., Constantinople.
Eschbaecher, E., Secretary of the International Telegraph Bureau, a. d. Bâle.
Estchenko, W., Moscow-Koursk Railways, Moscow, Russia.
Evrard, F., Service Telegraphs, Station du Nord, Brussels.
Fahri, Effendi, Constantinople.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Férid bey, Constantinople.
Forchammer, —, Danish Government Telegraphs, Copenhagen.
Forster, W. G., Eastern Telegraph Co., Zante, Greece.
Frei, P., Chemins de fer Fédéraux, Berne, Switzerland.
Fribourg, G., 11, place Malesherbes, Paris.
Friis, H. W., Royal Norwegian Telegraphs, Drammen, Norway.
General Telephone Co., Stockholm, Sweden.
Gilhespy, W., Eastern Telegraph Co., Trieste, Austria.
Gramaccini, Jules H. F., Station Télégraphique du Palais de la Bourse, Paris.
Guenzel, E., Indo-European Telegraph Co., Odessa, Russia.
Gulstad, K., M.I.E.E., Great Northern Telegraph Co., Copenhagen.
Gurlt, W., Kiefholzstr. 21, Berlin, S.O.
Hagen, V. E., Danish Telegraph and Telephone Service, Vesterbrog. 41, Copenhagen V.
Hansen, Carl V., Fredericia, Denmark.
Hébert, Ernest, State Telegraphs, Lille, France.
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Herrmann, M., 8, Calçada de Lavra, Lisbon.
Holm, J. P. T., Great Northern Telegraph Co., Seydisfjond, Iceland.
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Engineers—Telegraph—*continued.*

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Krogh, P., Gt. Northern Tel. Co., Wladiwostock.
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Larsen, Simen, Arendal, Norway.
Lawton, G. F., Eastern Tel. Co., Hotel des Postes et Télégraphes, Marseille & Bona, France.
Leduc, —, Hôtel des Postes, Brussels.
Leigh, P. M., Thormöhlensgd. 49, Bergen.
Leighton, D., Eastern Telegraph Co., Canea, Crete.
Lindman, S. A. A., Royal Board of Swedish Telegraphs, Stockholm.
Lloyd, T. H., A.M.I.E.E., Anglo-American Telegraph Co., Brest.
Lorain, —, 24, rue Bertrand, Paris.
Lutteman, P. J. H., Björngårdsgatan 3, Stockholm, Sweden.
Madelli Effendi, Constantinople.
Marinel, Le, capitaine commandant la Cie. de Telegraphistes de Compagne, Brussels.
Massin, Depôt de l'Administration des Postes et Télégraphes, Paris.
Maxwell, H. H., Eastern Telegraph Co., Villa Real Santonio, Algarve, Portugal.
Meurling, L. A., Superintendent Swedish State Railways, Stockholm.
Meyer, N. R., Danish Government Telegraphs & Telephones, Copenhagen.
Moll, —, rue du Montet 67, Nancy.
Montillot, Philippe Louis, State Telegraphs, Paris.
Mouhammed, Emine Effendi, Constantinople.
Mulder, S., Nassau-Dillenburgstr. 32, The Hague.
Naglo, Emil, 2, Eichenstr., Berlin.
Nerville, F. de, 59, rue de Ponthieu, Paris.
Nielsen, F. L., 26, Kongens Nytorv, Copenhagen.
Nielsen, R., Gt. Northern Tel. Co., Wladiwostock.
Ouy, —, rue de Loigny, Orléans, Loiret, France.
Parkinson, J. A., Eastern Telegraph Co., Cadiz.
Petersen, E. B., Copenhagen Telephone Co., Kastrup, Amager, Denmark.
Petersen, J. A. P., Gt. Northern Telegraph Co. Ltd., Gothenburg, Sweden.
Rasmussen, A. C. M., Gt. Northern Telegraph Co. Ltd., Nystadt, Finland.
Raymond, G., Eastern Telegraph Co., Corfu.
Raymond, L., M.I.E.E., 36, rue Washington, Paris.
Rodary, Ferdinand, 53, rue de Vaugirard, Paris.
Roosen, Alf., 19, rue des Ménapiens, Brussels.
Seaton, W. S., 32, rue Caumartin, Paris.
Serres, Jean, Mont-de-Marsan, Landes.
Spohr, H. G., Baumweg 10, Frankfurt-am-Main.
Strecker, Prof. Dr., Imperial German Telegraphs, Burggrafenstr. 15, Berlin, W. 62.
Suenson, Commodore E., M.I.E.E., Great Northern Telegraph Co., Copenhagen.
Taille, I. De la, Orleans, Loiret, France.
Thrane, O. R. V., Govt. Railways, Copenhagen.

Engineers—Telegraph—*continued.*

Touanne, G. de la, M.I.E.E., 103, rue de Grenelle, Paris.
Van der Bilt, C. L., Laan van Meerdervoort 99, The Hague.
Van Embden, S. J. J. H., The Hague.
Van Hasselt, M. A., Malakkastraat, 5, The Hague, Holland.
Vidarte, M., Jerez de la Frontera, Spain.
Visser, J. J. F. C., Netherlands Telegraphs, The Zwolle, Holland.
Visser, P. J., 'S Hertogenbosch, Holland.
Walsöe, C. E., Royal Danish Telegraphs, Copenhagen.
Warren, A. A., Ottoman Railway, Smyrna, Turkey.
Welter, Heinrich, Schilderhof, Cologne.
Winogradoff, A., Jaroslavle, Russia.
Wolff, F., Govt. Railways, Aarhus, Denmark.

Engineers—Telephone.

F.—Ingénieurs—Téléphones.
G.—Ingenieure—Telephon.

Bailleux, G., 2, rue des Entrepreneurs, Paris.
Bassez, Gaston, Société Industrielle des Téléphones, Usines Rattier, Bezons (Seine-et-Oise), France.
Bergens Elektriske Bureau (J. Hopstock), Bergen.
Bergh, Georg, Helsingfors, Finland.
Berthon, A., chief of Government Telephone Department, 51, rue de la Chaussée d'Antin, Paris.
Brodersen, A., Mandals Telephone Co., Mandal, Norway.
Cahen, Michel, 91, rue de la Loi, Belgium.
Casevitz, H., Sté. Industrielle des Téléphones, 25, rue du 4 Septembre, Paris.
Cedergren, H. T., Stockholms Allmänna Telefon-Aktiebolag, Stockholm, Sweden.
Cornet, L., 33, rue Rudolphe, Antwerp, Belgium.
Courtois, G., Sté. Industrielle des Téléphones, 3, rue Leconte de Lisle, Paris.
Czeija, Nissl & Co., 89, Kaiserstr., Vienna VII./3.
Ekeberg, L. E., Rikstelefonstation, Malmö.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Fung, C., Société des Téléphones, 25, rue du Quatre Septembre, Paris.
Gallimard, J. F., Sté. Industrielle des Téléphones, 7, rue Gounod, Paris.
Gras, J. J., 7, rue Montbrun, Paris.
Hallén, C., Stockholms Allmänna Telefon Aktiebolag, Stockholm.
Heinzelmann, N., Nederlandsche Bell Telephone Co., Amsterdam.
Legache, G. V., 129, rue St. Maur, Paris.
L'Hoest, Felix, rue des Augustin 55, & place de l'Université 60, Liége, Belgium.
Level, J., 134, avenue de Wagram, Paris.
Marrangoni, Prof. A., Vercelli.
Meyer-May, A., Sté. Industrielle des Téléphones, 18, ave. Niel, Paris.

Engineers—Telephone—*continued.*

Officina Elettrica, via Vittoria Colonna 9, Milan.
Peilitz, C. H., Telephone Office, Malmö, Sweden.
Saltini, Giovanni, piazza Volta 5, Como, Italy.
Società Telefonica Bresciana, via Torre d'Ercole, Brescia, Italy.
Società Telefonica Comense, Como, Italy.
Société de Telephones Neyroud, 6, rue Estelle, Marseilles.
Sportelletti & Picchi, via Bartolo, Perugia, Italy.

Engineers—Ventilating.

F.—Ingénieurs—Ventilation.
G.—Ingenieure—Ventiliren.

Farcot, E., 163, ave. de Paris, Plaine St. Denis.
Matecki & Obrembowicz, 39, Siennastr., Warsaw.
Mestern & Co. (Nachf.), 6, Oranienstr., Berlin, S.O. 26.
Zache, A., Leipzig-Schleussig.

Engravers—General.

F.—Graveure—En général.
G.—Graveure—Allgemeine.

Graphische Ges., Lindenstr. 16/17, Berlin, S.W.
Lemaire-Leboutte, J., rue du Brou 11, Verviers.
Rose, Victor, 35, boul. des Capucines, Paris.
Van Zwieten, J., Binnenweg 420, Rotterdam.

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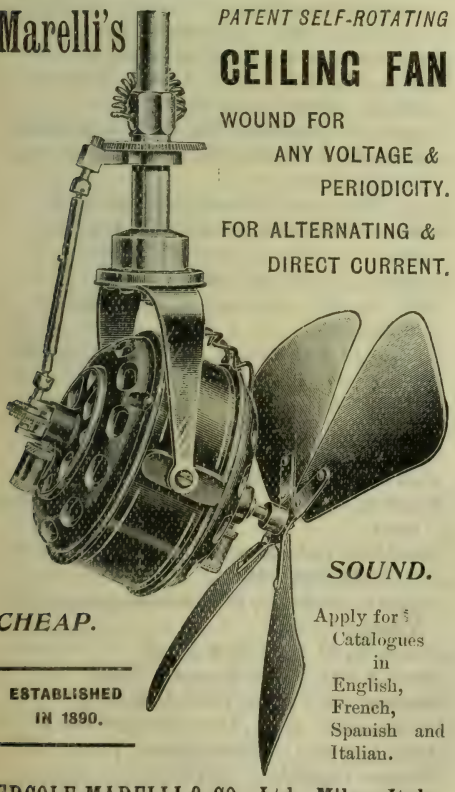

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Officina del Genio Militaire, Pavia.
Van Vloten, Frank, New-Nunspeet, Holland.

Exporters & Importers of Electrical & Telegraphic Plant.

Baumann, Felix, Bahnhofstr. 21c, Zwickau, i. S.
Breymann & Hübener, Brandstwiete 24 & 26, Hamburg.
Eenberg, B. Reimers, 22, place de Brouckère, Brussels. (Telegrams: "Eenberg, Brussels.") *See advt., page* 1002.
Falchenberg, P. C., Toldbadg. 11, Christiania.
Hecht, Pfeiffer & Co., Ritterstr. 48, Berlin.
Hess, L., Fatebenefratelli 15, Milan.
Krolik, Hugo, & Wolf, Ritterstr. 30, Berlin, S.
Nyssens Frères, rue des Peignes 38, Antwerp.
Per Kure, Alfheim, Christiania.
Pervazian, A., 283, Zindan Capou, Constantinople.
Romeo, N., 35, Foro Bonaparte, Milan.
Società Italiana per la Trazione Elettrica, via Vignola 6, Milan.
Verdoux, J., 482, Grande rue de Pera, Constantinople.
Warburg, R. D., & Co., Mauerstr. 53, Berlin, W.

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ERCOLE MARELLI & CO., Ltd., Milan, Italy,

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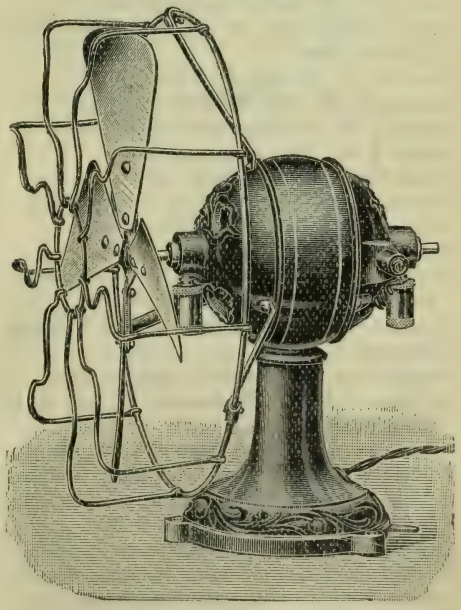

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Fittings Makers—Electrical.

F.—Fournitures pour l'éclairage électrique.
G.—Armaturen—Elek.

Aktien-Gesellschaft Schaeffer & Walcker, 18, Lindenstrasse, Berlin, S.W.
Aumeunier, 21, rue Beranger, Paris.
Bachmann, O., Hirschengr. 70, Zurich I.
Balant, Ch., rue Chitaire, Mons, Belgium.
Baur, Prosper, 71, rue Charlot, Paris.
Beaume, A., Fils, 53, rue de Châteaudun, Paris.
Beisswenger, J., Yorkstr. 59, Berlin.
Beleuchtungskörper G. m. b. H., Luisenstr. 29, Berlin.
Bellens-Peeters, A., Chaussée de Malines 45, Antwerp.
Bengel, J., 99, ave. de la République, Paris.
Berdiel, A., 20, rue Cavenne, Lyon.
Bergmann, S., & Co., Actien Gesellschaft, Hennigsdorferstr. 33–35, Berlin.
Biais Frères & Cie., 74, rue Bonaparte, Paris.
Bischoff, Paul, & Co., Neue Königsstr. 5, Berlin.
Blanche, A., 7, rue Froissart, Paris.
Blot, Eug., 5, boul. de la Madeleine, Paris.
Borgat & Bolle, 36, rue de Lévis, Paris.
Bouhon Frères, 12, rue Debelleyme, Paris.
Boulanger, Ch., & Roux, 25, rue N.-D.-de-Nazareth, Paris.
Braune, G., Chausseestr. 68, Britz-Berlin.
Brechenmacher, F., Frankfort-on-the-Main.
Breitter & Lenz, Alte Jacobstr. 10, Berlin.
Brodart, Ch., 12, rue Castex, Paris.
Brunet, P., 13, rue de Grenelle, Paris.
Budweg, F., & Sohn, Schmidstr. 26, Berlin, S.O.
Buisson, M., Chaussée de Mons 52, Brussels.
Busch, Louis, 17, Pfaffengasse, Mainz.
Caumers, P., 76, rue de Turenne, Paris.
Certain & Manoury, 68, rue Nôtre Dame-de-Nazareth, Paris.
Chercholy, E., 16, faub. St. Denis, Paris.
Conquet, H., 27, boul. des Italiens, Paris.
Conrad, F. B., 19, Glogauerstr., Berlin, S.O.
Coupier & Cie., 100, rue Amelot, Paris.
Delisle Frères, 24, rue Pavée, Paris.
Deriard, P., 305, rue Paul-Bert, Lyon, France.
Didier, G., 84, rue Amelot, Paris.
Diessel & von Uslar, 2, Leinstr., Hanover.
Disclyn, A., & Linn, 17, boul. de la Madeleine, Paris.
Dombard Fils, Aug., rue du Centre 47, Verviers, Belgium.
Douillet, Em., 46, boul. de la Bastille. Paris.
Dubrujeaud & Jean Richermoz, 72, rue de la Folie Méricourt, Paris.
Edelmuller, J., 81, boul. Richard Lenoir, Paris.
Ehestädt & Robert, 35, Brandenburgstr., Berlin, S.
Ehrich & Graetz, 105 & 106, Alexandrinenstr., & 92 & 93, Elsenstr., Berlin, S.O. 36.
Espie, A., 72, rue de Turenne, Paris.
Ettlinger Frères, 9, rue Sainte Anastase, Paris.
Favre & Cie., 4, rue de Saintonge, Paris.
Fischer & Co., 36, Rheinstr., Mainz.
Florand, Robert, 116 & 118, rue St. Georges, Lyons.
Frenzel, A. T., Steinschönau, Bohemia.

Fittings Makers—Electrical—*continued.*

Friedrich, A., 3 & 4, Reichenbergerstr., Berlin, S.O.
Frognerkilens Fabrik, Bygdó, near Christiania, Norway.
Gabreau, —, 154, rue d'Allemagne, Paris.
Gautier, M., rue Ferrandière 27, Lyon, France.
Gesellschaft für Beleüchtungskörper vorm. Zeissor, Habiger, & Co., 72, Neustiftg., Vienna.
Giachino & Sbardolini, via Venti Settembre 11, Turin.
Gillet, Forest & Cie., 32, boul. Henri IV., Paris.
Goldscheider, F., 45, rue de Paradis, Paris.
Gontharet & Riehermoz, 75, rue Charlot, Paris.
Grimm, Ed., Ritterstr. 111, Berlin.
Hanniet (Maison), rue des Pierres 29, Brussels.
Hansen, H., & Co., Prinzessinenstr. 8, Berlin, S.
Haude, Osc., Nachf., Breslau.
Hauer, Rich., Lindenstr. 81, Berlin.
Häussermann, A., & Co., Ludwigsburg, bei Stuttgart.
Heber, J. G., 30, Melchiorstr., Berlin, S.O.
Hentschke, Buchholz & Co., alte Jacobstr. 1, Berlin.
Högner & Weller, Leutzsch, bei Leipzig.
Hornemann, F., 7, Neuenburgerstr., Berlin.
Jahnel, Josef, Haida, Bohemia.
Jaillard & Féry, 58, rue des Tournelles, Paris.
Jaillard & Veraud (Béziel & Ribot succ.), 54, boul. Voltaire, Paris.
Javey & Cie., 106, rue Réaumur, Paris.
Jonas Gebr., 92B, Plan Ufer, Berlin, S.
Kissling, Rudolf, & Sohn, Untere Viaductgasse 33, III. Vienna; & Budapest.
Koppin, R., Elizabeth Ufer 5 & 6, Berlin, S.O.
Köttgen, H., & Co., Berg-Gladbach; & Severinstr., Cologne, Germany.
Kray, Max, & Co., 7, Boeckhstr., Berlin, S.
Kühne & Heinemann, G. m. b. H., Hanover.
Lapied, L., 24, rue de Grenelle, Paris.
Lapointe, —, 100, rue Amelot, Paris.
Laub, L., VI. Andrassy-út 46, Gyár-utca 11, Budapest.
Leblanc-Barbedienne, G., 30, boul. Poissonnière, Paris.
Ledentu Frères, 64, rue de Saintonge, Paris.
Lerch, F., 61, boul. Richard Lenoir, Paris.
Lerolle Frères, 1, rue du Foin, Paris.
Maës aîné, 17, rue St. Gilles, Paris.
Marchal, —, 22, rue de la Folie Méricourt, Paris.
Maschinen und Armaturenfab. vorm. H. Breuer & Co., Hochst-a.-M.
Melzer & Neuhardt, Stolzenthalergasse 6, VIII. Vienna.
Menet, E., 20, rue Rollet, Paris.
Monduit Fils, 31, rue Poncelet, Paris.
Mottheau, 50, rue des Tournelles, Paris.
Muller, Emile, & Co., Ivry Port, près Paris.
Mütz, J., & Co., 12, Riemergasse, Vienna I.
Neuhaus, Guglielmo, via Peschiera 5, Milan.
Neumeyer, F., 29, Gibitzenhofstr., Nurnberg.

Fittings Makers—Electrical—*continued.*

Oberdahn & Beck, Bauhofstr. 2, Mainz, Germany.
Ouvrard, G., Parvis St. Gudule, Brussels.
Peartree & Co., 90, Ritterstr., Berlin, S.
Pignolet, A., 106, rue Vieille du Temple, Paris.
Pillot, E., 38, rue de Turenne, Paris.
Pillou, E., 38, rue de Turenne; & 16, rue des Minimes, Paris.
Raingo Frères, 102, rue Vieille-du-Temple, Paris.
Renon, Vve. & Fils, 13, rue Payenne, Paris.
Richermoz, Hippolyte, 74 & 76, rue Amelot, Paris.
Rigual, P., 13, rue des Arquebusiers, Paris.
Rolez, Jules, 116, rue de Turenne, Paris.
Rosier Fils & Dareste, 1, rue Philippe de Girard, Paris.
Royer, A., 29, boul. des Capucines, Paris.
Sailly, P., 5, rue Boudreau, Paris.
Samson, 7, rue Beranger, Paris; & 30, avenue de l'Opera, Paris.
Schmahl & Schulz, Barmen, Germany.
Schmidt, J. H., & Sohne, Iserlohn, Germany.
Schneider, A., 23A, Schulstr., Leipzig, Stötteritz, Germany.
Schnyder, Gebr., Lucerne, Switzerland.
Schott & Schildorfer, 13, Leithausstr., Vienna XX.
Société d'Appareillage Electrique et Industriel, La Jonction, Geneva.
Société des Etablissements Metallurgiques A. Durenne, 26, faub. Poissonnière, Paris.
Stabernack, Paul, & Co., 81, Leipzigerstr., Berlin, W.
Tade, Otto, 92, Aldabertsstr., Berlin, S.O. 26.
Testuot, —, 9, rue Mayran, Paris.
Tietz & Co., 21, Oranienstrasse, Berlin, S.O., Germany.
Tresel —, 15, boul. Davout, Paris.
Tvermoes & Abrahamson, Raadmandsgade 43, Copenhagen L.
Val d'Aosta, Société du, 58, boul. Voltaire, Paris.
Valcke Frères, rue de la Chapelle 84, Ostende, Belgium.
Valentin, L., Mainzerlandstr. 166, Frankfurt-am-Main, Germany.
Vandel & Cia., Avigliana, nr. Turin, Italy.
Vian, H., 5, rue Thorigny, Paris.
Vildieu, A., 80, rue de Turenne, Paris.
Villette & Fils, 107, boul. Richard Lenoir, Paris.
Vincent, —, 78, rue Amelot, Paris.
Wagner, Adolph, Langestr. 53, Chemnitz, Saxony, Germany.
Wellner, C., Cossebaude, Dresden, Germany.
Wessbecher, E., 59–61 bis, rue de la Grange aux Belles, Paris.
Wilmotte Fils, J., 116, boul. de la Sauvenière, Liége.
Wirschitz & Co., 5, Goethestr., Munich, Bavaria.
Woernitz, L., 69, rue du Bac, Paris.
Wolffhardt, C., 13, Andreasgasse, Vienna VII.

Flexible Tube Makers.

F.—Tubes flexibles—Fab. de.
G.—Biegsame Röhren—Fab. von.

Allouard & Cie., 72, rue du Chemin Vert, Paris.
Manufacture Métallurgique de la Jonchère, 15, rue Saussier-Leroy, Paris.

Flexible Wires & Cords for Electric Light.

F.—Conducteurs flexibles pour l'éclairagé électrique.
G.—Biegsame Drähte für elektrisches Licht.

Compagnie Française des Transmissions Flexibles, 46, boul. Haussmann, Paris.
Rohrmann, Otto, Lüdenscheid, Westphalia, Germany.

Forgings.

F.—Forges (outils et objets).
G.—Schmiedewaaren.

Heyden & Kaufer, G. m. b. H., Hagen-i.-W., Germany.

Fuse Boards & Distribution Boards.

F.—Planches fusées et planches de Distribution.
G.—Sicherung—Brette u. Verteilungs—Brette.

Kramer & Löbl, Gablonz, Bohemia, Austria.

Fuse Manufacturers—Electric.

F.—Coupe-circuits—Fab. de—électr.
G.—Zündschnur—Fab. von—Elektr.

Actien-Gesellschaft Dynamit Nobel, I. Schaufler-gasse 2, Vienna.
Berger, J., Marcinelle, près Charleroi, Belgium.
Borg, Carl, Gerberstr., 19/27, Leipzig, Saxony, Germany.
David, L., 9, rue de Madrid, Paris.

Galvanometers.

F.—Galvanomètres.
G.—Galvanometer.

Gauge Glass Manufacturers.

F.—Calibre—Fab. de.
G.—Wasserstandsgläser—Fab. von.

General Suppliers of Electrical Requisites.

F.—Fournitures générales électriques.
G.—Bedarfsartikel—Lief.

Abraham, J., Gleditschstr., Berlin, W. 30, Germany.
Beck, F. P. J., The Hague, Holland.
Burns, J., 16, rue Portefoin, Paris.
Carrons, Don Salvador De (Viuda), calle de Regomir, Barcelona, Spain.

General Suppliers of Electrical Requisites—*continued.*

Cochet, —, 34, boul. Henri IV., Paris.
Eenberg, B. Reimers, 22, place de Brouckère, Brussels. (Telegrams: "Eenberg, Brussels.") *See advt., page* 1002.
Guérot, H., 54, rue Daguerre, Paris.
Hakon, Brunius & Co., Gothenburg, Sweden.
Lindner & Co., Jecha-Sonderhausen, Thuringia, Germany.
Mongin, A., 3, rue du Théâtre Français, Marseille.
Roselló, Vuida de Eugenio, Rambla de Estudios, Barcelona, Spain.
Roulet, A. P., 65-68, rue du Chemin Vert, Paris.
Schma, J. R., Wörtherstr. 42, Berlin, N., Germany.
Wollschläger, H., Dreibrezelstrasse, 6, Magdeburg, Germany.

Glass Cell (Battery) Manufacturers.

F.—Vases en verre pour piles.
G.—Glaskrüge für Elektrische Batterien.

Appert Frères, 66, rue Notre Dame-de-Nazareth, Paris.
Bouvier & Dupas, Verrerie & Cristallerie de la Briche, près St. Denis, France.
Campe & Co., 24, Seydelstrasse, Berlin.
Dewinter, Vve., et Fils, 47, rue Vautour, Brussels, Belgium.
Glasshüttenwerke Weisswasser, 12, Luisen Ufer, Berlin, S.
Haroux, —, 1, rue du Figieur, Paris.
Legras et Cie., 85, ave. de Paris, Plaine-St. Denis, France.
Norsk Elementfabrik, Ltd., Tordenskjoldsgade 6B, Christiania.
Paris et Cie., 49, rue Paradis, Paris.
Pochet, G., et Cie., 121, quai Valmy, Paris.
Raetsch & Co., Hohlglass-Hüttenwerk, Muskau, Germany.
Rigault Ainé, 17, rue du Pont-aux-Choux, Paris.
Tissier, —, 90, rue de Rivoli, Paris.
Verlen, A., 6, rue du Four, Paris.

Glass Manufacturers.

F.—Verre—Fab. de.
G.—Glas—Fabr. von.

Appert Frères, 30, rue Notre-Dame-de-Nazareth, Paris.
Blanchard & Cie., 99, faub. St. Martin (cour du Commerce), Paris.
Boirre, Vve., aîné, & F. Boirre, 8, passage Vaucouleurs, Paris.
Cristalleries de Choisy-le-Roi, Houdaille & Triquet, 40, rue de Paradis, Paris. Works: Choisy-le-Roi (Seine).
Duchange, 21, rue de l'Hirondelle (6, place St. Michel), Paris.

Glass Manufacturers—*continued.*

Fischer, F., & Röwer, Stutzerbach-i.-Thüringen, Germany.
Inwald, Josef, Kaiserstr. 85, Vienna I.
Knížek, Josef, Ullersdorf, bei Teplitz, Bohemia.
Landier, A., et fils, Sèvres & Paris.
Mousseron, G., 74, faub. St. Denis, Paris.
Palme, Christoph, & Cie., Parchen-Schelten, Bohemia.
Palme, Reinhold, Söhne, Haida, Bohemia.
René, Strauss, & Cie., 63, boul. Sebastopol, Paris; & Gebirgstr., Gablon az. N., Bohemia.
Rindskopf's, Josef, Söhne, Teplitz, Bohemia.
Schultze, Wilhelm, Admiralstr. 36, Berlin, S.O.
Stölzlés Söhne, C., IV., Freihaus, Vienna.
Streit Gebrüder, von, Alexandrinenstr. 22A, Berlin, S.W.
Thüringische Glasinstrumenten-Fabrik (von Alt, Eberhardt & Jäger), Ilmenau, Germany.
Ullrich, J., Röhrsdorf bei Zwickau, Bohemia.
Verlot, L., 56, faub. St. Denis, Paris.
Yvon & Tournaire, 19, rue Albouy, Paris.
Zuckschwerdt, Albert, Ilmenau, Thuringia, Germany.

Glass Supplies—Electrical.

F.—Verre pour l'electricité—Fourn. de.
G.—Glaswaaren—elek.

Bohnert & Wilberg, Bronnerstr. 13, Frankfort-a.-M.
Broda, M., 16, Ritterstr., Berlin, S.
Duchange, —, 21, 20 & 24, rue de l'Hirondelle, Paris.
Feuillet, Dque. (Shades), 3, rue des Guillemites, Paris.
Gervais, L. (ancienne Maison Monniot), 8, rue Martel, Paris.
Giebel, Hans, Prinzenstr. 26, Berlin.
Hirsch, Janke & Co., Weisswasser O/L., Germany.
Kramer & Löbl, Gablonz, Bohemia, Austria.
Seypel & Cie., rue Gaucheret 84, Brussels.
Société Anonyme des Cristalleries du Val St. Lambert, Val St. Lambert, Belgium.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")

Globes for Electric Lighting—Makers of.

F.—Globes en verre pour l'éclair. élec.
G.—Glas Glocken für Elektrisches Licht.

Actien Gesellschaft für Glasindustrie vorm. F. Siemens, Freibergerstr. 91, Dresden, Saxony.
Behne & Loth, Ritterstr. 84, Berlin, S.
Degen, K., Curvenstr. 49, Zurich.
Goldberg, Karl, Haida, Bohemia.
Hess, E., 12, rue Martel, Paris.
Lambalais, G., 8, rue Martel, Paris.
Monnier et Cie., 104, rue Folie Méricourt, Paris.
Moser, Ludwig, & Sons, Karlsbad Glass Works, Karlsbad, Bohemia.
Naud, A., 14, rue du Faubourg St. Denis, Paris.
Ronneaux, Jeune, 7, rue Daval, Paris.

Globes for Electric Lighting—Makers of—*continued.*

Schaefer & Hauschner, 233, Friedrichstrasse, Berlin, S.W.
Schappel, Jacob, Schillerstr. 28, Frankfürt-am-Main, Germany.
Société Anon. des Globes Diffuseurs, Système Fredureau, 52, rue Lafayette, Paris.

Governor Makers—Electric.

F.—Regulateurs électriques—Fab. de.
G.—Regulator—Fabrikanten—Elektrische.

ATELIERS H. CUÉNOD, S.A., 2, rue du Rhône, Geneva.
Saarbrücker Elektrizitäts Aktien Gesellschaft, St. Johann-a.-S., Germany.

Gutta-percha Wires & Cables.

F.—Fils et Cables—Gutta-percha.
G.—Gutta-percha Draht und Kabel.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
NORDDEUTSCHE SEEKABELWERKE, AKTIENGESELLSCHAFT, manufacturers of submarine telegraph cables, layers & repairers of cables by own cable steamers, Nordenham o/Weser. (Telegs.: "Kabelwerke, Nordenham.")

Heating & Cooking Apparatus Makers —Electric.

F.—Appareils élec. de chauffage et de cuisine—Fab. d'.
G.—Heizungs-u. Koch-Apparaten (Elek.)—Fabr. von.

Deutsche Gold & Silber Scheide Ans. vorm. Rossler, 4–10, Schneidwallg., Frankfort, Germany.
"Elektra" Bregenz (Voralberg), Bregenz Tyrol, Austria.
"Elektra" Fabriken Elektrischer Heiz-u-Koch-apparate, Wadenswil, Switzerland.
Helberger, Hugo, Munich 41.
Prometheus Gesellschaft m. b. H. Bockenheim, Frankfort-on-Main; & at Vienna, Paris, &c.
"Promoteus" Wièrss & Co., Liestal, près Basle, Switzerland.
Senator, Severin, Neu Winterfeldtstr. 17, Berlin, W.

Incandescent Lamp Manufacturers—Electric.

F.—Lampes à incandescence—Fab. de.
G.—Electrische Glühlampen—Fab. von.

Amtage, H., Dresden, A. 4.
Berliner Glühlampen Fabrik G. m. b. H., Neue Jakobstr. 6, Berlin, S. 14.
Cance, Alexis, 5, rue St. Vincent de Paul, Paris.
Clerici & Co., Società Edison per la Fabbricazione delle Lampade Elettriche, via Broggi 6, Milan, Italy.

Incandescent Lamp Manufacturers—Electric—*continued.*

Compagnie Française pour la Fabrication des Lampes Electriques à Incandescence, 34, rue Godot de Mauroi, Paris.
Compagnie Générale d'Electricité, Apartado 150, Barrio del Pacifico, Madrid.
Compagnie Générale des Lampes Incandescence, 5, rue Boudreau, Paris; & rue de l'Orme, Ivry-sur-Seine, France.
Compagnie Glow Lamp, 8, boul. Capucines, Paris.
Constantia Electric Works, Venlo, Holland.
De Lavals Svea Glowlamp Co., Ltd., Stockholm, Sweden.
Deutsche Gasglühlicht A.G. Auerges., Alte Jacobstr. 139/143, Berlin.
Dresdner Glühlampenfabrik Zschocke & Co., Leipzigerstr. 45, Dresden, N. 11.
Duthoit & Libaud, Croix (Nord), France.
Electricitäts-Gesellschaft Gelnhausen, Ltd., Gelnhausen, Germany.
Electrische Glühlampen-Fabrik "Watt," 95, Grinzingerstrasse, Nussdorf; & I. Schottenring 17, Vienna.
Fleischhacker Lampen Compagnie, Grossenhainerstr. 92, Dresden.
Fleischmann, M., Vienna XVII/1, Austria.
Freund, Alb., Neue Friedrichstr. 56, Berlin.
Gabriel, F., & H. Angenault, Combs la Ville (Seine-et-Marne), France; & 10, rue Gaillon, Paris.
Gautier, Pidoux et Cie., 17, rue Le Peletier, Paris.
Gérard fils, 71, rue Gide, Levallois Perret, France.
Glühlampen-Fabrik Gebrüder Pintsch, 15, Neustädlische Kirchstr., Berlin, N.W.
Glühlampen-Fabrik "Phœbus" G. m. b. H., Düsseldorf, Germany.
Goossens, E., Pope & Co., The Venloo Incandescent Lamp Manufactory, Venloo, Holland.
Hacker, Moritz, Phorusplatz 7, Vienna, IV.
Internationale Stromsparlicht Ges., 27A, Alexanderstr., Berlin, O.
James, E. C. P., 62, rue St. Antoine, Paris.
Janssens, A., 16, place de la République, & 33, rue de l'Entrepôt, Paris.
Karlson, A., 19, St. Annae Plads, Copenhagen K.
Kremenezky, Joh., IX. Eisengasse 5, Vienna.
Kruger & Friedeberg, Kastanien Allée 26, Berlin, N.
Kühn, A., rue du Lavoir 51, Brussels.
Kullak, F. C. (Kom. Ges.), 18, Gartenstr., Berlin, N. 4.
Kunitz, H., Mariannen Platz 12, Berlin, S.O. 33.
La Française, 59, boul. de Strasbourg, Paris.
Larnaude, André, 19, rue Camille-Desmoulins, Issy les Moulineaux (Seine), France.
Latzko, Rudolf (Electrische Glühlampen-fabrik "Watt"), Oppolzergasse 4, Vienna I.
Lucini, G., & G. De Mornico, via St. Brigida 72, Naples, Italy.
Maack, Ernst, Lübeckerstr. 77, Hamburg.
Millet, F. T., Persan (Seine-et-Oise), France.

Incandescent Lamp Manufacturers—Electric—*continued.*

Ohl, G. E., Hamburg, Germany.
Ohlinger, F., 65, faubourg St. Denis, Paris.
Philips & Co., Eindhoven, Holland.
Pintsch, Gebrüder. *See* Glühlampen-Fabrik Gebrüder Pintsch.
Plechati & Co., Berlin-Pankow.
Pope & Co., Venloo, Holland.
Rogier, Smagghe & Co., Breda, Holland.
Scharf & Co. (Electrische Glühlampen-Fabrik "Watt"). Office: I. Schottenring 17, Vienna. Works: Nussdorf, Grinzingerstr. 95.
Schweiz Glühlampenfabrik A. G., Zug, Switzerland.
Società Anon. di Elettricista Fulgor, Genoa.
Société Centrale d'Electricité et de Lampes à Incandescence (Usines Pulsford), 10, rue Taitbout, Paris.
Société pour la Transmission de la Force par l'Electricité Lampes à Incandescence, 19, rue Didot, Paris.
United Electrical Co., Ltd., Ujpest, nr. Budapest, Hungary.
Verkaufsstelle Vereinigter Glühlampen Fabriken G. m. b. H., Leipzigerstr. 23, Berlin, W. 8.
Watt Electrische Glühlampenfab., I. Schottenring 17, Vienna.
Wiener Elektrische Glühlampen-Fabrik, Sturm & Co., Liechtensteinstrasse 12, Vienna, IX.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")
Zirkon-Glühlampenwerk Dr. Hollefreund & Co., Mullerstr. 30, Berlin, N. 65.
Zurcher Gluhlampen-Fabrik, Bahnhofstr. 106, Zurich.

Incandescent Lamp Socket Makers.

F.—Douilles de lampes à incand.—Fab. de.
G.—Glühlamp Fassungen—Fab. von.

Porzellanfabrik Kloster Veilsdorf, Akt. Ges., Kloster Veilsdorf, Sachs-Meiningen, Germany.

Indiarubber & Gutta-percha Manufacturers & Dealers.

F.—Caoutchouc—Fab. & march.
G.—Gummi & Gutta Percha fab. & Händler.

Casseler Gummiwaaren Fabrik, H. Nickel & Co., Philosophenweg 47, Cassel.
Clouth, Franz, Rhenish Rubber Manufactory, Ltd., Cologne, Nippes.
Continental Caoutchouc & Gutta-Percha Co., Vahrenwalderstr. 100, Hanover.
De Schamphelaere Pol, 19, rue des Champs, Ghent, Belgium.
Etablissements Hutchinson Cie. Nationale du Caoutchouc Souple, 60, rue St. Lazare, Paris.
Falconnet, Perodeaud & Cie., Choisy-le-Roi, Seine, France.
Felten et Guilleaume Lahmeyerwerke Act. Ges., Mulheim-am-Rhine, Germany.

Indiarubber & Gutta-percha Manufacturers & Dealers—*continued.*

Grellon, François, et Cie., 43, rue des Entrepreneurs, Paris.
Guibal, C., 35, rue Nationale, Ivry-Pont (Seine), France.
Gummiwerk Oberspree G. m. b. H., Wilhelminenhofstr. 83–85, Oberschöneweide, Germany.
Indiarubber, Gutta-Percha & Telegraph Works Co., Ltd., 97, boul. Sébastopol, Paris, & Persan-Beaumont, France.
Jenatzy Leleux, C., rue Stephenson, 10, Brussels.
Kuntze & Co., Ltd., Drottningg 52, Stockholm.
Lerenard Fils, Alfortville (Seine), France.
Manufacture Générale de Caoutchouc L. Edeline (Pneumatiques Français Gallus), 43, quai National, Puteaux (Seine), France.
Metzeler & Co., Munich, Germany.
Morellet, les Fils d'Aug., 44, rue Sévigné, Paris.
Müller, C., Patent und Gummiwaaren Fabrik 89, Neue Königstr., Berlin, N.O.
New York Hamburger Gummi Waaren Compagnie, Hamburg, Germany.
NORDDEUTSCHE SEEKABELWERKE, AKTIENGESELLSCHAFT, suppliers of finished gutta percha of all kinds, Nordenham o/Weser. (Telegs.: "Kabelwerke, Nordenham.")
Pavoux, Eug., 21, rue de Spa, Brussels.
Rheinische Gummi & Celluloid fabrik, Neue Jacobstr. 18, Berlin, S.
Schmitz-Jérôme & Co., Hanover.
Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., Meyerstr. 60, Hamburg, Germany.
Vereinigte Gummiwaaren-Fabriken Harburg-Wien, Wimpassing, Austria. Office: VI. Mariahilferstr. 115, Vienna.
Vereinigte Zünderfabriken Draht und Kabel Werke, Meissen, Saxony.

Influence Machine Makers.

F.—Machines à Influence—Fab. de.
G.—Influenz Maschinen Fabr.

Böttcher, Oskar, Berlin W., 57. Works in Gebirge, Poberschau Marterbüschel, Saxony.
Hartz, P. F. A., & Wolpers, 4, Zollenbrücke, Hamburg.
Leuner, Oscar, Mechanisches Institut, Dresden.
Voss, J. Rob., 20, Pallisadenstrasse, Berlin.
Wehrsen, Alfred, 31, Schlesischestr., Berlin, S.O.

Inspectors (Electrical)—Government & Municipal.

F.—Inspecteurs électr. du Gouvernement et Municipalité.
G.—Inspektoren—elek.—Regierungs und Städtische.

Allgäuer, J., Berne, Switzerland.
Clerc, Ed., 20, Hardturmstr., Zurich III., Switzerland.

Inspectors (Electrical)—Government & Municipal—*continued.*

Dehionne, G., Cie. du Chemin de Fer du Nord, Lille (Nord), France.
Ericson, E. C., Kommers Kollegium, Stockholm, Sweden.
Gribi Gottlieb, Berne, Switzerland.
Gschwind, F., St. Gallen.
Höchtl, A., Schillerstr. 24 A/II., Munich, Bavaria.
Kruyt, A., The Hague.
Laval, —, Bar le Duc (Meuse).
Maisonneure, Jacques, 6, rue Voltaire, Nantes (Loire-Inférieure), France.
Pomey, J. B., 140, boul. Raspail, Paris VIe.
Rigaud, A. L., Cie. d'Orleans, 41, rue de Berlin, Paris.
Rod, E., Lausanne, Switzerland.
Tebedeff, T. A., St. Petersburg.
Von Mühlenfels, Wilh. J. A. (telegraph), 2nd District, Royal Swedish Railways, Göteborg, Sweden.

Instrument Makers & Dealers—Electrical.

F.—Instruments électriques—Fab. et March.
G.—Elektrische Instrumente—Fab. u. Händler.

Allemano, G., Galleria Sulapina, Turin, Italy.
Almeida & Soares, 20, rua Nova do Almada 28, Lisbon.
Amelin & Renaud, rua da Magdalena 1, Lisbon.
Ameye, C., Iseghem, Ghent, Belgium.
Balestrazzi, F., Lung Arno, Mediceo, Pisa.
Balzarini, E., piazza S. Nazaro, 27, Milan, Italy.
Baour, E. D., 3, cour du Chapeau Rogue, Bordeaux, France.
Bardelli, F., & Co., via Roma Gallina Natta, Turin.
Bellieni, H., 17, place de l'Académie, Nancy, France.
Beltrame, Giovanni, corso P. Borsari 25, Verona, Italy.
Bertollo, Luigi, via del Campo, Genoa.
Biel, E., rua Formosa 340, Oporto.
Bion Fils, Dunkerque, France.
Borch, L. A., Roarsvej 23, Copenhagen, Denmark.
Borgen, Axel, Gothersgade 37, Copenhagen, Denmark.
Bourdin, M., 7, place des Jacobins, Lyons, France.
Büchler, J. H., Altbüsserstrasse, Breslau, Germany.
Caminada Gebr., Lange Houtstr. 3, The Hague, Holland.
Caputo, Ernesto, strada Chiaja, 185, Naples, Italy.
Cardini, L., e Figlio, via G. Dupré, Siena, Italy.
Carlier, V., Cambrai, France.
Caron Frères, Quimper, France.
Carraffa, Giuseppe, via Macqueda, 155, Palermo, Italy.
Charron, Vve., & Bellanger, 142, rue St. Maur, Paris.
Ciampi, T., via Vittorio Emmanuele 27, Leghorn, Italy.

Instrument Makers & Dealers—Electrical—*continued.*

Cochot, G., 45, rue de Tanger, Paris.
Compagnie Anonyme Continentale, 9, rue Petrelle, Paris.
Corbeaux, —, place du Marché-aux-Vaches, Maubeuge (Nord), France.
Cornet, J., 66, rue de Rennes, Paris.
Corrons, J., 4, Rambla de Canaletas, Barcelona, Spain.
De Vita, Domenico, Largo del Nilo 9, Naples, Italy.
Doré, —, 89, rue Lafayette, Rouen (Seine-Inférieure), France.
Dortet, —, Châlons-sur-Marne, France.
Ducotè, —, Cluny (Saône-et-Loire), France.
Ducousso, Th., 82, rue Notre Dame des Champs, Paris.
Ducretet, E., 75, rue Claude-Bernard, Paris.
Duroni & Co., galleria Vittorio Emmanuele 9, Milan.
Edelmann, Prof. Dr. M. Th., 82, Nymphenburgerstr., Munich, Germany.
Esslingen Maschinenfabrik, Esslingen, Germany.
European Weston Electrical Instrument Co., Ltd., The, Berlin, S., 42, Ritterstr. 88.
Fabroni, Paolo, via Nuova, Verona, Italy.
Fayot, —, Boulogne-sur-Mer, France.
Fontaine, G., 16, 18, & 20, rue Monsieur-le-Prince; et 24, rue Racine, Paris.
Fontana, Paolo, & Co., via Asse 14, Bologna.
Franchini, Clodonco, via d'Azeglio 16, Bologna, Italy.
Fries, A. & D., via Carlo Felice 15R, Genoa, Italy.
Galvany, Palissy, rua Serpa Pinto 91, Lisbon.
Gans & Goldschmidt, Reinickendorferstr. 54B, Berlin, N. 65.
Gardy, R., rua do Assumpçao 99, Lisbon.
Gregerson, A., St. Knudsvej 41v, Copenhagen, K., Denmark.
Grondi, Oreste, via Cavalleria 10, Bologna.
Hartvig, Moritz, Benzonsvej 2 A., Copenhagen, Denmark.
Henry-Lepaute, 15, rue Halévy, Paris.
Hirsch, Antonio, via del Corso 402, Rome, Italy.
Houel, E., Docelles (Vosges), France.
Jacobsen, N., 25, Pilestræde, Christiania.
Jest, Cav. Carlo, via di Po 13, Turin, Italy.
Johansen, C. F., Kirkegade 12, Christiania.
Johansen, S., Kongensgade 32, Odense, Denmark.
Kärger, G., 52, Krautsstr., Berlin, O.
Kessner, Paul, Kreuzbergstr. 30, Berlin, S.W.
Knudsen, Cornelius, 15, Kjöbmagergade, Copenhagen.
Labarre, J. B. R., rue du Midi 150, Brussels.
Lefort & Duvan, 14, rue du Bourg. Tibourg, Paris.
Leopolder & Sohn, III. Erdbergstr. 52, Vienna.
Levreaud, F., rua Cedofeita 67, Oporto.
Ligier, M., 43, boul. Henri IV., & 17, rue Albony, Paris.
Liuzzi, F., via Rizzoli, 16A, Bologna, Italy.
Loza, 28, rue Puébla, Lille, France.
Lucco, Luigi, piazza Madonna degli Angeli, Turin.

Instrument Makers & Dealers—Electrical—*continued.*

Lyngby, Aug., Möntergade 12, Copenhagen.
Machol & Marter, Kommandantenstr. 18, Berlin, S.W.
Manifacier, —, Auxerre (Yonne), France.
Marinelli, Ottavio, corso V. E. 9, via Astagno 2, Ancona, Italy.
Meiser & Mertig, 27, Kurfürstenstr., Dresden, N.
Meyer, J. F., 37, Clausiusstr., Zurich IV.
Michel, J., 9, place de la Bourse, Marseille, France.
Michel, L., 111, rue St. Antoine, Paris.
Moessen, Robert, IV. Alleegasse, 38, Vienna.
Möller, Emil, Horsens, Denmark.
Monteiro & Magriço, rua de Santa Catharina 39, Oporto.
Morandotti, C., & figli, corso Vittorio Emmanuele 96, Pavia, Italy.
Morfino, Fortunato, via Macqueda 164, Palermo.
Motta, J. Maria, rua das Amoreiras 140, 1°, Lisbon.
Müller-Uri, R., Brunswick.
Murcia, A., Echegaray 11, Madrid.
Nazzari, G., Corso Vitt. Emanuele 86, Pavia.
Née, Ernest, 47, rue du Montparnasse, Paris.
Noé, C., 8, rue Barthollet, Paris.
Oliva, José, calle del Principe 19 & 21, Madrid.
Orfeo, Dr. N., 19, via S. Vespucci, Pisa.
Paggi, G., via de Martelli 7, Florence, Italy.
Palma, Ing. De Domenico, Istituto Casanova, Naples.
Persico, Vittorio, corso Garibaldi 16, Cremona, Italy.
Pfister & Streit, Seilerstr., Berne, Switzerland.
Pierucci, Luigi, via S. Frediano 22, Pisa, Italy.
Pilliard, L., 106 et 107, rue St. Martin, Paris.
Raffai, Gaetano, via Magistrato 32, Mantua, Italy.
Ramos & Silva, rua Garrett 63 & 65, Lisbon.
Ranieri, Gius., corso Vittorio Emmanuele 56, Bari.
Redier, O., & Cie., 324, rue St. Martin, Paris.
Reina, Vda de Villar, Madrid.
Ricci, Augusto, Ravenna.
Richard Frères, 8, impasse Fessart, Paris.
Rost, Rud. & Aug., 7, Marzstr., Vienna XV.
Ruden, E. G., Stockholm.
Sack, D., et Cie., 55, rue Legendre, Paris.
Sacre, E., 22, chaussée de Wavre, Brussels.
Santos, L. Conto, rua dos Fogueteiros 9, Oporto.
Schäffler, O., XVI. Payerlgasse 12–14, Vienna.
Schoeller, A., Gartenstr. 47, Frankfurt-am-Main.
Scottini, L., via Cadogno, Bergamo, Italy.
Serafini, A., & figli, via Vitt. Em. 7, Bergamo.
Silva, Ing. Angelo, piazza Garibaldi, Parma.
Simmen, A., 55, rue Dombasle, Paris.
Société des Etablissements Henry-Lepaute, 5, rue Halévy, Paris.
Société des Lunetiers, 6, rue Pastourelle, Paris.
Spano, Cav. Ing. Gaetano, Salita S. Sebastiano, Istituto Casanova, Naples, Italy.
Spindler & Hozer, Göttingen, Germany.
Thiele, F. A., 5, Kjöbmagergade, Copenhagen, K.

Instrument Makers & Dealers—Electrical—*continued.*

Tlach & Keil, Nestroygasse 9, Niederlage, Vienna, II.
Unger & Hoffmann A. G., 38, Striesenerstr., Dresden, A. 16.
Vallot, Fils, 13, rue d'Arcole, St. Etienne, France.
Vanderbiste, E., 68, rue de la Montagne, Brussels.
Vigliani, P., via Lagrange, 25, Turin, Italy.
Vigoni, Pietro, Borgo Spesso 19, Milan, Italy.
Werlein, Ivan, 8, rue d'Ulm, Paris.
Wery-Delderenne, 4, rue des Carmes, Liége, Belgium.
Western Electric Company, Antwerp, Belgium.
Zandén, Iwan, 20, Vestmannagatan, Stockholm.
Ziegenspeck, Oscar, 56, Kommandantenstrasse, Berlin, S. 14.

Insulating Materials Manufacturers.

F.—Isolation—Fab. de matière à.
G.—Isolations Materialien—Fab. von.

Ascher, Dr. Max, & Co., 29, Linkstr., Berlin, W.
Charpentier, Leon, 128 ter, boul. de Clichy, Paris.
Clouth, Fr., rue des Riches-Claires 35, Brussels.
Comotti & Gignous, via S. Orsola 3, Milan.
Compagnie Générale d'Electricité, 5, rue Boudreau, Paris.
Custer, W., Zurich, V.
Derolland, B., 7, rue N.-D.-de-Nazareth, Paris.
Duisberg, R., & Co., Barmen.
Eisenstädter Gebr., 21, Kirchstettengasse, Vienna XVI/2.
Fayaud, Vve. A., fils & gendre, 100 & 102, rue St. Denis, Paris.
Frischauer & Co., 41, Gumpendorferstr., Vienna VI.
Hanover Rubber Co., Ltd. (Hannoversche Gummi-Kamm Co. Actien-Gesellschaft), Hanover-Limmer, Germany.
Heising & Co., Müller-strasse 135, Berlin, N.
Houart, Oct., Sclessin lez Liége, Belgium.
Indiarubber, Gutta-Percha & Telegraph Works Co., Ltd., Persan-Beaumont, France.
Jagenberg, Ferd. Emile, Düsseldorf.
Leipziger Gummi-Waaren Fabrik, Weststrasse, 72, Leipzig.
Megerle, Franz, Friedberg bei Frankfürt-a-Main, Germany.
Mica Insulating Works, Ltd., Breitenbach, nr. Basle.
Peintures Minerales Françaises (Soc. Anon.), 11, rue Curton, Clichy (Seine), France.
Pennequin, Ch., 88, rue Gallait, Brussels.
Pressspanfabrik Untersachsenfeld Act. Ges. vorm. M. Hellinger, Post Neuwelt, Saxony.
Renaud, Texier & Co., 5, rue Nicolas-Flamel, Paris.
Reye, G. W., & Söhne, 22, Sonninstrasse, Hamburg, Germany.
Roger, Ch., 35, rue de Tolbiac, Paris.
Rost, H., & Co. (Gutta-Percha), Hamburg & Harburg, Germany.
Salomon Gebrüder, 3, Ohestr., Hanover.
Schmidt, Anton, & Sohn, Düsseldorf.

Insulating Materials Manufacturers—*continued.*

Société Anon. des Anciene Etablissements J. B. Torrilhon, 10, rue du faub. Poissonnière, Paris.
Standard Varnish Works, 41, rue de la Bienfaisance, Brussels.
Vitrite Works, Ltd., The, Middelburg, Holland.
Weidmann, H., à Rapperswyl, Switzerland.

Insulators (Electrical) Manufacturers.

F.—Isolatoirs électr.—Fab. d'.
G.—Isolatoren—elek.—Fab.

Ambroin-Werke Ges. m. b. H., Berlin-Pankow, Wollank-str. 41.
Avtsine & Cie., 12 bis, ave. des Gobelins, Paris.
Buckauer Porzellan Fabrik, Magdeburg, Germany.
Didier, A., & Fils, 70, rue d'Angoulême, Paris.
Dressel, Kister & Co., Passau (Bayern), Germany.
Eiffe & Fehr, Rodingsmarkt, Hamburg.
Einhorn & Damcke, Tilsiterstr., 10, Berlin.
Fuisseaux, F. De, Baudour, près Mons, Belgium.
Gundelach, H., 116, Köpenickerstr., Berlin, S.O.
Hache, Alfred, & Co., Vierzon (Cher), France.
Isolation Aktiengesellschaft, Mannheim, Germany.
Jenatzy-Leleux, C., rue Stephenson 10, Brussels.
Joya, J., Père & Fils & Cie., 36, rue Nicolas Chorier, Grenoble (Isère), France.
Karlsbader Kaolin-Industrie-Ges., Merkelsgrün bei Karlsbad.
Kramer & Löbl, Gablonz, Bohemia, Austria.
Lazzar & Marcon, Trevizo, Italy.
Lippmann, Otto, Ansprung-Zöblitz, Sächs. Erzgebirge, Germany.
Loreau, J., 1, rue de Turenne, Paris.
Pertus, C., 10, rue St. Antoine, Paris.
Rene, L., & Co., 49, rue de Miromesnil, Paris.
Richard & Co., Doccia, near Florence, Italy.
Richter, Gustave, Charlottenburg, bei Berlin.
Rosenthal Ph. & Co., A. G., Selb, Bavaria.
Sachsische Serpentinstein Gesellschaft, Zöblitz, im Erzgebirge, Saxony.
Schomburg, H., & Söhne A. G., Berlin, N.W.
Schwarz, J. von, Nürnberg-Ostbahnhof.
Stadelmann, J., & Co., Nuremberg, Germany.
Stanthuysen, E., 19, rue de Blanchisserie, Brussels.
Suddeutsche Isolierrohr-Werke (G. m. b. H.), Lauf, bei Nurnberg.
Thierré Fils, 47, rue Vieille-du-Temple, Paris.
Usine Fréderic Nyst, rue Renouy, Angleur lez Liége, Belgium.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Iron & Steel Manufacturers & Merchants.

F.—Fer et acier—Fab. et March.
G.—Eisen & Stahl—Fab. und Händler.

Herberg, Fried. Max, & Co., Nürnberg.
Ravéne, Jacob, Söhne & Co., 5 & 8, Wallstr., Berlin, C.
Siecke & Schultz, Oranienstr. 120, Berlin, S.W.

Ivory & Wood Turners.

F.—Tourneurs en bois et ivoire.
G.—Elfenbein & Holz Drechsler.

Kring, N. M., & Son, Svartegade 11, Copenhagen K., Denmark.
Monti, Ch., 127, rue Oberkampf, Paris.
Viault, 189, rue du Temple, Paris.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")

Laboratories—Electrical.

F.—Laboratoires électriques.
G.—Laboratorien—Elektrische.

Laboratoire Central d'Electricité (associated with the Société Internationale des Electriciens), 14, rue de Stäel, Paris.
Laboratorio Central para Ensayo de Materiales de la Escuela de Ingenieros, calle de Alfonso XII., Madrid.
Laboratorio Elettrico, Spezia, Italy.
Van der Hegge Zijen & Lebret, Utrecht, Holland.

Lacquer & Varnish Manufacturers & Merchants.

F.—Laques et Vernis—Fab. et March. de.
G.—Lack & Firniss—Fabr. und Händler.

Frankfurter Lackfabrik G. m. b. H., Frankfurt-a.-Main.
Grosse & Bredt, Alexandrinenstr. 119 & 120, Berlin, S.W. 13.

Ladders.

F.—Echelles.
G.—Leitern.

Porta, Vedova, e Figlio, 13, Aug. Anfossi, Milan, Italy.

Lamp Holder Makers.

F.—Porte-Lampes—Fab.
G.—Lampen Fassungen—Fabr.

Frankfurter Eisenbau-Anstalt, Rohnstad & Zweigle, Taunusstr. 44, Frankfort-on-the-Main, Germany.
Kramer & Löbl, Gablonz, Bohemia, Austria.
Kruger, Paul, Neue Schönhauserstr. 11, Berlin, C., Germany.
Pape, M., 49, Pallisadenstr., Berlin, N.O.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes).

F.—Poteaux pour l'électricité et la télégraphie.
G.—Lampen Pfosten Fabr. für elektrischen und telegraphischen Zwecke.

Actiengesellschaft für Gas & Electricitäts vorm. E. von Koeppen & Co., Hansaring 30, Cologne. Factories; Cologne, Ehrenfeld.

Launch Designers & Builders—Electric.

F.—Bateaux électriques—Dessinateurs et Constructeurs.
G.—Boot Entwurfer und Bau—Elektrische.

Société de Traction Electrique sur les Voies Navigables, 28, rue St. Lazare, Paris.

Lifts (Electric)—Makers of.

F.—Ascenseurs Électriques—Fab. d'.
G.—Aufzüge—Elektrische—Fabr. von.

Bleichert, A., & Co., Leipzig-Gohlis.
Burgdorf Gebrüder, Altona-Hamburg, Germany.
d'Ester, Th., 11, Marxergasse, Vienna III/2.
Edoux, Léon, & Cie., 72-78, rue Lecourbe, Paris.
Freissler, Ant., X. Erlachplace 4, Vienna; & David-utcza 2, Budapest VI.
Geslin, Auguste, 10, rue Guillaume Tell, Paris.
Hamer, Jan, & Co., Amsterdam.
Lievens, —, rue du Telephone 53, Brussels, Belgium.
Pifre, Abel, 174, 176, rue de Courcelles, Paris. Works at Albert (Somme), France.
Roux, Combaluzier et Cie., 22, rue de Passy, Paris.
Samain et Cie., rue Saint Amand 12, Paris.
Schmidt, Kranz & Co., Nordhausen, Prussia, Germany.
Wertheim, F., & Co., IV. Louisengasse 6, Vienna, Austria.

Light Companies—Electric.

F.—Éclairage électrique—Compagnies d'.
G.—Elektrische Beleuchtung Gesellschaften.

Aarhus Electricitetsverk Light, Power & Tramway, Aarhus, Denmark. Manager, E. Gunst.
Allgemeine Electricitäts Gesellschaft, 22, Schiffbauerdamm, Berlin.
Arboga Electric Light Co., Arboga, Sweden.
Askersund Electric Light Co., Askersund, Sweden.
Bern Stadt. Elektrizitäts und Wasserwerke, Bern, Switzerland.
Christiania Elektricitetsverk, Christiania.
Compagnie d'Eclairage par le Gaz et l'Electricité de la Ville de Montlucon (Allier), France.
Compagnie d'Electricité d'Angers & Extensions, quai Felix Faure, Angers.
Compagnie d'Electricité de Moulins, Yzeure près Moulins (Allier).
Compagnie de Gaz & Electricité, Angoulême (Charente), France.
Compagnie du Gaz & d'Electricité de Rennes, Rennes, France.
Compagnie Européenne d'Eclairage & de Chauffage par le Gaz, Rouen.
Compagnie Française d'Energie Electrique, 47, rue St. André des Arts, Paris.
Compagnie Française d'Eclairage Electrique, 1 bis, cité Bergère, Paris.

Light Companies—Electric—*continued.*

Compagnie International de'Électricité, 141, rue Lafayette, Paris.
Compagnie Luchonnaise d'Eclairage par le Gaz et par l'Electricité à Bagnères de Luchon (Soc. Anon.), Bagneres de Luchon, France.
Companhia do Gaz do Porto, Oporto, Portugal.
Companhias Reunidas Gaz e Electricidade, Lisbon, Portugal.
Compañia Avrilense, Fabrica Luz Electrica, Avila, Spain.
Compañia de Luz Electrica, Leon, Spain.
Compañia de Luz Electrica, Lerida, Spain.
Compañia de Luz Electrica, Ponferrada.
Compañia Electrica de San Sebastian, Spain.
Compañia General Abulense, Fabrica de Luz Electrica, Avila, Spain.
Compañia General Electricidad, Granada, Spain.
Compañia Lyonesa de Alumbrado y Calefaccion, Coruña, Spain.
Djursholm Electric Light Co., Djursholm, Sweden.
Electric Power Co., Ltd., Bakou, Russia.
Electricité de Montauban, 44, rue St. Louis, Montauban.
Electrique, L' (soc. anon.), 319 *bis*, Chaussée d'Anvers, Brussels. Central lighting station, 15, rue Zérézo.
Falun Electric Light Co., Falun, Sweden.
Ferrara Officini Elettrica per Illuminazione Pubblica, via Cartevecchia, Ferrara.
Fredricksstad Gas & Electricitetsverk, Fredrikstad, Norway.
Gas & Elektricitats Co., Ltd., Bremen.
Helsingfors Elektriska Belysnings Aktiebolag, Helsingfors, Finland.
Impresa Illuminazione Elettrica, St. Marcello Pistojese, Italy.
Impresa Impianto Elettrico di Todi, Todi (Umbria).
Impresa Luce Elettrica, Crema (Prov. di Cremona), Italy.
Italian Electrical Light & Power Co., Ltd.
Kiew Electric Co., Ltd., Proreznaja 17, Kiew, Russia.
La Electricista Segoviana, Segovia.
Luz Electrica de Ciudad Rodrigo, Ciudad Rodrigo, Salamanca, Spain.
Malaga Electricity Co., Ltd.
Martinez, A., y Ca., "Sociedad Logroñesa de Alumbrado Electrico," Logroño, Spain.
Municipal Electric Central Illuminating Station, Modena.
Services Industriel (Eau, Gaz, Electricité), Hotel de Ville, Neuchatel, Switzerland.
Smirnoff Electric Light Co., Vasilly Ostroff, 12 linie, N. 7, St. Petersburg.
Sociedad Anonima Hidro Electra, Najera, Spain.
Sociedad Electrica Vitoriana, Vitoria, Spain.
Sociedad Palentina de Electricidad, Palencia, Spain.
Società Acquedotto de Ferrari, piazzi Campetto 4, Genoa, Italy.

Light Companies—Electric—*continued.*

Società Anonima per l'Industria del Gas ad Illuminazione Elettrica, Ancona.
Società Anonima Piacentina per l'Illuminazione Elettrica, Piacenza.
Società della Luce Elettrica, Delebio, Italy.
Società Elettrica di Benevento, Benevento, Italy.
Società Generale per la Illuminazione, via Marina, Naples.
Società per l'Illuminazione Elettrica, Laveno, Italy.
Società Sicula Imprese Elettriche, Palermo, Italy.
Soc. Anonyme d'Eclairage Electrique du Secteur de la Place Clichy, 53, rue des Dames, Paris.
Société Anonyme d'Electricité, Azay-le-Rideau, France.
Société Anonyme d'Electricité de Bourg, St. Andéol (Ardèche), France.
Société Anonyme d'Électricité (système A. Gérard), 39, ave. Marceau, Courbevoie (Seine), France.
Société Anonyme l'Électrique, 245, chaussée d'Anvers, Laeken, Brussels, Belgium.
Société Anonyme Liegeoise d'Electricité, 42, rue Lambert de Begue, Liége.
Société d'Eclairage Electrique de Bordeaux et du Midi, 26 & 28, rue du Temple, Bordeaux.
Société du Gaz et de l'Electricité de Colombier, Canton de Neuchatel, Switzerland.
Société Electricité Gaz & Eau, Moissac (Tarn & Garonne).
Société Électrique Vevey-Montreux, Montreux, Switzerland.
Société Meridionale de Transport de Force, St. Georges près Axat (Aude), France.
Société Toucycoise d'Eclairage Electrique, Toucy (Yonne), France.
Station Hydraulique d'Eclairage Electrique (Jules Chatiliez, directeur), 6, rue du Rû, Verdun (Meuse), France.
Stockholm Electric Light Co., Ltd., Stockholm, Sweden.
Stockholms Electrical Lighting Co., Stockholm, Sweden.
Storvik's Electric Light Co., Storvik, Sweden.
Trondhjems Electric Light Co., Hospitalsgd. 20, Trondhjem, Norway.
"Volta" Compania General de Electricidad, 4, Rio de la Pila, Santander, Spain.

Lightning Arresters—Makers of.

F.—Paratfondres—Fab. de.
G.—Blitzschutz vorrichtung—Fab. von.

Diementhal, F., Siegen-i-W., Germany.
Dumoulin, C. J., à Chauffailles (Saône-et-Loire), France.
Gola, G., 32, corso Francia, Turin, Italy.
Holyhausen, Max, Hagelsburgerstr. 5, Berlin, S. Germany.
Knodt, G., Bockenheim, Frankfort-on-Main, Germany.
Tricoche, A., 2, rue de Grassi, Bordeaux.

Lightning Conductor Manufacturers & Erectors.

F.—Paratonnerres—Fab. et monteurs de.
G.—Blitzableiter—Fabr. von.

Baum, T., 19, Thurmstrasse, Essen-Ruhr, Germany.
Berghausen, Heinrich, Andreaskloster 8, Cologne, Germany.
Boone-Masureel, Q., Meulebeke, Belgium.
Ceschiutti, F., via Brenari 12, Udine, Italy.
Closset, Emile, 26, rue St. Jean, Brussels.
Dumoulin, C. J., à Chauffailles (Saône-et-Loire), France.
Ghysens, M., & Cie., 50, rue des Clarisses, Liège.
Godard, E., rue Damrémont 23, Paris.
Hassler & Süss, Freiberg, Saxony.
Hubau, A., Roulers, Belgium.
Kirchkoff, Xaver, Friedenau, Berlin, W.
Lescourier, J. L., Bixschote, West Flanders.
Létourneau, Ed., 23, boul. Lannes, Paris.
Lorrette, M., 103, rue de Grenelle, Paris.
Minsier, O., Jauche, Belgium.
Montilla Hermanos, Victoria 37, Malaga, Spain.
Otto, A., Lauchstadterstr., Merseburg.
Penotti, Giovanni, via Lagrange 24, Turin, Italy.
Piroul & Paternoster, rue aux Laines 35, Brussels.
Rauche & Beth, Zwickau-Schedewitz, Saxony.
Rossteuscher, H., Repsingasse 15, Schleusingen, Germany.
Schlag & Berend, 34, Alexander-strasse, Berlin, C., Germany.
Stons, J., Chaussée de Mons 226, Brussels, Belgium.
Zwarg, Julius Otto, Freiberg, Saxony, Germany.

Lightning Engineers.

F.—Paratonnerres—Ingenieurs.
G.—Blitzableiter—Ingenieure für.

Eckardt, W., G. m. b. H., Aachenerstr. 1, Köln, Germany.
Holwech, Olaf M., Fredriksstad, Norway.

Lubricator Makers for Electric Machines & Engines.

F.—Graisseurs—Fab. de.
G.—Schmier borrichtung—Fab. von.

Henry, R., 117, boul. de la Villette, Paris.
Plum, C., & Co., Lousbergstr., 68, Aachen, Germany.
Reinach, Ernesto, via Lario 71c, Milan, Italy.
Roffo & Cie., 8, place Voltaire, Paris.

Machine Tool Makers.

F.—Outils pour Machines—Fab.
G.—Maschinen Werkzeug—Fabr.

Adler & Eisenschitz, via Principe Umberto 30, Milan, Italy.
Ateliers de Constructions Mécaniques, Mulhouse (Alsace); & 18, boul. Magenta, Paris.

Machine Tool Makers—*continued.*

Bauer & Seilheimer, G. m. b. H., Martinsfeld 28, Köln, Germany.
Briegleb, Hansen & Co., Gotha, Germany.
Dard, L., 34, rue Pérignon, Paris.
Darras, A., 123, boul. St. Michel, Paris.
Delaval, Henry, & Cie., 11, rue Morand, Paris.
Dick, Friedr., Esslingen a/N., Wurttembg. Files & tools for electrical & general engineers. (Telegrams: "Dick, Esslingen.")
Dierksmeyer & Helsner, Mockau 107, Leipzig.
Dudeck, H., Hermannstr. 24, Berlin-Rixdorf.
Düsseldorfer Werkzeugfabrik (A. Herzer), Düsseldorf, Germany.
Eisenfuhr, W., 31A, Kommandantenstr., Berlin, S.
Elektricitäts & Maschinen Industrie R. Valentin, Breslau, Germany.
Esslinger Werkzeug und Maschinenfabrik, Esslingen.
Ganz Electric Co., Ltd., Lövöház 39, Budapest, II., Hungary; & Vienna.
Geck Gebr., Altena, Westphalia.
Gesellschaft des Echten Naxos-Schmirgels, "Naxos-Union," 43, Waldschmidtstrasse, Frankfort-on-the-Main; & 3, Seidengasse, Vienna, VII.
Gesellschaft für Elektrische Maschinen und Installationsbedarf (m. b. H.), Lindenstr. 101, Berlin, S.W. 68.
Gottwalt Flohr, Ehrenfeld, Cologne.
Gueury, E., 10, place de la Bastille, Paris.
Huré, P., 218, rue Lafayette, Paris.
Karcher, A. Wittwe, 32, Niederdorf, Zurich, Switzerland.
Körting, Wilh., Barmen.
Krentzler, G., Unter Barmen, Germany.
Kreyton, W., & Co., Abo, Russia.
Kücke, Wm., & Co., Elberfeld, Germany.
Lapipe, E., 141, rue Oberkampf, Paris.
Loewe, Ludw., & Co., Actien-Gesellschaft, 17–20, Huttenstr., Berlin, N.W.
Lorch, Schmidt & Co., Bockenheim, Frankfurt-am-Main.
Maquinaria Anglo-Americana, Cortes 559, Barcelona.
Maschinenfabrik Esslingen, Platzl 4, Munich, Bavaria.
Maschinenfabrik Karges, Hammer & Co., Dircksenstr. 40, Berlin.
Maschinenfabrik Prometheus, G. m. b. H., Reinickendorf, Berlin.
Mongin, Ed., 40, ave. Philippe Auguste, Paris.
Moynet, A., et Cie., 4 & 6, rue des Haudriettes, Paris.
Pokorny & Wittekind, Bockenheim, Frankfurt-am-Main, Germany.
Queva, H., & Co., 5, Pilse, Erfurt, Germany.
Riva, Moneret, & Co., Milan.
Schmidt, B., Lutznerstr. 2, Halle-a.-S., Germany.
Schmidt, J. A., Solingen, Germany.
Sedlmayr, Andreas, München, Germany.
Società Costruzione Macchine-utensile Michele Ansaldi & Co., via XX. Settembre 12, Turin, Italy.

Machine Tool Makers—*continued.*

Walz, H., Strelitzerstr. 60, Berlin, N. 60.
Weisser, J. G. Söhne, St. Georgen, Station der Schwarzwaldbahn, Germany.
Werner & Pfleiderer, Ltd., Cannstatt, Germany.
Wicard, Ed., 20, rue des Puits l'Eau, Tournai, Belgium.
Wolf, Jahn, & Co., Frankfurt-am-Main, Germany.
Zipf & Langsdorf Nachfolger, Oberrad, near Frankfurt-a.-M.

Machinery Merchants & Agents.

F.—Machines—March. et représent &c.
G.—Maschinen—Händler & Agenten.

Adams, C., representative in Belgium of Messrs. Saxby & Farmer, London, rue des Gallais 267, Brussels.
Baerlein, F., rua da Magdalena 109, Lisbon, Portugal.
Büchler & Pascal, Zurich, Switzerland.
Gesellschaft für elektrische Industrie, Karlsruhe, Baden.
Henry, Edward, 21, rue Caumartin, Paris.
Overhoff, Julius, VII. Lerchenfelderstr. 75–77, Vienna.
Schuchard, J. O., Barmen.
Zacco & Co., Aktiebolaget, Stockholm, Sweden.
Ziese, R. A., Wassily Ostr. 12th linie, N. 27, St. Petersburg.

Magnet Manufacturers.

F.—Aimants—Fab. d'.
G.—Magnet-Verfertiger.

Backhaus & Langensiepen, Leipzig-Plagwitz, Germany.
Caralp & Laur, 55, boul. Auguste Blanqui, Paris.
Göppinger Magnetfabrik, Carl Scholl, Göppingen, Wurttemberg.
Krautheim, G., Chemnitz-Altendorf.
Maisonneuve, —, 15, passage Alexandrine, Paris.
Mankiewitz, G., 187, Schönhauser Allée, Berlin, N. 37.
Spindler, A., et Cie., 11, rue Château d'Eau, Paris.

Magnetic Steel Manufacturers.

F.—Acier Magnétique. G.—Magnet-Stahl.

Bischoff, Felix, Duisburg-am-Rhein, Germany.

Magneto & Electric Machine Mfrs.

F.—Machines magnétiques et électr.—Fabr. de.
G.—Magnet. & Elektr. Maschinen Fabr.

Bonetti, L. (Roycourt, suc.), 69, ave. d'Orléans, Paris.
Electrische Station für Bel. & Kraftübertragung, III. Linke Bahngasse, Vienna.
GIANOLI, L., 26, boul. Magenta, Paris.
Prinoth, Ch., et Cie., 46, boul. de Strasbourg, Paris.
Remy, Heinr., Hagen i/W., Germany.

Manganese Iron.

F.—Fer-Manganèse—Fab. de.
G.—Mangan-Eisen—Fab. von.

Società Anon. Coltivazione Cave Manganese, Bonassola, Italy.

Manganese Merchants.

F.—Manganèse—March.
G.—Braunstein—Händler.

Foerster, Chr. Gottlob, Ilmenau, Thür., Germany.
Hüttel, Hermann, Ilmenau, Thur.
Maguin, A., 10, rue Albert, Paris.
Minner, Wilhelm, Arnstadt, Thür., Germany.
Rae Fratelli, via Polastrini 3, Leghorn, Italy.
Steinbach, A., Königstrasse 14, Halle a/d Saale, Germany.

Manufacturers' Agents.

F.—Representants de fab. G.—Fabrikvertreter.

Agence Scientifique & Industrielle, 53, rue de la Caserne, Brussels.
Agencia Téc. Industriàle, 2, Juan Bravo, Madrid.
Gruber, Fondatinnea Carol, Bucharest, Roumania.
Haehnel, Max, Technisches Bureau, Petrikauerstr. 103, Lodz, Russia.
Heilborns Electricitäts-Byra, Centralpalatset, Stockholm.
Koronzwitt, A., Presbrajenskaia 39, Odessa.
Kraus, Ch., rue Gaucheret 190, Brussels.
Marcherat, P., 42, rue Fessart, Paris.
Vollmer, E., 130, rue Rogier, Brussels.

Manufacturers' Representatives.

F.—Représentants de Fab. G.—Fabrikvertreter.

De Cordova, Pablo M., Gándara 2, Santander, Spain.
Roos & Elbert, Mainz, Germany.

Mathematical Instrument Makers.

F.—Instruments mathématiques.—Fab.
G.—Mathematische Instrumenten—Fabr.

Tavernier-Gravet, 19, rue Mayet, Paris.

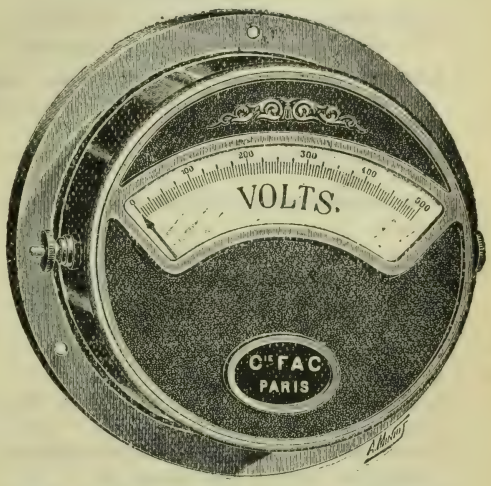
Measuring Instrument Makers—Electric.

F.—Instruments de mesure électrique—Fab. de.
G.—Elektrische Massinstrumente—Fab. von.

Abrahamsohn, R., Kantstr. 24, Charlottenburg, Berlin.
C. G. S. SOCIETÀ ANONIMA PER ISTRUMENTI ELETTRICI gia C. Olivetti & C., via Broggi 4, Milan, Italy.
Chaudeur, J., 110, rue Castagnary, Paris.
Cie. pour la Fab. des Compteurs d'Usines à Gaz, 29, rue Claude Vellefaux, Paris.
Desailly, J., 25, ru e D'Alleray, Paris.
Elektrotechnisches Institut G. m. b. H., Frankfurt-a.-M.
Gans & Goldschmidt, Reinickendorfstr. 54B, Berlin, N. 65.
Hartmann & Braun Act. Ges., Frankfurt-a.-M.-Bockenheim, Germany.

Measuring Instrument Makers—Electric —*continued.*

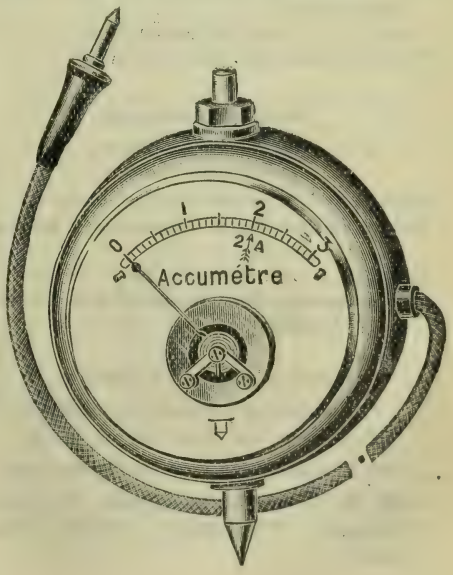
L'Electrométrie Usuelle, 81, boul. Voltaire, Paris.
Monge, G. & A. de, 85, rue du Progrès, Brussels.
"Nadir" Fabrik Elektrischer Mess Instrumente, Kadelbach & Randhagen, Rixdorf, Berlin.
Olivari, Mario, & Co., Milan; & Genoa, Italy.
Pillon, A., & J. Welter, 42, rue des Fourneaux, Paris.
Prince, F., 7, rue Réaumur, Paris.
Richard Frères, 8, impasse Fessart, Paris.



APPAREILS de Mesures Electriques.

Compagnie F-A-C

81, RUE SAINT-MAUR, PARIS (France).



Measuring Instrument Makers—Electric —*continued.*

Santarelli, Georges, via Giotto 2 *bis*, Florence, Italy.
Société Anonyme de Construction d'Instruments de Precision, Territet, Vaud.
Thury et Amey, 12, chemin des Sources, Geneva, Switzerland.
Trüb, Fierz & Co., Hombrechtikon-Zurich.
Weber, W. G., Zurich IV., Switzerland.

Metal Manufacturers & Founders—General.

F.—Métaux—Fab. et Fondeurs—en général.
G.—Metall Fabr. und Giesser—im Allgemeinen.

Actien-Gesellschaft der Emaillierwerke und Metallwaren-fabriken Austria, Spitalwiese 23, Brünn.
Aluminium-Fabrik, Hemelingen bei Bremen, Germany.
Aluminium Industrie A.-G., Neuhausen, Switzerland.
Barigozzi, Emilio, Monza, Italy.
Bellot, H., 58, rue Lourmel, Paris-Grenelle.
Compagnie Française des Metaux (soc. anon.), 10, rue Volney, Paris. Works: St. Denis (Seine).
Flornara & Co., via Garibaldi, Turin.
Fonderies et Laminoirs de Biache St. Vaast (soc. anon.), 28, rue St. Paul, Paris.
Gesellschaft für Elektrische Metallbearbeitung 101 & 102, Leipzigerstr., Berlin, W.
Meissner, Carl, Feldschlösschen Str. 10, Dresden A.
Officini, Ramella, via Quirinale 5, Rome, Italy.
Rickler, Enrico, corso Palestro 8, Turin, Italy.
Società degli Alti Forni, Fonderie ed Acciaierie di Terni, Terni, Perugia, Italy.
Società Metallurgica Anonima Italiana, Leghorn.
Société Electro-Métallurgique Française, Froges, Isères, France.
Soleau, E., 127, rue de Turenne, Paris.
Tacchi, Giovanni B., Lecco Como, Italy.

Metal Merchants.

F.—Marchands—Métaux.
G.—Metall—Händler.

Delmas, L., 45, faub. St. Antoine, Paris.
Hubert, Fülöp es Tarsa, Gyar-utcza 10, Budapest VI.
Leroux, E., 3, rue Descartes, Paris.
Oberschlesische Eisen-Industrie Actien-Gesellschaft, Gleiwitz.

Metal Shades & Reflectors.

F.—Abatjour et Reflecteurs—en Métaille.
G.—Schirme und Reflectoren von Metall.

(*See* Reflector & Shade Manufacturers.)

Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")

Metal Spinners.

F.—Fileurs de Métal.
G.—Metall Spinnereien.

Droz, Veuve, 16, rue Pierre-Levée, Paris.

Metallurgists—Electro.

F.—Métallurgistes—Électro.
G.—Erzkundige—elektro.

Compagnie Electro-Thermique Keller Leleux & Cie., 3, rue Vignon, Paris.
Elektro-Metallurgie, G. m. b. H., Hollmannstr. 32, Berlin, S.
Gin, G., 43, rue Lévis, Paris.
Humboldt, Ateliers de Construction, 17, boul. Haussmann, Paris.
Jannettaz, P., 68, rue Claude Bernard, Paris.
Lacroix, L., 7, rue Wulfran-Puget, Marseilles, France.
Néo Metallurgie, La (Soc. Anon.), 10, rue de Louvois, Paris.
Società Anonima Elettrometallurgica Bergamasca, Bergamo, Italy.
Société Electro-Chimie, 2, rue Blanche, Paris. Works: Vallorbes (Vaud), Switzerland.

Meteorological Instrument Makers.

F.—Instruments de Météorologie—Fab. d'.
G.—Meteorologische Instrumente—Fabr. von.

Olland, W. C., Utrecht.

Mica Merchants.

F.—Mica—Marchands.
G.—Glimmer—Händler von.

Avtsine & Cie., 12 *bis*, avenue des Gobelins, Paris.
Barrera, Alberto, corso Vitt. Emanuele 34, Turin, Italy.
Breslauer Glimmerwarenfab. Krawutschke & Nebelung, Kopischstr. 55, Breslau, Germany.
FRANKFURTER GLIMMERWARENFAB., LANDSBERG & OLLENDORFF, Frankfurt-a-M.-Bockenheim, Germany. (Telephone No. 5495.) *See advt.*, Mica Merchants, British Section.
Jaroslaws Erste Glimmerw. Fabrik, Berlin-Friedenau.
Lagneau, V., 66 rue Botzaris, & 58, rue des Alouettes, Paris.
Ludolphi, Adolph, Hamburg.
Meirowsky & Co., Köln-Ehrenfeld, Germany.
Norwegian Mica Co., Christiania, Norway.
Vorberg & Co., Niederlahnstein a/Rhein, Germany.
Weis, Ad., 29, rue des Vinaigriers, Paris.
Wilde, G. De, & Co., 1, place du Louvre, Paris.

Micrometers & Measuring Instruments —Makers of.

F.—Micromètres et instr. de mésure—Fab. de.
G.—Mikrometer & Mess Instrumente—Fab. von.

Mühle, R., & Sohn, Glashutte-i.-S., Germany.

Microphone Makers.

F.—Microphones—Fab. de.

G.—Microphon-Fabrikanten.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical Anvers.")

Berne, J. A. (late E. Carré), manufacturer of microphone carbons, 68 bis, rue de Lagny-Montreuil-Paris.

Burgunder, Alf., 48, ave. Felix-Faure, Paris.

Butzke & Co., Act.-Ges., 12, Ritterstr., Berlin, S.

Conradty, C., Nuremberg, Germany.

Journaux, J., 56, rue des Cévennes, Paris.

Mining Machinery (Electric)—Makers of.

F.—Machines électr. de Mines—Fab. de.

G.—Elektr. Gruben Maschinen—Fabr. von.

Pinette, G., Chalon-sur-Saône, France.

Motor Carriages.

F.—Voitures Automobiles.

G.—Motor Wagen.

Allgemeine Betriebs-Actiengesellschaft für Motorfahrzeuge, Köln.

B.-G.-S. Electrical Horseless Carriage & B.-G.-S. Special Auto-Car Cell Co., 12 bis, avenue de Madrid, Neuilly-sur-Seine, France.

Beuzelin & Cie., 8 & 10, rue de l'Abreuvoir, & 1, 9 & 13, rue de l'Industrie, Courbevoie (Seine), France.

Boeker, H. H., & Co., Remscheid, Germany.

Camona, Giussani, Turrinelli & Cie., via Spontini 5, Milan.

Compagnie Française de Voitures Electromobiles, 49–51, rue Cardinet, Paris.

De Bonnezau, Digue du Canal de Charleroi 4, Brussels.

Dinin, Alfred, 2, quai National, Puteaux (Seine), France. (Telegs.: "Accudinin, Puteaux." Teleph. No. 571–04.)

Electrique, L', 17, rue Jean Goujon, Paris.

Electromotion, Société Française des Voitures Electriques, 7 *bis*, rue Deguingand, Levallois-Perret (Seine), France.

Elektromobil G. m. b. H., Mittelstr. 25, Berlin, N.W.

Equipage Electrique, L' (Soc. Anon.), 108, rue d'Alsace, Levallois (Seine), France.

Henroid, C. E., & Co., 117, ave. du Roule, Neuilly-sur-Seine, France.

Jentsud, M., 11, quai de Seine, Courbevoie (Seine), France.

Lambert, A., & Cie., 27, ave. de la Grande Armée, Paris.

Pelgrims, R., boul. Regent 22, Brussels; 97, rue St. Maur, Paris; & 12, Hart-st., Bloomsbury, London, W.C.

Motor Carriages—*continued.*

Sociedad General de Coches Automoviles y Traccion Electrica, Zurbano 53, Madrid, Spain.

Société Anon. d'Electricité et d'Automobiles Mors, 48, rue du Théâtre, Paris.

Société Anonyme de Voitures Automobiles, 71, ave. de la Grande Armée, Paris.

Société Française d'Automobiles Electriques (Licence Krieger), 114–116, rue Gravel, Levallois (Seine), France.

Svenska Motorwagns Aktiebolaget, Stockholm.

Ullmann, Jacques, 16, boul. St. Denis, Paris.

Van Nieuwenhove, G., & E. De Clercq, Longue rue d'Argile 376, Antwerp.

Vincke, N., rue Léopold 76 & 78, Malines, Belgium.

Motor Manufacturers—Electric.

F.—Moteurs électriques—Fab. de.

G.—Motoren—elek.— Fabr. von.

ATELIERS H. CUÉNOD, S.A., 2, rue du Rhône, Geneva. Speciality: Electric motors for automobiles.

Blondeau, J. C., 15, passage Gourdon, Paris.

Bonnefils, L., Valence d'Agen (Tarn-et-Garonne), France.

Bouillet, 7, Passage Vaucouleurs, Paris.

Charpentier, L., 16, rue du Cardinal Lemoine, Paris.

Commune Française d'Electricité et de Mecanique, 5, boul. Magenta, Paris.

Compagnie des Moteurs Universels "Grob.," 56, rue Lafayette, Paris.

Daimler Motoren Gesellschaft, Marienfelde, Berlin.

Dehl, Gebr., Neuenburgerstr. 24, Berlin, S.W. 13.

Doignon, 85, rue Notre Dame-des-Champs, Paris.

Ducretet, E., 75, rue Claude Bernard, Paris.

Dulait, J., Charleroi, Belgium.

Dumont, Pierre (système Bory), Bellegarde, Ain, France.

"Duplex" Motors, 130, rue Lafayette, Paris.

Fallon, J., 33, rue St. Ambroise, Paris.

Freund, J., jun., Gitschinerstr. 106A, Berlin, S.W.

Hurtu, —, 54, rue St. Maur, Paris.

"Invicta, La," 5, rue Deves, Neuilly (Seine), France.

Klimenko, Alexis, Kozlow, Russia.

Körting Gebrüder, Markgrafenstr. 8, Leipzig.

Lacoste & Battman, Ltd., 15, rue Danton, Paris.

La Electromotora, Murcia, Spain.

Lecoq, Martin, & Co., Geneva.

Machek, Franz, & Co., Pramergasse 6, Vienna IX.

MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilator, Milan." Teleph. Nos. 809-3150.) Works in Sesto S. Giovanni. Electric Fans. Single & Polyphase Current Motors. *See advts., pages* 997, 998, 1227 & ENGINEERS—VENTILATING & FAN MOTORS—BRITISH DIVISION.

Motor Manufacturers—Electric—*contd.*

Maschinenbau-Actien Gesellschaft vormals Ph. Swiderski, Leipzig-Plagwitz, Saxony, Germany.
Maschinenbau-Gesellschaft München, München, Germany.
Meunier, Em., 16, rue de Birague, Paris.
Motorenfabrik "Protos," G. m. b. H., Berlin-Remickendorf, Berlin.
Naamlooze Vennootschap Electrotechnische Mechanische Industrie, Utrecht, Holland.
Reiss & Klemm, small motors & ventilators, Stallschreiberstr. 18, Berlin, S. (Teleph. No. Amt. 4, 8069.)
Schüler, W., & Co., Waldemarstr. 27, Berlin, S.O. 26.
Sociedad Anonima Electromotriz Valcarlos, Pamplona, Spain.
Société Générale des Industries Economiques, 40, rue Laffitte, Paris.
Spezialfabrik für Elektromotoren und Elektrische Antriebe G. Meidinger & Cie., Basle, Switzerland.
Voigt & Mühler, C., Gohlis-Leipzig.

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G.—Nickel—Fabr. Läuterer u. Händler.

Barop, E., 57, boul. de Strasbourg, Paris.
Geitner's, Dr. Agentanfabrik (F. A. Lange), Auerhammer bei Aue, Saxony.
Lange, F. A., 1, boul. Voltaire, Paris.
Perille, J., 98, avenue de Clichy, Paris.
Société Anonyme "Le Ferro-Nickel," 17, rue du Pont-aux-Choux, Paris.
Société Anonyme le Nickel, 26, rue Lafitte, Paris.
Vereinigte Deutsche Nickelwerke Act. Ges., Schwerte, Westphalia.

Nickel Platers.

F.—Nickeleur.
G.—Vernickeler.

Oil Manufacturers, Refiners & Merchants.

F.—Huiles—Fab. Raffineurs et Marchands d'.
G.—Oel Fab. Raffineure und Händler.

Cuypers, W., & Stalling, Dresden, Saxony.
Meurer, Gebr., Frankfurt-am-Main.

Omnibuses, Cabs & Parcels Vans—Electrical.

F.—Voitures, Omnibuses, &c.—élec.
G.—Omnibusse, Droschken & Packwagen—Elektr.

Renault Frères, 139, rue du Point du Jour, Billancourt, France.

Ozokerite Manufacturers.

F.—Ozokerit—Fab. d'.
G.—Ozokerit—Fab. von.

Patents & Trade Marks Registration Agents.

F.—Brevets et Marques de fabrique—Agents de.
G.—Agenten für Registrirung der Patente Handelsmarken.

Aktieselskab Kjöbenhavns Patent Bureau, Fredericksberggade 23, Copenhagen, K., Denmark.
Armengaud, Aîné, 21, boul. Poissonnière, Paris.
Armengaud, Jeune, 23, boul. de Strasbourg, Paris.
Assi, Ch., & L. Gènes, 41 & 47, rue des Martyrs, Paris.
Bardorf, E., & Co., 32, passage Popoff, Moscow, Russia.
Baumann, C., 18, boul. Magenta, Paris.
Benedetti, Comm. I. de, via della Stamperia 72-74, Rome.
Bergl, Alex., VI. Váczi körút 21, Budapest, Hungary.
Bert, Emile, 7, boul. Saint-Denis, Paris.
Betche, P., Neue Ross-str. 1, Berlin, S.
Biebuyck, R., rue de la Charité 17, Brussels, Belgium.
Blétry Frères, 2, boul. de Strasbourg, Paris.
Bois-Reymond, A. du, 29A, Schiffbauerdamm, Berlin, N.W.
Brandon Frères, 59, rue de Provence, Paris.
Brandt, G., Gitschinerstr. 3, Berlin, S.W.
Brandt, J., & G. W. v. Nawrocki, 78, Friedrichstrasse, Berlin, W.
Brockhues & Co., Zülpicherplatz, Cologne.
Brydges & Co., 107, Gitschinerstr., Berlin, S.W. 61.
Casalonga, D. A., 15, rue des Halles, Paris I°.
Chassevent, C. (Maison Ch. Desnos), 11, boul. Magenta, Paris.
Clarke, H. E. C., Zorilla, 25, Madrid.
Comptoir Industriel et Technique, 14, rue du Trone, Brussels.
Dedreux, G., Brunnstr. 8 & 9, München, Germany.
Desguin, P., 46, rue Bara, Brussels.
Deutsches Kaiserliches-Patentamt, 97-103, Gitschinerstr., Berlin, S.W. 61.
Deutsches Reichs-Patent-Amt (Imperial Patent Office), 33 & 34, Louisenstrasse, Berlin, N.W.
Fayollet, J., 18, rue Mogador, Paris.
Fehlert, C., 17, Belle Alliance Platz, Berlin, S.W.
Gerson & Sachse, Gitschinerstr. 110, Berlin, S.W.
Glaser, F. C., Lindenstrasse 80, Berlin, S.W.
Gudman et Cie., 23, boul. Poissonnière, Paris.
Kaupe & Tschekaloff, Kirpitschny per. 7, St. Petersburg.
Kesseler, C., 17, Belle Alliance Platz, Berlin, S.W.
Knappe, Carlos, Sagasta 6, Madrid, Spain.

Patents & Trade Marks Registration Agents—*continued.*

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Loubier, G., 17, Belle Alliance Platz, Berlin, S.W.
Lüders, R., Gorlitz & Berlin, Germany.
Mestral, G. & P. de, 21, rue La Rochefoucauld, Paris.
Massari, Commander A. M., via del Leoncino 32, Rome, Italy.
Moeller, J., Domstrasse 34, Würzburg, Germany.
Monath, Victor, Jasomirgottstr. 4, Vienna, Austria.
Mosenthal, Ch. de, 3 *bis*, rue Labruyère, Paris.
Palm, H. (Michalecki & Co.), Bäckerstr. 1, Vienna I., Austria.
Pataky, H., Joachimsthalerstr. 10, Berlin.
Pieper, Carl, 3, Hindersenstrasse, Berlin, N.W.
Reichard & Co., III. Marxergasse 17, Vienna, Austria.
Schmidt, Robert R., Königgrätzerstr. 70, Berlin, S.W.
Schulz, O. R., Hedemannstr. 5, Berlin, S.W. 11.
Steiger, E., Office des Brevets d'Invention, Zurich III.
Thirion, Ch., & J. Bonnet, 95, boul. Beaumarchais, Paris.
Ufficio Elettrotecnico Industriale con Ufficio Brevetti, 12, Foro Bonaparte, Milan.
Voss & Steininger, 68, Gorokhowaya, St. Petersburg.

Phonograph Makers & Agents.

F.—Phonographe—Fab. et Agents.
G.—Phonographen—Fab. u. Händler.

Phosphorized Bronze Manufacturers.

F.—Bronze Phosphoreux—Fab.
G.—Phosphor Bronze—Fabr.

Deutsche Phosphorbronce-Industrie, Kattowitz-o/S, Germany.
Muller et Roger, 108, ave. Philippe Auguste, Paris.

Photometers—Makers of.

F.—Photomètres—Fab. de.
G.—Photometer—Fab. von.

Krüss, A., Hamburg, Germany.

Platina Smiths.

F.—Platine—Forgerons.
G.—Platina—Schmiede.

Siebert, G., Hanau-on-the-Main, Germany.

Platinum Factors.

F.—Platine—Manufacture de.
G.—Platin Händler.

Mankiewitz, G., 187, Schönhauser-Allée, Berlin, N. 37.

Platinum Manufacturers & Refiners.

F.—Platine—Fab. et Raffineurs de.
G.—Platinum—Fabr. u. Läuterer.

Contenau et Godard Fils, 7, rue du Bouloi, Paris.
Des Moutis et Cie., 56, rue Montmartre, Paris.
Eisenach, Franz, & Cie., Offenbach a. M.
Gillet et Personne, 32, rue Montmorency, Paris.
Heraeus, W. C., Hanau, Germany.
Hingue, Marret & Bonnin, 220, rue St. Martin, Paris.
Tentelewsche Chemische Fabrik, 41, Galernaja, St. Petersburg.

Platinum Merchants.

F.—Platine—Marchands.
G.—Platinum—Händler.

Siebert, G., Hanau-on-the-Main, Germany.

Polyphase Generators & Motors.

F.—Générateurs et Moteurs polyphases.
G.—Mehrphäsische Dynamo & Motoren.

MARELLI, ERCOLE, & CO., LTD., Milan, Italy. (Telegs.: "Ventilator, Milan." Teleph. No. 809-3150.) Works in Sesto, S. Giovanni. Electric Fans. Single & Polyphase Current Motors. *See advts., pages* 997, 998, 1227 & ENGINEERS—VENTILATING & FAN MOTORS—BRITISH DIVISION.

Porcelain & China Fittings Makers.

F.—Porcelaine—Fab. de garnitures.
G.—Porzellanteile—Fab. von.

Bihl, G., & Co., vorm R. Hanke's, Nachfolger, G. m. b. H., Ladowitz, Bohemia.
Chauffier, J., Esternay, Marne, France.
Etablissément Céramique de Montreuil-sous-Bois, 64, rue François-Arago, Montreuil-sous-Bois (Seine), France.
Falco y Cia., Valdemorille, por El Escorial, Madrid, Spain.
Fighetti, Carlo, via Azzone Visconti, Lecco, Italy.
Gustafsburg Aktiebolag, Kungstrådgärdsg. 2A, Stockholm.
Karlsbader Kaolin-Industrie-Ges., Merkelsgrün bei Karlsbad.
Lindner & Co., Jecha-Sondershausen, Germany.
Persch, Adolf, Gauermanngasse 2, Vienna, Austria.
Pillivuyt & Cie., Mehun-sur-Yèvre, Cher, France; & 46, rue de Paradis, Paris.
Porzellanfabrik Hentschel & Müller, Meuselwitz, Germany.
Porzellanfabrik Hermsdorf, Hermsdorf, Sachsen-Altenburgh, Germany.
Richard & Co., Doccia, near Florence.
Richter, Gustave, Charlottenburg, bei Berlin.
Società Ceramica Richard-Ginori, Milan, Doccia, nr. Florence, Pisa, Mondovi & Vado Ligure, Italy.

Porcelain & China Fittings Makers—*continued.*

Société Anon. des Anciens Etablissements Parvillée Frères & Cie., 56, rue de la Victoire, Paris.

Villeroy & Boch, Kürstr. 31, Berlin.

Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Porous Cell Manufacturers.

F.—Vases Poreux—Fab. de.
G.—Poröse Töpfe für Batterien.

Boulenger, Hte., & Cie., 18, rue de Paradis, Paris.

De Fuisseaux, F., Baudour, near Mons, Belgium.

Dewinter, Vve., et Fils, 63-69, rue Vautour, Brussels, Belgium.

Mallié, —, 155, Faubourg Poissonnière, Paris.

MERAN FRÈRES, 155, FAUB. POISSONNIÈRE, PARIS. USINES L'ISLE-ADAM (S. ET O.). MANUFACTURERS OF POROUS CELLS IN SPECIAL PORCELAIN. PATENTED FOR BATTERIES & ELECTROLYSIS. SEPARATION OF LIQUIDS OF LOW RESISTANCE. ACID & CAUSTIC PROOF.

Société Anonyme des Faienceries de Creil et de Montereau, 11, rue Bleue, Paris.

Thierré Fils, 47, rue Vieille du Temple, Paris.

Professors & Teachers of Science—including Electricity.

F.—Professeurs et Précepteurs des Sciences—l'Electricité comprie.
G.—Professoren und Lehrer der Wissenschaft—Elektricität einschliessend.

Alonso, Juan, Fabrica de Electricidad de Buenavista, Madrid.

Arnò, Prof. R., M.I.E.E., Instituto Tecnico Superiore, Milan.

Arnold, E., Dr. Ing., Technische Hochschule, Karlsruhe, Germany.

Arsonval, Dr. A. d', 12, rue Claude Bernard, Paris.

Bátori, Fr., Royal Hungarian Technical University, Budapest.

Battelli, Prof. Angelo, Royal University, Pisa, Italy.

Bazzi, Prof. E. R., Istituto Tecnico "Galileo Galilei," via Mandorlo, Florence.

Bellati, Prof. Manfredo, school of engineers, Padua University, Padua.

Benevides, Francisco da Fonseca, Industrial Institute, Lisbon.

Blaserna, Comm. P., Royal Institute of Physics, Rome.

Blondel, André E., Ecole Nationale des Ponts et Chaussées, 4, ave. de la Bourdonnais, Paris.

Boltzmann, Dr. L., Haizingerg. 26, Vienna XVIII., Austria.

Borgmann, Prof. J. J., University of St. Petersburg, St. Petersburg.

Brunhes, Bernard, 37, rue Montlosier, Clermont Ferrand, France.

Professors & Teachers of Science—including Electricity—*continued.*

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Cohn, Dr. E., The University, Strasburg, Germany.

Courtoy, Prof. R., École Veterinaire, Brussels.

Crova, André, 14, rue du Carré-du-Roi, Montpellier (Hérault).

Dessau, Dr. B., University, Perugia.

Duez, G., 19, boul. de Cambrai, Roubaix.

Engländer, R., VI. Kopernikusgasse 7, Vienna, Austria.

Eötvös, Loránd dr. br., 3, Esterhazy-utcza VIII., Budapest, Hungary.

Ettingshausen, Dr. A. v., the Technical High School, Graz, Austria.

Farini, Ing. Licinio, Ravanna.

Feldmann, C., Technical University, Delft.

Ferreira da Silva, Dr. Antonio J., rua de Sta. Catharina 846, Porto.

Finocchi, Dr., Ensebio, Ancona.

Formenti, Prof. Carlo, R. University, Pavia, Italy.

Foveau de Courmelles, Dr., 26, rue de Châteaudun, Paris.

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Gueglio, G. B., Rª. Scuola Technica, Ravenna.

Haga, Dr. H., University of Groningen.

Hagenbach-Bischoff, The University, Basle, Switzerland.

Hauffe, Leop. Ritter v., Mayerkofgasse 14, Vienna IV.

Heim, Dr. C., Königl. Techn. Hochschule, Hanover.

Heinke, Dr. C., 29, Ainmillerstr., Munich.

Herrmann, I., 25, Hegelstr., Stuttgart.

Hesehus, N., Institut Technologique, St. Petersburg.

Hochenegg, Carl, Technische Hochschule, VI. Mariahilferstr. 1, Vienna.

Hoogewerff, Dr. S., Technical University, Hooikade 17, Delft, Holland.

Hoor-Tempis, Dr. Maurice, Ganz & Co., II. Zsigmond u. 9, Budapest.

Jaumann, Dr. G., The University, Prague.

Julius, Dr. W. H., The University, Utrecht.

Kalischer, Dr., Technische Hochschule, Kostnitzerstr. 2, Berlin.

Kamerlingh Ormes, Dr. H., University of Leiden.

Kapoustine, Théodore, The University, Tomsk, Russia.

Kayser, Prof. Dr., The University, Bonn, Germany.

Kittler, Prof. Dr. Erasmas, Geheimerath, Grossherzogl. Technische Hochschule, Darmstadt, Hessen.

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Professors & Teachers of Science—including Electricity—*continued.*

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Mach, Ern., XVIII. Gersthoferstr. 144, Vienna.
Macquet, Prof. A., 40, boul. Dolez, Mons, Belgium.
Magnus, M., Lycée de Galata-Serai, Constantinople.
Manuelli, Dott. G., Reggio Emilia, Italy.
Matthes, G., "Technikum Berlin," Königgrätzerstr. 90, Berlin, S.W. 11.
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Moissan, H., La Sorbonne, Paris.
Moser, Dr. J., Laudongasse 25, Vienna, VIII.
Naccari, Dr. Cav. Andrea, R. University, Turin.
Negreano, D., 13, boul. Ferdinand, Bucharest.
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Piltschikoff, Nicolas, Technological Institute, Kharkov, Russia.
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Pongiovanni, Prof. G., University, Ferrara.
Puluj, Dr. T., The German Technical High School, Prague.
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Reithoffer, Dr. Max, Technische Hochschule, Vienna.
Roessler, Dr. G., Technische Hochschule, Danzig.
Röntgen, Prof. W. C., The University, Munich.
Schlenk, Carl, IX. Elisabethpromenade 43, Vienna.
Schultz, Dr. G., Kgl. Techn. Hochschule, Munich.
Sengel, A., Elektrotech. Institut der Technischen Hochschule, Darmstadt.
Sissingh, Dr. R., M.I.E.E., University, Amsterdam.
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Snijders, J. A., Polytechnic School of Delft, Kanaalweg, Delft, Holland.
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Sventorzetzky, Col. L., Military Engineering Academy, St. Petersburg.

Professors & Teachers of Science—including Electricity—*continued.*

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Zickermann, Dr., Siemens-Schuckert Werke, G. m. b. H., Nuremberg.
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Publications—Electrical & Scientific.

F.—Publications électriques et scientifiques.
G.—Elektrische & Wissenschaftliche Zeitschriften.

Annalen der Elektrotechnik (monthly; half-year's sub.: Germany, Mk. 6 & Mk. 7.50; Austria, Kr. 9·50; abroad (annual), Mk. 18), Viktoriastr. 87, Darmstadt, Germany.

Annalen der Elektrotechnik (in 12 parts; price 15, M. per ann.; abroad, 18 M.). Fritz Hoppe, editor; J. A. Barth, publisher, Rossplatz 17, Leipzig, Germany.

Annales Technique, La (semi-monthly; ann. sub., P.U., £1 3*s.* 6*d.*), 52, rue St. Georges, Paris.

Annali Istituto Tecnico e Nautico, G. B. Della, Porta, Naples.

Année Électrique, L' (*électrothérapique et radiographique*). Editor, Dr. Foveau de Courmelles, 26, rue de Châteaudun, Paris (9e). Publisher, Ch. Béranger, 15, rue des Saints-Pères, Paris; & 15, rue de la Régence, Liége.

Annuaire de l'électricité, 114, rue et place Lafayette, Paris.

Annuario della R. Scuola d'applicazione degli Ingegneri, Naples.

Anuario de la Mineria, Metalurgia y Electricidad de España, 3, Villalar, Madrid. (R. Oriol. Price 8*s.*)

ANZEIGER FÜR ELEKTROTECHNIK UND DAS GESAMMTE BELEUCHTUNGS WESEN (*UNGARISCHER METALLARBEITER*), V. Perczel Mór-utcza 4½, Budapest, Hungary.

Publications—Electrical & Scientific— *continued.*

Archives d'Électricité Médicale (bi-monthly; 22 frs. per ann.), 6 bis, rue du Temple, Bordeaux.

Association amicale des Ingénieurs-electriciens, 11, rue St. Lazare, Paris.

Atti del R. Accademia delle Scienze Fisiche e Matematiche, Rampe del Salvatore all' Universita, Naples.

Beiblatter zu den Annalen der Physik (in 24 parts; price 24 marks per annum), Leipzig, Germany.

Bulletin de la Société Belge des Electriciens (monthly), Brussels.

Bulletin de la Société Internationale des Électriciens (monthly), 55, quai des Grands-Augustins, et 12, rue de Staël, Paris. Paris, 25 frs.; P.U., 27 frs.; single copies, 2.50 frs.

Bulletin de l'Association des Ingénieurs Électriciens sortis de l'Institut Electrotechnique Montefiore, rue Saint Gilles 31, Liége.

Bulletin des Usines Électriques (monthly; ann. sub., 30 frs.; P.U., 34 frs.), 27, rue Tronchet, Paris.

Bulletin International de l'Electricité, 20, rue Turgot, Paris.

Centralblatt für Accumulatoren Technik und verwandte Gebiete (twice a month), Dr. Franz Peters, Gross Lichterfelde West, nr. Berlin, editor & publisher. (Ann. sub., 14*s.*)

Chemiker-Zeitung (semi-weekly; quarterly sub., M. 6; abroad, M. 7), Cöthen, Anhalt, Germany. (Dr. v. Vietinghoff-Scheel, editor; Otto v. Halem, publisher.)

Comptes Rendus hebdomadaires des Séances de l'Académie des Sciences (P.U., 44 frs.), 55, quai des Grands-Augustins, Paris.

Cosmos (weekly; annual subscription, 20 francs; abroad, 25 frs.), 5, rue Bayard, Paris VIII.

Dingler's Polytechnisches Journal (weekly), Berlin.

Distribuzione Elettrica, La (monthly), 11, via Cernaia, Milan.

Echo de l'Industrie, L' (weekly; ann. sub., 15*s.*), Charleroi, Belgium.

Echo des Mines de la Metallurgie et de l'Électricité (twice a week), 26, rue Brunel, Paris. (Ann. sub., P.U., 45 frs. = £1 12*s.*)

Eclairage Electrique, L', 40, rue des Écoles, Paris, V^e^. (weekly, price 1 fr. 50.)

Electricien, L', Revue Internationale de l'Électricité et de ses Applications (weekly; sub., 25 frs. per ann.), 49, quai des Grands Augustins, Paris.

Électricité Journal Russe, Edition de la Sté. Imperial Technique de Russie (semi-monthly; editor, A. Smirnoff; sub. P.U., 12 roubles, or 30 francs), Canal Ekatherine 134, St. Petersburg, Russia.

Electro (ann. sub., 10 frs.; P.U., 12 frs.), 31, rue Montagne-au-Herbes-Potagères, Brussels.

Electrochemische Zeitschrift, 11, Kurfürstenstr., Berlin, W. 57.

Electrochimie, L' (monthly; price 1*s.*), rue de Berne 37, Paris.

Electron (three times a month), Marqués de Santa Ana 26, Madrid.

Publications—Electrical & Scientific— *continued.*

ELECTROTECHNISCH-EN-WERKTUIGKUNDIG WEEKBLAD, Amsterdam.

Elektrotechnische Patentblätter (twice a month; ann. sub., M. 24; single copies, M. 1·50), 35, Potsclamerstr. 113A, Berlin, W. 35.

Electrotechnishe u. Polytechnische Rundschau (twice a month; 9.50 M. per ann. in Germany; other countries 12 M.), 10, Kaiser-str., Frankfurt-a.-M.

Electrotechnisches Echo, Magdeburg, S., Germany.

Electrotechnitchesky Wiestnick (monthly; sub., P.U., 7 roubles or 16 frs.), Znamens-kaya 40, St. Petersburg.

Elektrische Bahnen und Betriebe (36 times a year), 8, Glückstr., Munich, Germany.

Elektrizität, Die (every Friday; ann. sub., 6 M.), Münzstr. 16, Berlin, C. Editor, P. Huckewitz.

Elektrochemische Technik (monthly; ann. sub., 10*s.* 6*d.*), Dr. Franz Peters, Gross Lichterfelde, West, nr. Berlin, editor & publisher.

Elektrotechnik (Electrician) (semi-monthly; sub., 7 roubles or 18 frs.). N. Wolkoff, Catherinehoff Perspective 63, St. Petersburg.

Elektrotechnik und Maschinenbau (weekly, price 70 Heller), Nibelungengasse 7, Vienna I.

Elektrotechniker, Der (semi-monthly), Heugasse 62, Vienna, IV. (Ann. sub., 12*m.* = 12*s.*)

Elektrotechnische Zeitschrift (E. C. Zehme, editor), 3, Monbijouplatz, Berlin, N. 24.

Elektrotechnischer Anzeiger (twice weekly), 6, Lützowstr., Berlin, W.

Elektrotecnischer Neuigkeits Anzeiger und Maschinentechnische Rundschau (monthly; ann. sub., 8*s.*), 18 Gumpendorferstr., Vienna VI.

Elektroteknisk Tidsskrift (3 times a month), Christiania, Norway.

Elettricista, L' (fortnightly, illustrated), 222–226, via Cavour, Rome. (Ann. sub., 16*s.*)

Elettricità, L' (weekly), Foro Bonaparte 12, Milan. (Ann. sub., P.U., 20 frs.; in Italy, 15 lire.)

Energia Electrica, La, Plaza de Isabel II. 5, Madrid.

Energie Electrique, L' (fortnightly; price, 1 fr.), 18, rue Dauphine, Paris.

Fortschritte der Elektrotechnik, Monbijouplatz 3, Berlin, N.

Génie Civil, Le (weekly), 6, rue de la Chaussée d'Antin, Paris. (Ann. sub., P.U., 45 frs.

Helios, Export Zeitschrift für Elektrotechnik (weekly), 20, Inselstr., Leipzig.

Il Mese, Lugano, Switzerland; & 2, via Berchet, Milan, Italy.

Il Politecnico (monthly), 2, Piazza S. Giov. in Conca, Milan.

Industria é Invenciones (weekly, 20 pesetas; abroad, 30 pesetas per annum), Ronda Universidad 17, Barcelona, Spain.

Industria, L' (weekly), Palazzo delle Assicurazioni Generali Venezia, Piazza Cordusio 2, Milan. (Ann. sub., P.U., 38 frs. = £1 10*s.*)

Industrie Chimique, L' (weekly), 60, rue de Provence, Paris.

Industrie Électrique, L' (twice monthly; ann. sub., P.U., £1), 87, boul. St. Michel, Paris.

Publications—Electrical & Scientific— *continued.*

Industrie Électro-Chimique, L' (monthly; ann. sub., 10*s.*), 5, rue Guy Patin, Paris.

Industrie, L' (weekly), combining *L'Ingénieur Conseil, L'Industrie Moderne & Industria*, rue Ducale 13, Brussels; & Boyveau et Chevillet, 22, rue de la Banque, Paris. (Ann. sub., P.U., 25 frs. = £1.)

Ingegneria Ferroviaria, L' (fortnightly), via del Leoncini 32, Rome.

Journal de l'Électricité, amalgamated with *Bulletin International de l'Electricité.*

Journal de l'Électrolyse (Aluminium & Acetylene), (bi-monthly; ann. sub. P.U., 24 frs. = 19*s.*), 23, rue Brunel, Paris.

Journal de Physique, Chimie, et Histoire Naturelle Élementaires, Rouen, France.

Journal de Physique Théorique et Appliquée (monthly; ann. sub., France, 17 frs.; other countries, 18 frs.), 97, boul. Arago, Paris XIV.

Journal des Postes, Télégraphes et Téléphones, 27, rue de Temple, Troyes (Aube), France.

Journal Télégraphique (monthly; ann. sub., Switzerland, 4.20 frs., P.U., 5 frs.), Berne, Switzerland.

Mois Scientifique et Industriel, Le (price, 2 frs.), 8, rue Nouvelle, Paris; & 7, passage Lemonnier, Liége, Belgium.

Moniteur Industriel (weekly; ann. sub., 32*s.*), 16, rue de Berlin, Paris; & 18, rue Antoine Dansaert, Brussels.

Monitore Tecnico (published the 10th, 20th & 30th of every month; ann. sub., 15 frs.), 4, via Conservatorio 26, Milan, Italy.

Motorwagen, Der, Zeitschrift für Automobil-Industrie und Motorenbau (three times a month), Kurfürstenstr. 11, Berlin, W. 57.

Naturaleza, La (3 times a month; ann. sub., P.U., 30 francs = £1 4*s.*), pasage de la Alhambra 1, Madrid.

Nature, La (weekly), publisher, G. Masson, 120, boul. St. Germain, Paris. (Ann. sub., 26 frs.)

Nuovo Cimento, Il, Organo della Societa Italiana di Fisica, piazza S. Simone, Pisa, Italy.

Praticien Industriel (monthly), 15, rue des Halles, Paris, I°. (Ann. sub., P.U., 7 frs.)

Radium, Le (monthly), 91, rue Denfert Rochereau, Paris.

Revista Minera Metalúrgica (weekly; annual subscription, £1), 3, Villalar, Madrid.

Revue de Chimie Industrielle, (monthly, price 1*s.*), 53 bis, quai des Grands Augustins, Paris.

Revue de l'Electricité (twice a month, P.U. 8 frs.), rue Pépinet 3, Lausanne, Switzerland.

Revue de l'Ingenieur et Index Technique (monthly; price 2 fr. 50), Musées Royaux, 1, rue du Musée, Brussels.

Revue des Eclairages, 104, boul. de Clichy, Paris (twice a month; ann. sub., 8 frs.).

Revue Electrique, La, editor, M. Blondin, 171, faub. Poissonnière, Paris (9e); publisher, Gauthier-Villars, 55, quai des Grands-Augustins, Paris (6e), (twice a month; ann. sub., Paris, fr. 25; P.U., fr. 30).

Publications—Electrical & Scientific— *continued.*

Revue Gaz et Electricité (bi-monthly), 42, rue Maubeuge, Paris.

Revue Générale des Sciences pures et appliquées (twice a month; ann. sub., P.U., 25 francs = £1), 5, rue du Mézières, Paris.

Revue Industrielle (weekly, price 0.85 francs), 17, boul. de la Madeleine, Paris.

Revue Mineralurgique (monthly; ann. sub., frs. 6; abroad 8 frs.), 31, rue de la Victoire, Paris IXe.

Revue pratique de l'Electricité (fortnightly; ann. sub., P.U., 15 frs. = 12*s.*), 9, faub. Poissonnière, Paris.

Revue Scientifique, 41 rue de Châteaudun, Paris.

Revue Universelle des Mines, (ann. sub., fr. 40), 18, rue Bonne-Femme, Liége, Belgium.

Rivista Scientifico-Industriale (twice a month; ann. sub., 9*s.* 6*d.*), Lungarno Zecca 2, Florence, Italy.

Schweizerische Blätter für Elektrotechnik. See *Revue de l'Electricité.*

Schweizerische Elektrotechnische Zeitschrift (monthly; ann. sub., 12 frs.), 72, Stampfenbachstr., Zurich IV.

Science illustrée, La (semi-monthly), 5, Jacobistr., Dusseldorf, Germany. (Ann. sub., M. 24).

Technische Literatur (monthly; price 35 pf.; ann. sub., 3 m.), Ossterstr. 88, Hanover.

Telegrafia e Telefonia (*Giornale dei Telegrafisti*), 2, piazzale Venezia, Milan. (Ann. sub., 5*s.*)

Tramway, Le (weekly; ann. sub., P.U., 17*s.* 6*d.*), 74, rue Vondel, Brussels.

Universal Technical Review, Gaslerowsky House No. 11, St. Petersburg.

Wiedemann's Annalen der Physik (15 parts; 45 M. per ann.), Leipzig, Germany. J. Drude, editor; J. A. Barth, publisher.

Zeitschrift des Österreichischen Ingenieur. Architekten-Vereines (weekly; ann. sub., 24 k.), Vienna.

Zeitschrift für Angewandte Chemie (weekly; ann. sub., 25*s.*), Berlin. Publisher, Dr. B. Rassow.

Zeitschrift für das Gesamte Turbinenwesen (3 times a month; ann. sub., M. 18; abroad, M. 20–40), Glückstr. 8, Munich. Published by R. Oldenbourg, Munich & Berlin. Editor, W. Adolf Müller.

Zeitschrift für den Physikalischen und Chemischen Unterricht (bi-monthly; ann. sub., 12*s.*), Berlin. Publisher, Dr. F. Poske.

Zeitschrift für Elektrochemie und Angewandte Physikalische Chemie. Published by William Knapp, Halle-a.-Saale, Germany.

Zeitschrift für Elektrotechnik und Maschinenbau (weekly; quarterly sub., 3 M.; abroad, 5 M.), Hohenzollernstr. 3, Potsdam, Germany.

Zeitschrift für Instrumentenkunde Organ für wissensch. Technik, Bismarckstr. 53, Charlottenburg-Berlin.

Zeitschrift für Physikal. Chemie, Linnéstr., Leipzig.

Publishers of Electrical & Scientific Books.

F.—Editeurs de publications élec. et scient.

G.—Verleger von Electr. & Wissensch. Büchern.

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Enke, Ferd., Stuttgart, Germany.
Gauthier-Villars, 55, Quai des Grands-Augustins, Paris 6e.
Goschen' Sche, G. J., Leipzig, Germany.
Günther, F. A., & Sohn, 6, Lützowstr., Berlin, W.
Hachmeister & Thal, Inselstr. 20, Leipzig, Germany.
Hartleben, A., Seilerstätte 19, Vienna I., Austria.
Hoepli, U., Milan, Italy.
Holstenn, Liteinoi 28, St. Petersburg.
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Leiner, O., 26B, Königsstr., Leipzig.
Le Soudier, H. C., 174 & 176, boul. St. Germain, Paris.
Masson & Cie., 120, boul. Saint Germain, Paris.
Meusser, H., 58, Steglitzerstr., Berlin, W. 35.
Michelet, J., 25, quai des Grands-Augustins, Paris.
Naud, C., 40, rue des Ecoles, Paris.
Oldenbourg, R., 8, Glückstrasse, Munich.
Ricker, —, Newsky prosp. 14, St. Petersburg.
Roux & Viarengo, Piazza Solferino 20, Turin, Italy.
Sois, L. de, & Fils, 18, rue des Fossés St. Jacques, Paris.
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Dourin, V., rue du Congrès 2, Brussels.
Metallurgique, La (Soc. Anon.), 1, place de Louvain, Brussels.
Scheinig & Hofmann, Museumstr. 4, Linz a. D., Austria.
Società Anonima gia Fratelli Diatto, via Moncalieri 10, Turin.
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Compagnie de Tramways Electriques de Dijon, 26, rue de la République, Lyon, France.
Compagnie Générale Francaise de Tramways, 29, rue de Londres, Paris.
Compagnie Mutuelle de Tramways, Société Anonyme, 31, rue de Marais, Brussels.
Danziger Elektrische Strassenbahn Aktien Ges., Danzig.
Dresdener Ges. für Elektrische Bahnen, Dresden.
Eisenbahnbau - Gesellschaft Becker & Co., G. m. b. H., Potsdamerstr. 28, Berlin, W.
Elektrické Podniky Král. hlav. mesta Prahy, Prague.
Elektrische Strassenbahn Valparaiso Akt. Ges., Berlin, W.
Gesellschaft für Strassenbahn Bedarf, Schönhauser-Allee 62, Berlin, N.
Ibarra y Cia., Bilbao-Ortuella, Spain.
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Obach, Th., 3, Pauluigasse, III., Vienna.
Oesterr-Alpine Montan-Gesellschaft, Karntnerstr. 55, Vienna I.
Officine meccaniche gia Miani Silvestri & C.—A. Grondona, Comi & Co., Fuori Pa. Vigentina, Milan.
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Société Anonyme d'Entreprise Général de Travaux, boul. de la Sauvenière 64, Liége, Belgium.
Société Anonyme de la Construction Métallurgique, 1, place de Louvain, Brussels, Belgium.
Société Parisienne pour l'Industrie des Chemins de Fer et des Tramways Electriques, 31, ave. de l'Opera, Paris.
Société Versaillaise de Tramways Electriques et de Distribution de l'Energie, 22 bis, avenue de St. Cloud, Versailles.
Suc, A., & Cie., 35, rue de Bagnolet, Paris.
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Compañia del Tramvia Electrico de Cadiz à San Fernando y la Carraca, Cadiz.
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Klampenborg Electric Tramway, Klampenborg nr. Copenhagen.
Lisbon Electric Tramways, Ltd., Lisbon, Portugal.
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Schaffhausen Strassenbahn, Schaffhausen.
Società Anonima dei Tramways di Torino & Società Torinese di Tramways e Ferrovie Economiche, Turin, Italy.
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Società Tramway Elettrica, Florence.
Société Anon. des Tramways Bruxellois, Brussels.
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Luchaire, Henri, 27, rue Erard, Paris.
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Radiguet & Massiot, 44, rue du Château d'Eau, & 15, boul. des Filles du Calvaire, Paris.
Müller, C. H. F., Hamburg.
POLYPHOS ELECTRICITÄTS GESELLSCHAFT, Schillerstr. 16, Munich, Germany.
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Ecole du Génie Civil de Gand; cours d'électrotechnie, Gand, Belgium.
Ecole Professionnelle de Mecanique de Précision d'Horlogerie et d'Electricité, Brussels. M. Nys, professor of electricity.
Ecole Speciale d'Industrie des Mines et Faculté Polytechnique du Hainaut, rue de Houdain, Mons, Belgium. (Directeur & professeur d'électricité, A. Macquet.)
Ecole Supérieure d'Electricite, 14, rue de Staël, Paris. Directeur, P. Janet; sous-directeur, H. Chaumat.
Ecole Supérieure de Télégraphie, 99 à 103, rue de Grenelle, Paris.
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Scientific Apparatus Makers.

F.—Appareils Scientifiques—Fab. d'.
G.—Wissenschaftliche Apparate—Fab. von.

Amado, Laguna, 14, Estabanes, Zaragoza, Spain.
Arceri, Gaspare, Trapani, Italy.
Baille-Lemaire, 26, rue Oberkampf, Paris.
Barbieri, Secondo, via St. Maria 13, Pisa.
Berry, A., via Roma 1, Turin.
Bisson, E., 39, boul. Bourbon, Paris.

Scientific Apparatus Makers—*continued.*

Bourdon, Edouard, 74, faub. du Temple, Paris.
Cadet, Adr., 78, cours Lafayette, Toulon, France.
Calderoni & Co., 8, Kishidutcza, Budapest IV.
Cognato, Antonio, via St. Biagio, Padua.
Cuénod, H., et Ch. Fournier, 2, rue du Rhône, Geneva, Switzerland.
Edelmann, Prof. Dr. M. Th., Nymphenburgerstr. 82, Munich, Germany.
"Excelsiorwerk" Fabrik für Feinmechanik (m. b. H.), Köln, Germany.
Hempel, O., et Cie., 55, quai des Grands-Augustins, Paris.
Hinaux, E., & H. Thomas, formerly Pericaud & Cie., manufacturers, 9, rue St. Maur, Paris. Induction coils, scientific & medical apparatus. Scientific toys.
Houilliot, H., 60, rue Nôtre Dame de Nazareth, Paris.
Koristka, Francesco, via G. Revere 2, Milan.
Krüss, A., Hamburg, Germany.
Langbein, Dr. G., & Co., Sellerhausen, Leipzig.
Lisser & Benecke, Stiglitzerstr. 75, Berlin, W.
Lucco, Luigi, Piazza Angel 2, Turin.
Luizard, L., 14, rue du Cloître Nôtre Dame, Paris.
Mentechini, Giuseppe, via Vittorio Emmanuele 27, Leghorn, Italy.
Murer & Duroni, piazza S. Carlo, Milan, Italy.
Murer, T. & V., piazza S. Carlo, Milan, Italy.
Neuman, Henryk, Wloclawsk, Warsaw, Russia.
Officina, Galileo, via Regina Vittorio, 46, Florence, Italy.
Pichi, Andrea, via del Martelli 1, Florence, Italy.
Platzbecker, Jos., Elberfelderstrasse, Düsseldorf, Germany.
Prince, F., 7, rue Réaumur, Paris.
Ruspini, G., 66, via Carlo Felice, Genoa, Italy.
Secrétant, —, 13, place du Pont Neuf, Paris.
Sommer & Runge, Wilhelmstr. 122, Berlin, S.W.
Steflitschek, Franc., 8, Millergasse, VI., Vienna.
Velter, J., & Cie., 42, rue des Forneaux, Paris.
Vial, Jules, 55, rue Caulaincourt, Paris.
Vion Frères, 38, rue de Turenne, Paris.

Screw Plate, Stocks & Dies Makers.

F.—Vis, écrous et autres accessoires—Fab. de.
G.—Schrauben & Stempel Zapfen—Fabr. von.

Laubscher Frères & Cie., Tauffelen, Switzerland.

Screw, Terminal & small Detached Accessories Manufacturers.

F.—Vis, Bornes et petits accessoires detachés—Fab. de.
G.—Schrauben und Sonstige Artikel für Elektriker—Fabr. von.

Barrière, L., 22, rue St. Sabin, Paris.
Caillat, A., & Lebrun, E., 67, rue du Chemin-Vert, Paris.
Canda, Felice, 45, via Stella, Milan.
Deberghe, A. G., & Lafaye, 14, rue Pelleport, Paris.

Screw, Terminal & small Detached Accessories Manufacturers—*continued.*

Freydier, Vve. H., rue St. Maur 204 (Passage Hebrand 9), Paris.
Goebel, Carl, Nürnberg, Bavaria.
Heyne Gebrüder, 136, Ludwigstr., Offenbach-on-the-Main, Germany.
Isaac, J., & Fils, Nyon, Switzerland.
Laubscher Frères & Cie., Tauffelen, Switzerland.
Luben & Buhse, Köpnickerstr. 153, Berlin, S.O.
Megeraud, F., et Co., rue Richemont, Geneva.
Naeser, H., 21, Rixdorf, Berlin.
Neuhaus, L., & Cie., 25, rue de la Cerisaie, Paris.
Rodet, 26, passage d'Angoulême, Paris.
Scherler, Emil, 5, Holzmarktstr., Berlin, O.
Staerke, C. F., 77, Blumenstrasse, Berlin, O.
Viarmé, G., 125 bis, rue du Chemin-Vert, Paris.
Vuarchex, César, Scionzier, Haute-Savoie.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")

Search Lights (Projectors, &c.).

F.—Projecteurs—Lumière électr.
G.—Scheinwerfer.

Barbier, Bénard & Turenne, 82, rue Curial, Paris.
Salmoiraghi, Stucchi & Co., Milan.

Secondhand Electrical Plant—Buyers of & Dealers in.

F.—Appareils électriques et d'occasion—Acheteurs et vendeurs.
G.—Zweiter Hand Elektrische Anlagen—Kaüfer von & Händler in.

Shafting Manufacturers.

F.—Transmissions par arbres—Fab. de.
G.—Wellingleitung—Fab. von.

Pretzel, Franz & Co., Berlin, N.

Ship Fitters for Electric Lighting.

F.—Bateaux—Install. de lumière élec. dans.
G.—Schiffslichtanlagen.

Silver Merchants.

F.—Marchands—Argent.
G.—Händler von Silber.

Lange, F. A., 1, boul. Voltaire, Paris.
Manufacture de l'Alfénide, 66, rue des Marais, Paris.

Slate Turners for Electrical Purposes.

F.—Ardoise—Tourneurs d'—pour l'électr.
G.—Schiefer Drechsler für Elektr. Zwecke.

Kölnische Schieferplatten und Schieferwaaren Fabrik J. Hegmanns, Köln-Ehrenfeld, Germany.

Smelters & Refiners.

F.—Fondeurs et Raffineurs.
G.—Smelzereien und Läuterer.

Eckelt, J. L. C., Chausseestr. 19, Berlin, N.

Societies—Learned, Scientific & Technical.

F.—Sociétés—Savantes, Scientifiques et Techniques.
G.—Vereine—Gelehrte, Wissenschaftliche u. Tech.

Académie des Sciences, Institut de France (G. Darboux & M. Berthelot, secs.), 23, quai Conti, Paris.
Académie royale des Sciences des Lettres et des Beauxarts, Palais des Academies, Brussels.
Asociacion de Ingenieros Industriales, calle de Pelayo 9, Barcelona, Spain.
Association Amicale des Ingénieurs Électriciens, 11, rue St. Lazare, Paris.
Association des Communes du Val de Travers, Couvet (Neuchatel), Switzerland.
Association des Ingénieurs Electriciens sortis de l'Institut Electrotechnique Montefiore, rue Saint Gilles 31, Liége, Belgium.
Association Française pour l'Avancement des Sciences, Hotel des Sociétés Savantes, 28, rue Serpente, Paris.
Association Philotechnique; Section des Électriciens, 42, rue Lhomond, Paris.
Association Suisse des Électriciens, Hardturmstr. 20, Zurich III.
Associazione dei Concessionari Telefonici Italiani, via Nazionale 96, Rome.
Associazione Elettrotecnica Italiana, via Galliera 14, Bologna.
Associazione Elettrotecnica Italiana, via San Paolo 10, Milan.
Associazione Elettrotecnica Italiana, Naples.
Associazione Elettrotecnica Italiana, Padua, Italy.
Associazione Elettrotecnica Italiana, 165, via Macqueda, Palermo, Italy.
Associazione Electrotechnica Italiana, Rome, Italy.
Associazione Elettrotecnica Italiana, Galleria Nazionale, Turin.
Associazione Elettrotecnica Italiana, Sezione Genovese, 2, via Davide Chiossone, Genoa, Italy.
British Chamber of Commerce, 25, boul. des Italiens, Paris.
Chambre syndicale des Constructeurs Électriciens, 3, rue de Lutèce, Paris.
Electrotechnic Club (Elektroteknische Forening), Copenhagen K.
Electrotechniker-Verein zu Hamburg, Hansaplatz, 9, Hamburg.
Elektrotechnische Lehr-und Untersuchungs-Anstalt des Physikalischen Vereins zu Frankfurt-am-Main, Germany.
Elektrotechnische Versuchsstation zu-Magdeburg, Westendstrasse 21 & 22, Magdeburg. (Dr. Martin Krieg, director.)

Societies—Learned, Scientific & Technical—*continued.*

Electrotechnischer Verein der Studirenden der Königlich Technischen Hochschule, Berlin, Germany.
Elektrotechnischer Verein in Wien, 7, Nibelungengasse, Vienna I.
Elektrotechnisches Institut der Grossherz. Hess. technisch. Hochschule, Darmstadt, Germany.
Elektrotechnisches Institut der k. k., Technische Hochschule, IV. Gusstrausstr. 25, Vienna.
Institut d'Electrothérapie de Brussels, 31, rue de Malines, Brussels, Belgium.
Physik. Institut d'Universitat, Halle, a/S, Germany.
Physikalische Verein, 32, Stiftstrasse, Frankfort-on-the-Main. *See also* Elektrotechnische Lehr- und Untersuchungs-Anstalt.
Schweizerischer Elektrotechnischer Verein, Zurich, Switzerland.
Société Belge d'Electriciens, Hotel Ravenstein, Brussels.
Société Belge des Ingénieurs et des Industriels, Hotel Ravenstein, rue Ravenstein 11, Brussels.
Société des Ingénieurs Civils, of France, 10, cité Rougemont, Paris.
Société des Sciences, Christiania, Norway.
Société Française de Physique, 44, rue de Rennes, Paris.
Société Impériale Polytechnique de Russie, 2, rue Panteleimonskaja, St. Petersburg.
Société Internationale des Électriciens, 12 & 14, rue de Staël, Paris.
Société pour l'étude du Magnétisme, 5, rue des Petits-Champs, Paris.

Soldering Lamps & Irons.

F.—Lampes à Souder.
G.—Löth Lampen.

Soldering Tools, &c.—Makers of.

F.—Outils à Souder, etc.—Fab. de.
G.—Löthwerkzeug.

Specialities Makers—Electrical.

F.—Spécialités électriques—Fab. de.
G.—Specialitäten—elek.—Fab. von.

Electrical Speciality Co., G. m. b. H., Leipzigerstr. 113, Berlin, W.
Feilchenfeld, H., Alexandrinenstr. 37A, Berlin.
Fressier, Ant. (electric lifts), Simmeringerstrasse, Elcahplatz, X., Vienna.
Gesellschaft für Maschinenbau und Elektrische Neuheiten (G. m. b. H.), Hafen Platz 5, Berlin, S.W.
Hannemann, Hermann, 17, Besselstrasse, Berlin, S.W.
Hirsch, A., Friedrichstr. 248, Berlin, S.W., Germany.

Specialities Makers—Electrical—*continued.*

Krahmer, R. P., Sebastianstr. 27, Berlin.
Lehrer & Schaeffer, Lübeckerstr. 3, Berlin.
Maisonneuve, —, 14, passage Gustave Lepeu, Paris.
Physikalisch-Technische Reichsantalt, Abtheilung II. zu Charlottenburg, bei Berlin, Berlinerstrasse 151.

Speed Indicator Makers.

(*See also* RECORDING INSTRUMENTS.)

F.—Indicateurs à Vitesse—Fab. d'.
G.—Tachometer—Fab. von.

Fonos Gesellschaft m. b. H., Berlin, S.W. 68.
Hausshälter, H., speed recorders, Meissnerstr. 11, Dresden, Germany, Patent owner & supplier; Actiengesellschaft vorm. Seidel & Naumann, manufacturers, Dresden.
Klein, —, 86, faub. St. Denis, Paris.
Schaeffer et Budenberg, 105, boul. Richard Lenoir, Paris.

Spring Makers for Pushes.

F.—Ressorts pour Boutons de Sonneries—Fab. de.
G.—Federn für Druckknöpfe—Fab. von.

Chantelot, —, 127, rue du faub. du Temple, Paris.
Sorgue, C., 9, passage Corbeau, Paris.

Steel Manufacturers, Converters & Refiners.

F.—Acier-Fabricants, Convertisseurs et Raffineurs.
G.—Stahl Umformer, Läuterer & Fabrikanten.

Gusstahlfabrik Essen a. d. Ruhr (Fried. Krupp Akt. Ges.), Essen a. d. Ruhr, Germany.
Léonard-Giot, Marchienne-au-Pont, Belgium.
Moniotte jeune, Ronchamp, Haute-Saône.
Oeking & Co., Düsseldorf.
Société d'Exploitation des Acieries Electriques, Forges et Fonderies de Bèze et de Rome, 26, rue Brunel, Paris.
Usines et Aciéries Léonard-Giot, Marchienne-au-Pont.
Westphalian Steelworks, Bochum, Westphalia.

Stranding Machine Manufacturers.

F.—Machines à toronner le fil—Fab. de.
G—Drahtlitzenmaschinen—Fabr.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Submarine Cables—Makers of.

F.—Cables sousmarins—Fab. de.
G.—Unterseeische Kabel—Fabr. von.

NORDDEUTSCHE SEEKABELWERKE, AKTIENGESELLSCHAFT, manufacturers of submarine telegraph cables, layers & repairers of cables by own cable steamers, Nordenham o/Weser, Germany. (Telegs.: "Kabelwerke, Nordenham.")

Sulphate of Copper Manufacturers.

F.—Sulphate de Cuivre.
G.—Kupfer vitriol—Fab. von.

Sulphuric & Sulphurous Acid Manufacturers.

F.—Acide sulfurique et sulphureux—Fab.
G.—Schwefelige Säure u. Schwefelsäure—Fab. von.

Kroeber, W. (dealer), Königsberg, Germany.
Marinoni, F., & Co., Este (Prov. di Padova), Italy.

Sundriesmen—Electrical.

F.—Appareils divers—électr.
G.—Sortiments Geschäfte—Elektrische.

Boden, Marzahm & Co., Melchiorstr. 6, Berlin, S.O.
Brant-Graindorge, 3, rue de Recollets, Antwerp.
Busch, F. W., Lüdenscheid, Germany.
Compagnie Anglaise, 76, faub. St. Denis, Paris.
Duchatel, G., 74 & 76, rue J. J. Rousseau, Paris.
Faure, A., fils, 67, rue du Chemin Vert, Paris.
Kahle & Cless, Kattowitz.
Lapointe, G., & Cie., 28, rue Godefroy Cavaignac, Paris.
Loiseau, H., 31, quai Claude-Bernard, Lyon.
Morand, A., 4, rue du Marché, La Chaux de Fonds, Neuchatel, Switzerland.
Mougin, les Fils d'Adolphe, Hericourt, Haute-Saône, France.
Pascal, L., 117, rue du Temple, Paris.
Pirlet, F., rue de la Province, Antwerp.
Postel-Vinay, A., 41, rue Vaneau, Paris.
Recarte hijo, Echegaray 8, Madrid.
Ruiz, Sebastian, Luis Mitjans 2, Madrid.
Sclesische Zink-Ornamenten-Fabrik (L. Weiss), Breslau, Germany.
Seigneurie, 50, rue d'Angoulême, Paris.
Sirtaine, E., rue de la Colline 1-3, Brussels.
Trouillet, A., 112, boul. Sébastopol, Paris.

Supplies (Electrical)—Dealers in.

F.—Fournitures élec.—March. de.
G.—Bedarfsartikel-Elek.—Händler.

Alexander & Cie., 28, rue Hauteville, Paris.
Allut, Noodt & Meyer, Hamburg & Berlin.
Arbeloa, Luis de, y Cia., Mercado del Ensanche, Bilbao.
Ayme, J., 4, rue de la Republique, St. Etienne (Loire).
Azevedo Campos, E. d', & Filho, 137, rua do Sta. Antonio, Oporto.
Barbieri, G., via Emilia, Modena.
Bäuchler, Gust., vorm. Isolith Werke, Mariannenstr. 31, Berlin, S.O.
Bauer & Frey, Basle, Switzerland.
Becher, A. G., Kettenstr. 4, Erfurt, Germany.
Bechman, —, Toula, Russia.
Beeson, Ch., rue de la Station 58, Louvain.
Beghe, Ottavio, Spezia, Italy.
Belin, J., rue Gérard-Champs 232, Verviers.
Belli, Silvio, via de Lardarel 9, Leghorn, Italy.

Supplies (Electrical)—Dealers in—*contd.*

Beringer, Leon, 31, Montagne aux Herbes Potagères, Brussels.
Berliner Elektrizitäts Lieferungs, G. m. b. H., Leipzigerstr. 119, Berlin, W.
Bermann, R. & G., Berlin-Rixdorf.
Beyer, Ed., 57, Wosnesensky, St. Petersburg.
Blumenfeld, S., Oranienburgerstr. 32, Berlin, N.
Bonivert, E., rue du Pont-d'Ile, Liége, Belgium.
Bork, A. K., Fontanka 47, St. Petersburg.
Born, Robt., Turmstr. 53, Berlin, N.W.
Brémant, —, Electrical Stores, 69, rue Caumartin, Paris.
Broeckaert, F., rue du Chemin de Fer 33, Brussels.
Buijs, J. C., Bergen op Zoom, Holland.
Calu, E., via Guicciardini, Florence, Italy.
Champion, Paul, 14, rue de Lancry, Paris.
Chelli, Cesare, piazza Delmonte, Pesaro, Italy.
Coiimini, Francesco, & figli, Poggibousi (Prov. di Diena), Italy.
Compagnie Suisse d'Appareillage Electrique, rue Verdi 17, Nice.
Cop, E., 52, rue des Archives, Paris.
Degner, J. E., Friedrichsgracht 46, Berlin, C.
Del-Grosso, G., Varese Lombardie.
Delpierre, H., & Co., 28–30, chaussée de Bruxelles (St. Antoine), nr. Charleroi, Belgium.
Diener, Alf., & Co., 29, Mythenstr. 29, Zurich.
Dieskau & Co., Berlinerstr. 12, Charlottenburg, Berlin.
Drescher, Morskaja 21, St. Petersburg.
Dunkel, G., 11, Berlinerstr., Leipzig.
Eckart, P., Straussbergerstr. 14, Berlin.
Erk & Co., Winterfeldstr. 26, Berlin.
Fardella, Vincenzo, via Cintorinai 23, Palermo, Italy.
Fenner, A., & Co., 32, Löwenstr., Zurich.
Filagrana, C., via Cavour 52, Parma.
Gai, Fratelli, & Dina, Ospizio di S. Michele, Rome.
Gamet, Th., 5 bis, place Voltaire, Paris.
Gérard, Vve., rue de Fer 30, Namur.
Giordano, Gro. & Ade. La Marra, S. Bartolomeo 13, Naples.
Giorgi, Ing., Arabia & Co., Umilta 79, Rome.
Goubet, A., rue de l'Entrepôt 41, Louvain.
Grand Bazar de Lyon, 31, rue de la Republique, Lyon, France.
Gross, F., Stuttgart, Germany.
Guignan, G., 136, cours St. Jean, Bordeaux.
Hahne, Oscar, Alte Jakobstr. 167, Berlin.
Herz & Ehrlich, Blücherplatz, Breslau.
Heskia, N. A., VIII. 1, Piaristengasse 17, Vienna.
Invernizzi, Ernesta, via del Corso 49, Rome.
Jacobsen, Hendr., & Co., Copenhagen.
Kalinin, S. K., Newsky prosp. 114, St. Petersburg.
Kappert, M., & Co., Cronwerk 79, St. Petersburg.
Kardaschinsky, L., Tschistaya 8, Warsaw.
Karnell, W., Miasnitzkaya tschaste, 1th outcshastok, house Ermakoff, Moscow.
Kelpinsky, W., Novy Swet 23, Warsaw, Russia.
Kessler Frères & Cie., 5, cité Rougemont, Paris.
Knappe, Carlos, Sagasta 6, Madrid.

Supplies (Electrical)—Dealers in—*contd.*

Köhler, V., Behrenstr. 28, Berlin.
Koopmans, Frans, Keizerstraat 1, Rotterdam.
Laakmann, O., Mylinsstr. 50, Frankfurt-a.-M.
Lebevsinsky, P., Krakovskoe predmestie 65, Warsaw.
Leytens, Em., 64, avenue Plantin, Antwerp.
Liedtke & Wiele, Nicolaistr. 11, Hanover.
Lombardi, Angiolo, via Faenza 3, Florence, Italy.
Lootze, Otto, & Co., Alte Jakobstr. 64A, Berlin, S.
Luck, R., Egelsstr., Tegel, nr. Berlin.
Maef, Carlo, 31, via A. Manzoni, Milan.
Mancheron, A., 106, rue Saint-Martin, Paris.
Mangon, B., 12–14, boul. de la Senne, Brussels.
Margelli, Ferdinando, via Roma, Sassari, Italy.
Melder, K., Nevsky 40 & 42, St. Petersburg.
Metalistería Francisco Comas, Basea 9, Barcelona, Spain.
Mouton fils, 15, cours du Chapitre, Marseilles.
Moysan Frères, 231, faub. St. Martin, Paris.
Muller & Syrbe, 17, Emilienstr., Leipzig.
Noodt, Allut & Meyer, G. m. b. H., Nollendorfstr. 13, Berlin, W. 30.
Palm, Emil, Kürzestr. 19, Berlin.
Pescht, B., Smolnaya 5, Warsaw.
Pfanhauser, Wilh., 5, Alte Jakobstr., Berlin, S.W.
Pinheiro, A. C., 35 & 38, Pelourinho, Lisbon.
Poock & Hermann, 10, rue du Canal, Brussels.
Queirolo, F., via Cavour 10, Parma.
Ribeiro, J. J., & Co., 222, rua Aurea, Lisbon.
Rinaldi, Marco, Spezia.
Rossi, Domenico, via 11 Settembre, Pesaro, Italy.
Royewski, R., 3, rue de Provence, Paris.
Rudel, W., Nuremberg.
Saphy, E., 11, rue de la Course, Bordeaux.
Savelieff, W., & Co., Ekaterinen Canal 164, St. Petersburg.
Schaefer, C., Zurich I.
Scheremetieff Bros., Fundukleevskaya 16, Kiew, Russia.
Schneeweis, A., & Co., Chausseestr. 87, Berlin, N.
Schulz, C., 10, Kamekestr., Cologne.
Sckeyde, J., Ohlauerstr. 21, Breslau.
Sclesinger, Aurel, 10, Zietenstr., Berlin, W.
Seppo Teknisk Byra, 48, Kaserngatan, Helsingfors, Russia.
Siedle Sohne, Hamburg.
Sociedad Anglo Espanola de Motores Gasogenos y Maquinaria General (antes Julius G. Neville), Salon del Prado 14, Madrid.
Société Anonyme de Construction d'Appareils Industriels, rue de Belle Vue, Gand, Belgium.
Sponheimer & Bosshart, Zurich I.
Stabrowsky, L., Miasnitsckaja dome, Promischlennago Museja, Moskau, Russia.
Stachow, L., Rosenthalerstr. 51, Berlin, C.
Steuerman, Victor, Mochovaja 10, Moscow.
Storari & Lo Cascio, via Marco Minghetti 17–22, Rome.

Supplies (Electrical)—Dealers in—*contd.*

Successori alla Società Telefonica Lombardo, via F. Ballarini, Como, Italy.
Tager, N. M., Zagorodon Prosp. 23, St. Petersburg.
Tannenbaum, J., Valverde 36, Madrid.
Tart, G., 16, rue d'Amay, Liége, Belgium.
Thevenon, M., 1, rue de la Préfecture, St. Etienne, Loire, France.
Tiburtius, Ernst, & Co., Mariannenstr. 31, Berlin, S.O.
Vagt, H. G., 157, rue du Progrès, Brussels.
Vedder, F., Silva 34, Madrid.
Verhaert, L., rue de la Station 149, Berchem-Antwerp, Belgium.
Viñas, Faustino, S. Juan 31, Sabadell, Barcelona, Spain.
Vincent, A., 57, rue de la Montagne, Brussels.
Voss, J. C., Berlin, N.W. 21.
Wiessner & Krossel, Ritterstr. 119, Berlin.
Wosidlo et Co., Troitzkaja 20, St. Petersburg.
Wulff, Franz, Alexandrinenstr. 22A, Berlin.
Zimmermann, Carl, Alexanderstr. 25, Berlin.
Zschökel, B., & Co., Köpenickerstr. 32, Berlin, S.O.

Supplies (Electrical)—Makers.

F.—Fournitures électriques—Fabr. de.
G.—Bedarfsartikel—Elektrische—Fab. von.

Achilles, E., 15, Matheikirchstrasse, Berlin, W.
Adt. Gebr., A. G., Ensheim i. d. Pfalz, Germany.
Aktien Gesellschaft für Elektrischen Bedarf, Neubaugasse 15, Vienna VII. (Teleph. No. 6446.)
Arcelin, Alfred, Lons-le-Saulnier, Juran, France.
Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Poberschau, Marterbüschel, Saxony.
Dal-Re, Carlos, Barquillo 5, Madrid.
Flamme, F., & Rorive, Obourg lez Mons, Belgium.
Fuchs, Carl, Lindenstr. 3, Berlin, S.W.
Hanakowski, M., Johannisstr. 12, Berlin, Germany.
Imme & Lobner, 42, Wasserthorstr., Berlin, S., Germany.
Laubscher Frères & Cie., Tauffelen, Switzerland.
Lindner & Co., Yecha-Sondershausen, Germany.
Looienga & Co., Haag, Holland.
Messter, Ed., Schiffbauerdamm 18, Berlin, N.W.
Peschmann, Carl, Ackerstrasse 68A, Berlin, N., Germany.
Pozzo, Ditta Attilio, & Co., piazza Fossatello 8, Genoa, Italy; & piazza Castello 1–3, Milan, Italy.
Weinberger, Alexander, I. Habsburgerstrasse, 1, Vienna.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")

Switch Makers—Electric.

F.—Commutateurs électriques—Fab. de.
G.—Schalter—Elektrische—Fabr. von.

Barguet, F., 9, rue Capron, Paris.
Chollet, Ainé, 23, avenue du Maine, Paris.
Digeon, L., & Cie., 25, rue de la Montagne Ste. Geneviève, Paris.
Kramer & Löbl, Gablonz, Bohemia, Austria.
Sonderburg, F., Geneva, Switzerland.

Switchboards—Makers of.

F.—Socles—Fabr. de.
G.—Schalttafeln—Fab.

Switchboards, Bases & Covers—Makers of.

F.—Socles, Boites, &c., pour Commutateurs—Fabr. de.
G.—Schalttafeln, Brette & Deckel—Fab.

Bosse, Richard, & Co., Wienerstr. 43, Berlin, S.O. 36.
Grune, Wilhelm, Ritterstrasse 88, Berlin, S., Germany.

Tachometers & Tachographs.

F.—Tachomètres.
G.—Tachometer.

Bundschuh, J., Magdeburg-Wst.
Horn, Dr. Th., Grosszschocher-Leipzig.
Strube Actien-Gesellschaft, Magdeburg-Buckau, Germany.

Taping Machine Manufacturers.

F.—Machines à envelopper le fil par des rubans—Fabr. de.
G.—Ueberspinnung—Maschinen—Fabr. von.

Telegraph Agents.

F.—Agentes de télégraphie.
G.—Telegraphen Agenten.

Aebli, Jacques, Western Union Telegraph Co., Seidengasse 5, Zurich.
Agence Fournier Co., Ltd., 1, rue de la Bourse, Paris.
Agence Havas, 13, place de la Bourse, Paris.
Agence Havas et Reuter, 8, place des Martyrs, Brussels.
Gatliff, P., Eastern Telegraph Co., 37, rue Caumartin, Paris.
Gevers, Marcel, 2, Courte rue de la Chapelle des Bateliers, Antwerp.
Honig, O., 5, Wallfischgasse, Vienna I.
Kicer, F. S. J., Great Northern Telegraph Co., St. Petersburg.
Pallisen, H. J., Black Sea Telegraph Co., St. Petersburg, Russia.

Telegraph Agents—*continued.*

Sabater, Salvador, Eastern Telegraph Co., 5, calle del Pez, Madrid.
Santos, Carlos, Eastern Telegraph Co., 120, rua dos Capellietas, Lisbon.
Thompson, D. J. G., Western Union Telegraph Co., Llauder 4 Ent°, Barcelona.

Telegraph Apparatus Makers.

F.—Télégraphes—Fab. d'Appareils de.
G.—Telegr. Apparate—Fab.

Ateliers de Télégraphes G. Hasler, Berne, Switzerland.
Beneke, Ed., jun., Forsterstr. 42, Berlin.
Berliner Haustelegraphen Fabrik, Grenadierstr. 24A, Berlin.
Beyersmann, Friedrich, Hagen, Westphalia, Germany.
Bracke, C. Inh. R. Abraham, 98, Charlottenstr., Berlin.
Brusten, C., Richthofenstr. 33, Berlin.
Carpentier, J., 20, rue Delambre, Paris.
Continental Telegraphen Co., A. G., Zimmerstr. 28, Berlin.
Cramer, Ferd., Naumburgerstr., Leipzig-Plagwitz, Germany.
Docge, Carl, Schlesischestr. 25, Berlin, S.O.
Doignon, 85, rue Nôtre Dame des Champs, Paris.
Doms, Franz, Prague I. 945.
Fabrique de Télégraphes et Appareils Electriques, Neuchâtel, Switzerland.
Fischer & Pöthig, Glashütte-i-Sachs., Germany.
Georg, Kanalgasse 22, Dresden.
Göhre, Emil, Weissenburgerstr. 18, Berlin, N.
Hannemann Gebr. & Co., Düren, Rheinland, Germany.
Hein, Lehmann & Co., Akt. Ges., Chausseestr. 113, Berlin.
Heisler, N. C., & Cie., 12, rue Griaznaya, St. Petersburg.
Herrmann, F. W. C., 1, Glatzstr., Glatz, Germany.
Köhn Nachf., Wilh., Linienstr. 127, Berlin, N.
Krehayn Nachf., Otto, Stromstr. 49, Berlin.
Kreissler, Wilh., Gerberstr. 26, Leipzig, Saxony, Germany.
Lorenz, C., 5-6, Elisabethuferstr., Berlin, S.O., 26.
Maul, Otto, Colonnenstr., 52, Schöneberg, Berlin.
Mix & Genest, 67, Bülowstr., Berlin, W.
Monhardt, W., Schaffhausen, Switzerland.
Müller & Preussger, 1, Bergstrasse, Zittau, Germany.
Neergaard, Th. A. (Optical Telegraphy), St. Kongensgade 63, Copenhagen, K.
Ritter, Franz, Sebastianstr. 4, Berlin.
Sauerbrey & Kostorz, Polierstr. 21, Dresden, A., Germany.
Schuch, Julius, Holzmarktstr. 34, Berlin, O.
Société Industrielle des Téléphones, 25, rue du 4 Septembre, Paris.

Telegraph Apparatus Makers—*continued.*

Stieberitz, Heinr. (Otto Brunn Nachfolger), Spenerstr. 6, Dresden, A. 19.
Völker, W., Wallstr. 38, Charlottenburg, Berlin, Germany.
Wetzer, H., Pfronten, Bavaria.
Zitzwitz, Alb., Gleimstr. 28, Berlin, N.

Telegraph Cable Making Machine Manufacturers.

F—Machines à fabriquer les Câbles télégraphiques.
G.—Maschinen für Telegraphen-Kabel—Fabr.

Demuth Bros., Linzurstrasse, Vienna XIII., Austria.

Telegraph Cables—Makers of.

F.—Câbles télégraphiques—Fab. de.
G.—Telegr. Kabel—Fabr. von.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Kabelwerk Duisburg, Duisburg-a-Rhein, Germany.

Telegraph & Cable Companies.

F.—Télégraphes et Câbles—Compagnies de.
G.—Telegraphen & Kabel Gesellschaften.

Anglo-American Telegraph Co., 37, rue Caumartin, Paris.
Bureau International des Administrations Telegraphiques, Berne, Switzerland.
Commercial Cable Co. (Mackay-Bennett Cables), 49, avenue de l'Opéra, Paris; & le Havre, France.
Compagnie de Télégraphie sans Fil (Soc. Anon.), 48, rue de Namur, Brussels.
Deutsch-Atlantische Telegraphengesellschaft, Stolkgasse 3/11, Cologne.
Deutsche See Telegraphen Gesellschaft, Cologne; & Winchester House, London, E.C.
Direct Spanish Telegraph Co., Ltd., Barcelona & Bilbao, Spain; & Marseilles, France.
Great Northern Telegraph Co. of Copenhagen, 26, Kongens Nytorv, Copenhagen.
Rowland Telegraphic Co., 39, boul. Haussmann, Paris.
Store Nordiske Telegraf Selskab. *See* Great Northern Telegraph Co.
Telegraph Construction & Maintenance Co., 37, rue Caumartin, Paris.
Western Telegraph Co., 37, rue Caumartin, Paris.

Telegraph Engineers of Railway Companies.

F.—Ingenieurs télégraphiques de chemins de fer.
G.—Telegr. Ingenieure von Eisenbahnen.

Gerken, L., South-West Railway, Kiew, Russia.
Kapger, A., Moskow-Brest Railway, Moscow, Russia.

Telegraph Instrument Manufacturers.

F.—Instrumentes télégraphiques—Fab. de.
G.—Telegraphische Instrumente Fabr.

Boden, M., Zittau-i-Sachs., Germany.
Breguet, Maison, 19, rue Didot, Paris.
Electrizitäts Aktiengesellschaft vorm. Hermann Pœge, Chemnitz, Saxony.
Fortin, J. H., 27, rue de Varenne, Paris.
Germain, P., Capdenas, Aveyron, France.
Great Northern Telegraph Company of Copenhagen, 26, Kongens Nytorv, Copenhagen.
Guggemos, Marius, 73, rue St. Fuscien, Amiens, France.
Hempel, Alwin, Förstereistr. 13, Dresden, Germany.
Jacquemin, Raoul, 122, avenue de Neuilly, Paris.
Meyer, Bernard, 1, boul. St. Denis, Paris.
Rouvier, J. A. Ch., 21, rue de Saure, Nimes, France.
Sasserath, F. A., 98, Köpernickerstr., S.O., Berlin.
Schuchardt, F., 9, Rungestr., Berlin, S.O.
Staudt, W., 6, Königgrätzer, Berlin, W.
Wiesenthal & Co., Aachen, Germany.

Telegraph Instrument Ink Makers.

F.—Télégraphie—Fab. d'Encre pour instr. de.
G.—Telegr. Instrumenten Tinte—Fab. von.

Mörikofer, E., vorm. Brunnschweiler & Co., St. Gall, Switzerland.

Telegraph Iron & Steel Buoy Makers.

F.—Bouées en fer et acier pour la télégraphie.
G.—Bojen für Telegraphische Kabel—Fabr. von.

Indiarubber, Gutta-Percha & Telegraph Works Co., 97, boul. Sébastopol, Paris; & Persan-Beaumont, France.

Telegraph & Telephone Pole (Iron) Manufacturers.

F.—Poteaux Télégraphiques en fer.
G.—Eiserne Telegraph. u. Telephon-Pfosten.

Compagnie des Forges de Chatillon, Commentry & Neuves-Maison, 19, rue de La Rochefoucauld, Paris.
Gaillard, A. (wood), avenue de Pezenas, Bezièrs, Hérault, France.
Lenaerts, A. (wood), Turnhout, Belgium.
Société Anonyme des Ateliers de Neuilly (Seine), France.
Société Anonyme des Poteaux Telegraphiques, Sclessin-les-Liége, Belgium.

Telegraph & Telephone Supplies.

F.—Télégraphes et Téléphones—Fournitures pour.
G.—Telegr. & Teleph. Materialen.

Ericsson, L. M., & Co., Stockholm; & Gr. Sampsonewsky Prosp. No. 70, St. Petersburg, Russia.
Schuleit, G., Bethanienufer 8, Berlin.
Voigt & Kladt, Berlin, S.W. 29.

Telegraph Works & Stores.

F.—Usines Télégraphiques.
G.—Telegraphen Fabrik u. Laden.

Barrière, L., et Cie., 22, rue St. Sabin, Paris.
Boivin, A., 16, rue de l'Abbaye, Paris.
Debayeux, A., 41, Blancs Manteaux, Paris.
Deutsche Telegraphenwerke, R. Stock & Co., G. m. b. H., Zeughofstr. 7–8, Berlin, S.O. 33, Germany.
Gras, J. J., 7, rue Montbrun, Paris.
Montandon, Alf., 15, rue Debelleyne, Paris.
Osnabrücker Kupfer und Drahtwerk, Osnabrück, Germany.
Sambourg, 31, avenue de Neuilly, Paris.

Telephone Apparatus Makers.

F.—Appareils téléphoniques—Fab. d'.
G.—Telephone-Apparate—Fab.

Aboilard, G., & Cie., 46, ave. de Breteull, Paris.
Ader, C., 68, rue de l'Assomption, Paris.
ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical, Anvers.")
Compañia di Teléfonos, 52, Albareda, Seville, Spain.
Davin, —, 12, rue Moustier, Marseille, France.
Desbois, Hil., rue des Fours à Chaux, Angers, France.
Deutsche Privat Telephon Ges. H. Fuld & Co., Wilbelerstr. 29, Frankfort-a.-M.
Digeon, Louis, et Cie., 25, rue de la Montagne-St.-Geneviève, Paris.
Fautrier, Pierre, Venice, Italy.
Friedlaender, Albert, & Co., 108, Leipzigerstrasse, Berlin.
Hardegen, Paul, & Co., K. G., Luisen Ufer 44, Berlin, S.
Hœfler, M., 25, Hortaleza, 4, y san Rafael, Madrid.
Jamelin, Ch., 12, Cité de Phalsbourg, Paris.
Jenische, P., & Bohmer, Markusstrasse 50, Berlin, O.
Kohler & Braun, 57, Bülowstr., Berlin, W.
Kragl, Carl, & Sohn, Pazmanygasse 2, Pozsony, Hungary.
L'Hoste & Bernel, 4, passage St. Pierre Amelot, Paris.
Maiche, L., et Cie., 45, rue Jacob, Paris.
Masserati, G., via S. Antonio, Piacenza.
Mongin Fils, 23 et 25, rue de Grignan, Marseilles.
Picard, L., suc. P. Fayet, 7, rue St. Claude, Paris.
Pœhlmann, Ch., Nuremberg, Germany.
Privat Telephon Gesellschaft, Cosenthalerstr. 40, Berlin, C.
Rattier, Usines. *See* Société Générale des Téléphones.
Riebe, Wilh., Söhne, 185, Brieteweg, Magdeburg.
Schwerd, L. E., telegraph & telephone apparatus, Karlsruhe, Baden, Germany.
Société de Matériel Téléphonique, 46, ave. de Breteuil, Paris.

Telephone Apparatus Makers—*continued.*

Société Française de Telephonie, 12, rue du Mont Thabor, Paris.
Stöcker & Co., Wachsmuthstr. 10, Leipzig, Saxony.
Stuhl, G., Strasburg, Germany.
Telefon Gesellschaft, Rosenthalerstr. 40, Berlin.
Telephon-Apparat-Fabrik, E. Zwietusch & Co., Salzufer 7, Charlottenburg, Berlin, S.O.
Telephon Fabrik A. G., vorm. J. Berliner, Charlottenstr. 18, Berlin.
Telephone & Telegraphenbau Ges., Vilberstr. 29, Frankfort-a.-M.
Theiling, A., Magdeburg, Germany.
Vereinigte Telephon und Telegraphen Fabriks Aktienges., Kaiserstr. 89, Vienna VII.

Telephone Cables—Makers of.

F.—Câbles Téléphoniques—Fabr. de.
G.—Telephonkabel Fabrik.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.

Telephone Companies.

F.—Téléphones—Compagnies de.
G.—Telephon-Gesellschaften.

Bell Telephone Co., Bolchaya Koniuschennaya 29, St. Petersburg.
Compagnie du Théâtrophone, 23, rue Louis-le-Grand, Paris.
Drammens Telefon Aktieselskab, Drammen, Norway.
Fredriksstad Telephone Co., General Manager, Olaf M. Holwech, Fredriksstad, Norway.
General Telephone Co. (Allmänna Telefon-Aktiebolag), Stockholm, Sweden.
Impresa Telefonica di Ferrara Concessionaria (Società Telefonica di Zurigo), Ferrara, Italy.
International Bell Telephone Co., Ltd., of New York, 48, Rempart Kipdorp, Antwerp.
Kjobenhavns Telefon Aktieselskab, Copenhagen, Denmark.
Kölnische Privat Telephon Gesellschaft (m. b. H.), Köln, Germany.
Skiens Telephone Co., Skien, Norway.
Società Anonima Padovana dei Telefoni ed altre applicazionei Elettriche, St. Bernardino, Padua, Italy.
Società Anonima Telefonica Bresciana, Brescia, Italy.
Società Anonima Telefonica Trevigliese, Treviglio, Bergamo, Italy.
Società Co-operativa dei Telefoni, Rome, Italy.
Società Co-operativa Telefonica, Rovigo, Italy.
Società Generale Italiana e Telefoni ed Applicazioni Elettriche, piazza della Borsa, Naples, Italy.
Società Generale Italiana di Telefoni ed Applicazioni Elettriche, via de Pecori 6, Florence, Italy.

Telephone Companies—*continued.*

Soc. Gen. Italiana di Telefoni, via Rizzoli 13, Bologna, Italy.
Società Telefonica, Alessandria, Italy.
Soc. Telefonica, via Roma 28, Turin.
Soc. Telefonica Bresciana, Brescia, Italy.
Società Telefonica di Perugia, Perugia, Italy.
Società Telefonica di Zurigo, Piazza Garibaldi 2, Parma.
Società Telefonica di Zurigo, via Prefettura, Ancona.
Società Telefonica di Zurigo, via Tone, Modena, Italy.
Soc. Telefonica Ligure, vico Casana 9, Genoa, Italy.
Soc. Telefonica Piemontese, Biella, Italy.
Société Française de Téléphonie Privée, 12, rue du Mont Thabor, Paris.
Stockholmer Allgemeinen Telephon-Actiengesellschaft (Stockholms Allmänna Telefonaktiebolag), Stockholm.
Stockholms Bell-Telefon Aktiebolag, Stockholm, Sweden.
Telefonselskab Kristianssands, Christianssands, Norway.
Telephone Co. of Austria, Ltd., 1, Wipplingerstrasse 22, Vienna.
Telephone de l'Etat, Place de l'Université, Liége.
Telephoon Maatschappy Insulinde, The Hague, Holland.
Welles, Francis R., Antwerp, Belgium.

Telephones—Makers of.

F.—Téléphones—Fab. de.
G.—Telephonen—Fab. von.

Allgemeine Telephon-Ges. m. b. H., 83, Brüsselerstr., Cologne, Germany.
Amberg, Carl, Pfalzburgerstr. 4, Berlin, W.
Arnold, Emil, Luisenstr. 5, Berlin, N.W.
Behrens, P., 57, Bülowstr., Berlin, W. 57.
Benard, G., 12, rue Bridaine, Paris.
Berlie, C., & Cie., 2, rue Paul Chevanard, Lyon, France.
Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Poberschau, Marterbüschel, Saxony.
Boudin, 103, ave. Parmentier, Paris.
Erfurth, C., Neuenburgerstr. 7, Berlin, S.W., Germany.
Heitmann, Paul, Handjerystr. 81, Friedenau, nr. Berlin.
Hillmann & Ziegler, Friedenau, nr. Berlin.
Kayser, Franz, Camphansenstr. 18, Berlin.
Koch, Ed., Moselstr. 13, Friedenau, Berlin, C.
Krenehen, G., Potsdamerstr. 27, Berlin.
Lacourt, D., rue Houdain 30, Mons.
Mannheimer Privat Telefon Gesellschaft, Mannheim.
Misch Gebr., 22, Chausseestr., Berlin N.
Moegling, L., Gitschinerstr. 82, Berlin, S. 42.
Naumann, Ernst, Gr. Frankfurterstr. 3, Berlin.
Ouachée, —, 154, rue de Rivoli, Paris.

Telephones—Makers of—*continued.*

Ruoff, F., & Delafon, 16, rue Popincourt, Paris, XIe.
Società Cooperativa Telefonica Comense, Como, Italy.
Società Co-operativa Telefonica, Treviso, Italy.
Società Genle. Italiana di Telefoni e Applicazioni Elettriche, via Crociferi 23, Rome, Italy.
Società Telefoni Italia Centrale, Florence, Italy.
Société Française des Téléphones, Système Berliner, 29, boul. des Italiens, Paris.
Stabernack, B., 102, Bulöwstr., Berlin, W.
Telephone Works, Ltd., late J. Berliner, Kniestr. 18, Hanover, Germany.
Van den Camp, Vve. C., Digue de Brabant 18, Ghent.
Wanzeele, Ch., rue d'Akkergem 54, Ghent, Belgium.
Zitzwitz, Alb., jun., Ramlerstr. 23, Berlin, N., Germany.

Testing Instrument Makers—Electrical.

F.—Instruments électriques d'essai—Fabr. d'.
G.—Probierinstrumente für Elektricität.

Traction Engineers—Electric.

F.—Traction électrique (Ingénieurs de).
G.—Elektrische Zugapparate—Ingenieure von.

Averly, G., 143, rue Garibaldi, Lyons, France.
Compagnie Generale de Traction, 62, rue Taitbout, Paris.
Compagnie Industrielle de Traction pour la France et l'Etranger, 15, rue d'Argenteuil, Paris.
Gautier, J., 13, boul. du Pont d'Arve, Geneva, Switzerland.
Società per la Trazione Elettrica sulle Ferrovie, Rome, Italy.
Société Anonyme d'Exploitation des Procédés Electriques Walker, 6, rue Boudreau, Paris.
Société d'Exploitation des Brevets Dolter, 50, rue Saint Ferdinand, Paris.
Traction Tangentielle, Soc. Anon., Charleroi, Belgium.
Van Vloten, P., ave. Louise 407, Brussels.

Tramways (Electric)—Makers of & Contractors for.

F.—Tramways élec.—Fabr. et entrepr. de.
G.—Strassenbahnen elek.—Fabr. und Unternehmer.

Aktieselskabet Bergens Elektriske Sporvei, Bergen, Norway.
Berlin-Charlottenburger Strassenbahn, Leipzigerplatz 14, Berlin, W.
Berliner Elektrische Strassenbahnen Aktiengesellschaft, Berlin.
Chaligny, F. de, 7, rue Boissac, Lyon (Rhône), France.

Tramways (Electric)—Makers of & Contractors for—*continued.*

Compagnie Générale des Tramways Suisses Boujean Berne, Switzerland.
Compagnie Genevoise des Tramways Electriques, La Jonction, Geneva.
Francaise Electrique, La, Société Anonyme, 99, rue de Crimée, Paris XIXème.
Gallarati, Ing. D., via Monte di Dio 2, Naples.
Società Anonima dei Tramways Napoletani, Naples.
Società Chiavarese per la Costruzione e l'Esercizio di Tramvie e Ferrovie Economiche Complementaire, Chiavan, Italy.
Società delle Ferrovie e Tramvie Elettriche Varesine, Varese, Italy.
Società per le Tranvie Elettriche di Terni, Rome, Italy.
Società Romana-Tramways-Omnibus, Rome.
Société Anonyme des Tramways de Livourne, Leghorn, Italy.
Tramways Electriques du littoral, power station at Mariakerke, nr. Ostend.
Tranvias Electricos de Bilbao à Algorta, Bilbao, Spain.
Unione Italiani Tramways Elettrici, Genoa, Italy.
Zürich-Oerlikon-Seebach Elektrische Strassenbahn, Oerlikon, Zürich. (R. Fürst, engineer.)

Tramcars.

F.—Voitures de tramways.
G.—Strassenbahn Wagen.

Tobler, Gustav, Rathenoverstr. 20, Berlin, N.W.

Transformers—Makers of.

F.—Transformeurs—Fabr. de.
G.—Transformatoren—Fabr. von.

Saarbrücker Elektrizitäts Aktien Ges., St. Johann-a.-S., Germany.

Transmission of Power—Electric.

F.—Transmission de la force—électrique.
G.—Uebertragung der Kraft—Elektrische.

Acquedotto de Ferrari Galliera, Genoa, Italy.
Carsi Mari y Cia., Pascual y Genis F. 2A Valencia.
Compagnie Générale d'Electricité de Creil, 74, rue Saint Lazare, Paris.
Departementale Electrique, La, Valenciennes (Nord), France.
Ertzbischoff, G., Luxeuil-les-Bains, Haute-Saône, France.
Fölsche, R., 5, Hagenstr., Halle-a.-Saale, Germany.
Kammgarnspinnerei Schaffhausen, Schaffhausen.
Schweizerische Bindfadenfabrik Schaffhausen, Flurlingen, Schaffhausen.
Sociedad Anonima Hiedro Electra, Najera, Spain.
Società Italiana per le Forze Idrauliche del Veneto, Venice, Italy.

Transmission of Power—Electric—*contd.*

Société Française de matériel agricole, Vierzon (Cher); & 191, faub. St. Denis, Paris.
Société Anon. de St. Petersbourg pour la Transmission Electrique de la Force Motrice des Chutes d'Eau, 67, Chaussée de Peterhof, St. Petersburg.

Tube Makers—Copper.

F.—Tubes en Cuivre—Fab. de.
G.—Röhren—Kupfer—Fab.

Neue Berliner Messingwerke, 30, Kochstrasse, Berlin.

Tube Makers—Ebonite, Vulcanite & Vulcanized Fibre.

F.—Tubes en & Ebonite—Fab. de.
G.—Röhren—Ebonit, Vulcanit u. Vulcanfieber.

VEREINIGTE GUMMIWAAREN-FABRIKEN HARBURG-WIEN, Wimpassing, Austria. Office: VI. Mariahilferstr. 115, Vienna.

Tube Makers—Glass.

F.—Tubes en Verre—Fab.
G.—Röhren Glas—Fabr. von.

Glasfabrik Sophienhütte, Ilmenau, Thuringia.
Grangé, H. D., 38, rue Notre-Dame-de-Nazareth, Paris.
Société du Verre Etiré, 10, rue Thimonnier, Paris.

Tube Makers—Iron.

F.—Tubes Fer—Fab. de.
G.—Röhren—Fab. von—Eisen.

Aselme, 9, rue Charlot, Paris.
Bouvier, E., & Dupas, Verrerie de la Briche, près St. Denis (Seine), France.
Deutsch-Oesterreichische Mannesmann-Röhren-Werke, 6, Pariserplatz, Berlin, N.W.
Elmore's Metall Aktien Gesellschaft, Köln-a-Rhein.

Turbine Water-Wheel Makers.

F.—Turbines Roues hydrauliques.
G.—Turbinen Wasserräder.

Actien Gesellschaft vorm. Escher, Wyss & Co., Zürich, Switzerland.
Allgemeine Electricitäts Ges., Huttenstr. 12/16, Berlin.
Ateliers de Constructions Mecaniques, Vevey, Switzerland.
Bret Frères, Verneuil (Eure), France.
Briegleb, Hansen & Co., Gotha, Germany.
Calzoni, A. Ditta, Bologna, Italy.
Chaudel-Page, E., le Valdoie, près Belfort, France.
Darblay, père & fils, Essonnes (Seine-et-Oise), France.

Turbine Water-Wheel Makers—*continued.*

Ertzbischoff, G., Luxeuil-les-Bains, Haute-Saône, France.
Fournier, J., 1, Chemin St. Fridore, Lyons France.
Gandillon, A., Senlis (Oise), France.
Hartmann Gebrüder, Flums, St. Gallen, Switzerland.
Hoffmanswerk (G. m. b. H.), Leuben bei Dresden.
Laurent, Frères & Collet, Dijon, France.
Maschinenfabrik Geislingen, Geislingen, Wurttemberg.
Maschinen-Fabriks Actien Gesellschaft, vorm. Tanner, Laetsch & Co., Linzerstr. 150-154, Vienna 13/2.
Pache, E., Chambery (Savoie), France.
Piccard, Pictet & Co., 105, route de Lyon, Geneva, Switzerland.
Royer & Joly, Epinal, Vosges, France.
Singrun Frères, Epinal (Vosges), France. (Telegrams: "Singrun, Epinal.")
Sloan Cie., rue du Louvre 17, Paris.
Société des Etablissements Singrun, Epinal, France.
"Turbinia" Deutsche Parsons-Marine A. G., Friedrichstr. 72, Berlin.
Teisset, Vve., Brault & Chapron, 14, rue du Ranelagh, Paris; & at Chartres (Eure-et-Loir), France.
Zander & Ingeström, Stockholm.

Vacuum Pumps.

F.—Pompes à vide.
G.—Vakuum pumpen.

Voltmeters—Makers of.

F.—Voltmètres—Fabr. de.
G.—Voltmesser—Fab. von.

GIANOLI, L., 26, boul. Magenta, Paris.

Vulcanite Manufacturers.

F.—Vulcanite—Fab. de.
G.—Vulcanit—Fabrik.

Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., Meyerstr. 60, Hamburg, Germany.
VEREINIGTE GUMMIWAAREN-FABRIKEN HARBURG-WIEN, Wimpassing, Austria. Office: VI. Mariahilferstr. 115, Vienna.

Vulcanized Fibre Manufacturers.

F.—Fibre vulcanisé—Fab. de.
G.—Vulcanfieber—Fab.

Deutscher Vulcanfiber Gesellschaft, Cassel, Germany.
Franco Belge, La, 99, boul. du Hainaut, & 22, rue de la Caserne, Brussels.
Kathe, Julius, Köln-Deutz, Germany.

Wall Plugs, Sockets, or Connectors.

F.—Douilles, tampons ou connections.
G.—Steckkontakte u. Anschlussdosen Schalttafeln.

Washers & Rivets.

F.—Rivets et Rondelles—Fab. de.
G.—Scheiben u. Niet Fabrikanten.

Laubscher Frères & Cie., Tauffelen, Switzerland.

Watch & Clock Makers—Non-Magnetizable.

F.—Montres et pendules—non-magnétisables.
G.—Nichtmagnetisirbare Uhren—Fab. von.

Felsing, Conrad, 20, Unter den Linden, Berlin, Germany.
Herz, M., & Sohn, 6, Stefansplatz, Vienna I., Austria.
Lévy, H., 139, boul. Sébastopol, Paris.
Reymond, Paul, Brassus, Vaud, Switzerland.
Schlesicky, F., 2, Rossmarkt, Frankfurt-am-Main, Germany.
Seyfried, F., Nürnberg.

Water Level Apparatus Makers—Electrical.

F.—Niveau d'eau électr.—Fab. d'.
G.—Apparate zur Bemessung des Wasserhöhestandes—Fab. von—Elektrische.

Bray, De, Fossés, Namur, Belgium.

Welding—Electric.

F.—Soudure—Électrique.
G.—Schweissen—Elektrische.

BOSSHARD, HENRI, & CO., Charleville (Ardennes), France.
Société Anonyme des Hauts-Fourneaux de Maubeuge, 10, rue Blanche, Paris.
Société pour le Travail Électrique des Métaux, 26, rue Laffitte, Paris.

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F.—Treuils pour lampes à arc—Fab. de.
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Alliot, R., et Rol, 38, rue de Reuilly, Paris.
"Ariadne" Fabrik Isolierter Drahte (G. m. b. H.), 39, Wilmersdorferstr., Charlottenburg, Berlin.
Bourseaux, Pet., Söhne, Eupen bei Aachen, Germany.
Cassirer, Dr., & Co., Keplerstr. 3/6, Charlottenburg, Berlin.

Wire Coverers—Cotton—*continued.*

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Debièrre, H., 98, rue de Lannoy, Lille, France.
De la Mathe, G., Gravelle St. Maurice (Seine), France.
Faraut, L., & Co., Galleria Natta, Turin.
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Guyot, J., 182, boul. de la Villette, Paris.
Hamelle, Henry, 5, faub. Poissonnière, Paris.
Hohnholz, Adolph, Rheydt bei Düsseldorf, Germany.
Jarriant, A. M., jeune, 233, rue Croix Nivert, Paris.
Kluge, Emil, Oranienstr. 119, Berlin.
Malkiell, —, Malaja Masterskaya 5, St. Petersburg, Russia.
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Murialdo, L., Pra (Prov. di Genova), Italy.
Naumann, W. & A., 11, Luisen Ufer, Berlin, S.
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Selve Fratelli, Donnaz (Valle Aosta), Italy.
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G.—Draht Zieher.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Carlswerk, Mulheim-am-Rhein, Germany.
Lesjofors Aktiebolags Upplag, Kl. S. Kyrkog 5, Stockholm, Sweden.
Mandar, E. Chardin et Cie., Persan, France.
Moulhel, O., et Cie., 10, rue de Commines, Paris. Usines: Boistharel, France.

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G.—Draht Fab.—Geflochten.

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Cornides & Co., 1, Akademiestrasse 2, Vienna, Austria.
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Meng, G., 80, rue Bolivar, Paris.
Soupart, Paul, avenue du Monlin, Forest, nr. Brussels.
Vedovelli, Priestly & Cie., 160, rue St. Charles, Paris.

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G.—Draht—Fabr.—Messing.

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Westf. Kupfer und Messingwerke Act. Ges., vorm. Casp. Noell, Ludenschied, Germany.

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G.—Draht—Fabr.—Kupfer.

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Hirchmann, Siegfr., Raupachstr. 9, Berlin, O.
Klüge, Emil, Oranienstr. 119, Berlin.
Long, E., 2, rue du Rhône, Geneva.
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Vollmer, E., rue Van de Weyer 60 & 62, Brussels.

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G.—Drahtfabr.—Verzinktes Eisen u. Stahl.

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Robert, L., 4, ave. Richeraud, Paris.
Sohier et Cie., 121, rue Lafayette, Paris.
Verschave, E., fils, 17 *bis*, rue Pavée, Paris.

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G.—Draht fabr.—Neusilber.

Desclercs, Tairev & Cie., 75, rue Turbigo, Paris.

Wire Manufacturers—Platinum.

F.—Fils—Fab.—Platine.
G.—Draht—Fabr.—Platin.

Harnischmacher Nachf., B., Allerheiligenstr. 40, Frankfurt-am-Main, Germany.

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F.—Fils télégraphiques et téléphoniques—Fab. de.
G.—Draht Fabriken für Telegraphie und Telefonie.

Aachener Hütten Actien Verein, Roth Erde, nr. Aix-la-Chapelle, Prussia.
Cie. des Tréfileries du Hâvre, 29, rue de Londres, Paris.
Denis, Albert, fils, 88, rue Amelot, Paris.
Fornara, Giov., & Co., via Garibaldi 43, Turin, Italy.
Granaglia, P. & C., via S. Pietro in Vincolo 15, Turin.
Heckmann, C., Duisburg-Hochfield, Rhenish Prussia.
Hen, L., & Cie., 10, rue Stephenson, Brussels.
Huber, R. & E., Pfäffikon, Zurich, Switzerland.
Kabelfabrik, Landsberg, a.d. W., Germany.
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Perci & Schacherer, Ltd., Haüptpostfach. 4, Budapest, Hungary.
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Schmidtgen, Emil, Dresden, Saxony.
Société des Forges & Visseries de St. Hippolyte, St. Hippolyte (Doubs), France.
Steiner, Otto, Schwechat nr. Vienna, 13, Opernring, Vienna I.; & Csengery-utcza 39, Budapest.
Tedeschi, V., & Co., Barriera di Milano 101, Turin, Italy.
Wagener & Co., Altena, Westphalia.

Wire Rope Machine Makers.

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G.—Drahtseil Masch.—Fabr. von.

Obach, Th., Wienstr. 18, Vienna V., Austria.

Wire Rope Manufacturers.

F.—Fil Métalliques—Fab. de.
G.—Drahtseil—Fab. von.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Carlswerk, Mulheim-am-Rhein, Germany.
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De Cunsel, Victor, rue de l'Independance 68, Brussels.
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Jeanson, Veuve, 34, rue de Boudy, Paris.
Latécoére, G., works at Bagnères de Bigorre. D. Besse, representative, 32, boul. de l'Hôpital, Paris.
Lexow, Ad., 40-43, Dresdenerstrasse, Berlin.
Santerne, G., fils, 55, rue Rennequin, Paris. Works: 12, quai de Seine, Courbevoie, Seine, France.
Société Anonyme de la Foret du Flamand, rue des Tanneries 9, Bordeaux, France.
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Zimmermann & Co., Deutsch Catharinenberg (Erzgebirge), Germany.

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GAILLARD, A. N. C., ✱, ave. de Pezenas, Beziers, Hérault, France.

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Bidault, V., 13, 15 & 17, rue Lakanal, Paris.
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Franck, A. & J., Frères, 6, ave. de Versailles, Paris.
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Abbe, Cleveland, professor of meteorology, The Weather Bureau, Washington, D.C. (Telegrams: "Cleveabbe, Washington." Telephone No. 881, West.)
Abbott, Arthur V., M.AM.I.E.E., engineer, Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Abbott, Henry, A.AM.I.E.E., president, Calculagraph Co., 9, 11 & 13, Maiden-lane, New York. (Telegs.: "Calcugraph, New York.")
Abbott, W. H., consulting engineer, Roberts & Abbott, Schofield-bldg., Cleveland, Ohio; & Maryland Trust-bldg., Baltimore, Md.
Abbott, William L., chief operating engineer, Chicago Edison Co., 139, Adams-st., Chicago, Ill. (Teleph. No. 1280.)
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Abbott Mfg. Co., automatic time switches, series-arc cut-outs, 2912-14, Central-ave., Cleveland, Ohio.
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Abilene Electric Light & Power Co., Abilene, Texas.
Abilene Electric Light Works, Abilene, Kan.
Abner Doble Co., turbine waterwheel makers, San Francisco, Cal.
Abraham, Robert M., A.AM.I.E.E., c/o T. Cook & Son, Broadway, New York.
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Acker, C. E., M.AM.I.E.E., vice-president & manager Acker Process Co., Niagara Falls, N.Y.
Acker, John L., electrical engineer & contractor, Sheboygan, Wis.
Ackerman-Boland Telephone Co., interior telephones, 166–168, South Clinton-st., Chicago, Ill. (Telegs.: "Allhus, Chicago." Teleph. No. 175, Harrison.)
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Acme Electric Co., installation contractors, Knoxville, Tenn.
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Acme Electric Construction Co., electrical engineers, 350, Fulton-st., Brooklyn, N.Y.
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Acme Wire Co., magnet manufacturers, 243, New Haven, Conn.
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Adams, F. P., A.AM.I.E.E., electrical engineer, Stockton Gas & Electric Co., Stockton, Cal.
Adams, Ira, electrical engineer, 176, Euclid-ave., Cleveland, Ohio.
Adams, W. L., A.AM.I.E.E., sales engineer, Ontario Power Co. of Niagara Falls, Niagara Falls, South, Ontario, Canada. (Teleph. No. 134.)
Adams Machine Co., W. T., manufacturers of engines, boilers, shafting & pulleys, Corinth, Miss.
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Adams & Schwab, consulting electrical engineers, 7, Clay-st., Baltimore, Md.
Adams & Westlake Co., manufacturers of arc lamps & headlights, 110, Ontario-st., Chicago, Ill.

Adams-Bagnall Electric Co., arc lamps, Cleveland, Ohio (Telegrams: "Adamless, Cleveland"); & New York.
Addis, Ch. A., electrical engineer, 126, North 8th-st., Allentown, Pa.
Addison Electric Light & Power Co., Addison, N.Y.
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Advance Manufacturing Co., gas & gasoline engines, Hamilton, Ohio.
Aetna Electric Stage Lighting Co., installation contractors, 305, East Division-st., Chicago, Ill.
Agnew, C. R., A.AM.I.E.E., electrical engineer, 16, William-st., New York, N.Y.
Agutter-Griswold Electric Co., installation contractors, Seattle, Wash.
Ahlm, C. E. F., M.AM.I.E.E., electrical engineer, 1327, Williamson-bldg., Cleveland, Ohio.
Aiken & Co., electric light fixtures, 501, Liberty-st., Pittsburg, Pa.
Aiton Machine Co., wire & cable machinery, 126, Liberty-st., New York.
Ajax Line Material Co., arc lamp fittings, 12 & 14, South Jefferson-st., Chicago, Ill.
Akron Electrical Manufacturing Co., makers of dynamos, motors, knife switches, lightning arresters, electrical supplies, Ira-ave., Akron, Ohio. (Telegrams: "Akelectric, Akron." Western Union Edition. Telephone No. 512.)
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Albany Canal & Water Co., Albany, Ore. (Telephone No. 15, Main.)
Albany City Electric Works, Albany, Ga.
Albany District Telegraph Co., electrical contractors, 47, Maiden-lane, Albany, N.Y.
Albany Electric Illuminating Co., Albany, N.Y.
Albany & Hudson Railway Co., Hudson, N.Y.
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Albertson & Young Co., installation contractors, Atlantic City, N.J.
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Albrecht Bros., installation contractors, 30, Creighton, Boston, Mass.
Albrecht & Heick, electrical contractors, 242, Jefferson-st., Louisville, Ky.
Albright, H. F., M.I.E.E., M.AM.I.E.E., M.A.S.M.E., superintendent Western Electric Co., 56–67, Bethune-st., cor. West-st., New York.
Albuquerque Gas, Electric Light & Power Co., Albuquerque, New Mexico.
Aldrich, Wm. S., M.AM.I.E.E., director Thomas S. Clarkson Memorial School of Technology, Potsdam, N.Y.
Alexander, Harry, M.AM.I.E.E., A.S.M.E., electrical engineer, 25, West 34th-st., New York.
Alexander Brothers, manufacturers of machine belting, 410 & 412, North 3rd-street, Philadelphia, Pa. (Telegrams: "Alexander, Philada." Telephone No. 2783.)
Alexandria City Electric Light & Water Works, Alexandria, La.
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Algoma City Electric Light Plant, Algoma, Wis.
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Allegan Light & Power Co., Allegan, Mich.
Allegheny County Light Co., Homestead, Pa.
Allegheny County Light Co., Pittsburg, Pa.
Allen, Albert Mark, A.AM.I.E.E., consulting engineer, 1130, Schofield-bldg., Cleveland, Ohio. (Teleph. Nos.: Bell-Main, 2652; & Cuyahoga-Central, 7291 K.)
Allen, E. W., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
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Allen, T. S., M.AM.I.E.E., electrical engineer, Bullock Electric Manufacturing Co., Cincinnati, Ohio.
Allen, Walter Cummings, A.M.AM.I.E.E., electrical engineer of the Government of District of Columbia, District-bldg., Washington, D.C.
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Allen Electric Co., electrical supplies, Danville, Ill.
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Allentown & Reading Traction Co., Allentown, Pa.

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Alline Electrical Co., Inc., Fort Dodge, Iowa. (Telephone No. 745.)

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Allis-Chalmers Co., makers of Reynolds-Corliss engines & machinery, Home Insurance-bldg., Chicago, Ill.

Allison, J. H., electrician & inventor, Elkhart, Ind.

Alloway Electric Co., installation contractors, Marquette-bldg., Chicago, Ill. (Teleph. Nos.: 1325, Market; & Automatic, 4294.)

Allspach, Harry, installation contractor, Belmar, N.J.

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Almond, T. R., Manufacturing Co., manufacturers of flexible tubing for electric light brackets, 83, Washington-st., Brooklyn, N.Y. (Cable address: "Tralmond, Brooklyn"); & 8, White-st., Moorfields, London, E.C. W. P. Notcutt, manager.

Almstead Electric Co., dealers in electrical supplies, Rochester, N.Y. (Telephone No. 111.)

Alpena Electric Light Co., Alpena, Mich.

Alphaduct Co., conduit systems of house wiring, 136, Cator-ave., Jersey City, N.J.

Alton Gas & Electric Co., Alton, Ill.

Alton Granite & St. Louis Traction Co., Alton, Ill.

Altoona Electrical Engineering & Supply Co., electric railways constructed & electric light plants installed, 1114, 12th-st., Altoona, Pa. (Bell Telephone No. 90R.)

Altoona & Logan Valley Electric Railway Co., Altoona, Pa.

Alverson, Harry Bartlett, A.AM.I.E.E., superintendent, Cataract Power & Conduit Co., 718, Fidelity-bldg., Buffalo, N.Y.

Amador Electric Railway & Light Co., Sutter Creek, Cal.

Amber Electric Manufacturing Co., manufacturing electricians, 60–62, West Monroe-st., Chicago, Ill.

Ambler, Wm., PH.B., M.E., E.E., assistant professor electrical engineering, Case School of Applied Science, Cleveland, Ohio.

American Battery Co., manufacturers of storage batteries, 172 & 174, South Clinton-st., Chicago, Ill. (Telephone No. 4038, Main.)

American Bell Telephone Co., 125, Milk-street, Boston, Mass.

American Blower Co., makers of electric ventilating fans, Detroit, Mich.

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American Electric Co., installation contractors, 48, Woodward-ave., Detroit, Mich.

American Electric Construction Co., Chamber of Commerce-bldg., Chicago, Ill.

American Electric Fuse Co., manufacturers of cut-outs, fuses, fuse wire, &c., 345, South Canal-st., Chicago, Ill.

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American Electric & Maintenance Co., manufacturing electricians, 122, Centre-st., New York.

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American Electric Telephone Co., telephone manufacturers, State & 64th-sts., Chicago, Ill.

American Electric Works, wire coverers, Phillipsdale, R.I.

American Electrical Equipment Co., installation contractors, Masonic Temple, Chicago, Ill.

American Electrical Heater Co., makers of electric heating appliances, 121–123, State-st., Detroit, Michigan. (Telegs.: "Amelheco, Detroit.")

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American Electro-Therapeutic Association (secretary, Dr. C. E. Skinner), New Haven, Conn.

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American Endoscopic Co., electrical specialities, 212, Union-st., Providence, R.I.

American Engine Co., steam engines & electrical machinery, Bound Brook, N.J.

American Engineer & Railroad Journal (monthly), 140, Nassau-st., New York. (Price $2 per annum; 50 cents extra for postage to foreign parts.) R. M. Van Arsdale, proprietor.

American Falls Power, Light & Water Co., Pocatello, Idaho.

American Hard Fibre Co., hard vulcanized fibre for electrical insulation, &c., Newark, Delaware. (Telegrams: "Fibre, Wilmington, Delaware.")

American Hard Rubber Co., manufacturers of hard rubber or vulcanite for electrical purposes, 9–13, Mercer-st., New York.

American Hardwood Manufacturing Co., electrical woodwork, Grottoes, Va.

American Hoist & Derrick Co., electric hoist makers, St. Paul, Minn. (Telegs.: "Derrick, Saintpaul.")

American Illuminating Co., Hornellsville, N.Y.

American Incandescent Lamp Co., Havemeyer-bldg., 26, Cortlandt-st., New York.

American Injector Co., manufacturers of injectors, Detroit, Mich.

American Institute of the City of New York (Electrical Section), 19, West 44th-st., New York.

American Institute of Electrical Engineers (R. W. Pope, secretary), 7th Floor, White-bldg., 95, Liberty-st., New York. (Telephone No. 2199, Cort.)

American Institute of Mining Engineers, 99, John-st.; & P.O. Box 223, New York. (Telegrams: "Aime, New York.")

American Insulating Machinery Co., wire covering machine manufacturers, 940, North 3rd-st., Philadelphia, Pa.

American Insulating Material Manufacturing Co., Alexandria, Ind.

American Journal of Progressive Therapeutics, Downers-grove, Illinois; & 55, State-st., Chicago.

American Journal of Science (monthly), New Haven, Conn. (Ann. sub., $6.40 = 26*s.* 6*d.*)

American Lava Co., insulator manufacturers, Chattanooga, Tenn.

American Locomotive Co., electric locomotive builders, 111, Broadway, New York.

American Machinery & Export Co., manufacturers & exporters of machinery & electric railway supplies, 114–118, Liberty-st., New York. (Telegrams: "Amayad, New York." Western Union, Lieber & A.B.C., 4th edition, Codes.)

American Machinist (weekly; ann. sub., U.S., Canada & Mexico, $4; other countries, 25*s.*), 505, Pearl-st., New York (Telegrams: "Machinist, New York." Telephone No. 6167, Franklin); & 6, Bouverie-st., London, E.C. (Telegrams: "Backlash, London." Telephone No. 5158, Holborn.)

American Mica Co., dealers in mica for electrical purposes, Newton Lower Falls, Mass.

American Platinum Works, platinum refiners, 251, N.J.R.R.-ave., Newark, N.J.

American Rail Joint & Manufacturing Co., 219, Superior-st., Cleveland, Ohio.

American Railway Construction Co., 42, Broadway, New York. (Telegs.: "Lonas, New York." Teleph. No. 6810, Broad.)

American Railway, Mechanical & Electrical Association, 12, Woodward-ave., Detroit, Michigan. (W. Mower, secretary.)

American Railway Supply Co., electric railway supplies dealers, 24, Park-pl., New York.

American Railways Co., The, Philadelphia, Pa.

American River Electric Co., Stockton, Cal.

American Roentgen Ray Society (secretary, Russell H. Boggs, Empire-bldg., Pittsburg, Pa.), Louisville, Ky.

American School of Correspondence, Chicago, Ill.

American Sign & Electric Co., 41, Van Buren-st., Chicago, Ill.

American Silk Manufacturing Co., electric machinery wipers, 311, Walnut-st., Philadelphia, & Eden Buck's Co., Pa.; Trenton, N.J.; & Bay View, Cecil Co., Md.

American Slate Co., slate products, 131, State-st., Boston, Mass. (Telephone No. 287, Main.)

American Society of Civil Engineers, 220, West 57th-st., New York.
American Steam Gauge & Valve Manufacturing Co., boiler & steam engine fitting manufacturers, New York.
American Steam Pump Co., manufacturers of the Marsh Steam Pump, Battle Creek, Mich.
American Steel & Wire Co., manufacturers of iron & steel wire, 21, State-st., New York; & 71, King William-st., London, E.C.
American Street Railway Association, 2020, State-st., Chicago, Ill. (T. C. Penington, secretary & treasurer.)
American Street Railway Investments, an annual financial supplement to the *Street Railway Journal* (ann. sub., P.U., $5), 114, Liberty-st., New York. (Telegs.: "Stryjourn, New York." Teleph. No. 7605, Cort.)
American Telephone Journal (weekly), 100, William-st., New York. (Ann. sub., U.S., $1; P.U., $3·00.)
American Telephone & Telegraph Co., 125, Milk-st., Boston, Mass.; & 15, Dey-st., New York.
American Tool & Machine Co., manufacturers of belt controllers, 109, Beach-st., Boston, Mass.
American Trading Co., exporters of electrical supplies, 25, Broad-st., New York.
American Transformer Co., makers of transformers, Newark, N.J. (Telegrams: "Transformer, Newark, N.J.")
American Tube & Stamping Co., manufacturers of steel gongs & electrical specialities, Bridgeport, Conn.
American Turbine Engine Co., turbo electric generators makers, Washington, D.C.
American Twist Drill Co., makers of friction clutches, pulleys, &c., Laconia, N.H.
American Vibrator Co., medical manufacturing electricians, St. Louis, Mo.
American Vitrified Conduit Co., manufacturers of vitrified underground conduits, 170, Broadway, New York.
American Vulcanized Fibre Co., manufacturers of vulcanized fibre, Wilmington, Del. (Telegs.: "Fibre, Wilmington.")
American Watchman Time Detector Co., electric watchman's clocks, 235, Broadway, New York. (Telegrams: "Jaminmorse, New York." Telephone No. 600, Cort.)
American Water & Light Co., installation contractors, Indianapolis, Ind.
American Wireless Telegraph Co., Milwaukee, Wis.
Americus Illuminating & Power Co., Americus, Ga. (Telephone Nos. 2 & 83.)
Ames Iron Works, makers of steam engines & boilers, Oswego, N.Y.
Amesbury Electric Light, Heat & Power Co., Amesbury, Mass.
Amesbury & Hampton Street Railway Co., Amesbury, Mass.
Amherst Gas Co., Amherst, Mass.
Amherst & Sunderland Railway Co., Amherst, Mass.
Amityville Electric Light Co., Amityville, N.Y.
Ampere Electric Co., installation contractors, 3682, Park-ave., New York.
Anaconda Electric Light & Railway Department, Anaconda, Montana.
Anacortes Water Co., Anacortes, Wash.
Anaheim City Electric Light Plant, Anaheim, Cal.
Anchor Lamp Co., electric lamp makers, 258, Broadway, New York.
Anderson, Douglas Smith, A.AM.I.E.E., associate professor of electrical engineering, Tulane University New Orleans, La.
Anderson, E. H., A.AM.I.E.E., designing engineer, General Electric Co., Schenectady, N.Y.
Anderson, Homer, magnet winders & electricians' supplies, 353–355, South-st., Peekskill, N.Y.
Anderson, Albert & J. M., Manufacturing Co., manufacturers of electric railway supplies, South Boston, Mass.
Anderson Electric Co., electrical contractors, Anderson, Ind.
Anderson Electric Co., installation contractors, 942, E-st., N.W., Washington, D.C.
Anderson Porcelain Co., manufacturers of high-grade porcelain for electrical purposes, East Liverpool, Ohio.
Anderson & Sons Co., telephone & telegraph supplies, 21, Aubin-ave., Detroit, Mich.
Anderson Tool Co., makers of arc lamps & electrically driven tool grinders, Anderson, Ind. (Telegs.: "Engines, Anderson.")
Anderson Water, Light & Power Co., Anderson, South Carolina.
Andrae, J., & Sons Co., switchboard & telephone makers, 225, West Water-st., Milwaukee, Wis.
Andreas, C., & Son, electric bell contractors, 416, North 3rd-st., St. Louis, Mo.
Andrews, F. E., electrical contractor, 46, Locust-st., Flushing, N.Y. (Telephone No. 251A.)
Andrews, Geo. E., electrical contractor, 40, Bridgham-st., Providence, R.I.
Andrews, Wm. S., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Aneshaensel & Co., C., electrolier manufacturers, Indianapolis, Ind.
Angier, G. M., Co., electrical engineers & contractors, 185, Franklin-st., Boston, Mass.
Anglo-American Telegraph Co., Ltd., 68, Broad-st. (Telegs.: "Anglo, New York." Teleph. No. 5955, Broad); Maritime-bldg., 8, Bridge-st. (Teleph No. 870, Broad); 445, Broome-st. (Silk Exchange-bldg.) (Teleph. No. 691, Spring); & Stock Exchange, New York. (Teleph. No. 2294, Rector.)

Annapolis Gas & Electric Co., Annapolis, Md.
Anniston Electric & Gas Co., Anniston, Ala.
Anoka Water Works, Electric Light & Power Co., Anoka, Minn.
Anson, F. R., M.AM.I.E.E., electrical engineer, 52, Broadway, New York.
Ansonia Brass & Copper Co., manufacturers of bare & insulated copper wire, &c., 99, John-st., New York, N.Y. Factories at Ansonia, Conn. (Telegrams: "Templanza, New York.")
Ansonia Electrical Co., makers of electrical supplies, Ansonia, Conn.
Anthony, Prof. Wm. A., M.AM.I.E.E., professor of physics & director of the Physical & Electrical Laboratories, Cooper Union, New York.
Anthony, J. S., A.AM.I.E.E., General Electric Co., 44, Broad-st., New York.
Anthracite Electric Light & Power Co., Pottsville, Pa.
Antigo Edison Electric Light Co., Antigo, Wis.
Apalachicola Electric Light & Telephone Co., Apalachicola, Fla.
Apple, Vincent G., consulting electrical engineer, 30, South St. Clair-st., Dayton, Ohio.
Arapahoe Electric Light & Power Co., Littleton, Col.
Arcadia Electric Light, Ice & Telephone Co., Arcadia, Fla.
Archbold-Brady Co., electrical engineers & contractors, Syracuse, N.Y.
Archer, Geo. F., A.AM.I.E.E., electrical engineer, 170, Broadway, New York.
Archer & Co., installation contractors, 313, State-st., Milwaukee, Wis.
Archer & Pancoast Co., manufacturers of electric light fixtures, 12, East 33rd-st., New York, N.Y.
Ardmore Ice, Light & Power Co., electric light contractors, Ardmore, Indian Territory.
Arendt, Morton, M.AM.I.E.E., consulting engineer & lecturer on electrical engineering, Columbia University, New York. (Teleph. No. 1400, Morningside.)
Arkadelphia Water & Electric Co., Arkadelphia, Ark.
Arkansas City Gas & Electric Light Co., Arkansas City, Kan.
Arkansas Electric Co., installation contractors, Little Rock, Ark.
Armour Institute of Technology, Chicago, Ill. (Dean of engineering studies, H. M. Raymond.)
Armstrong, Albert H., A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Armstrong, Chas. G., M.AM.I.E.E., consulting electrical engineer, 17, Battery-pl., New York. (Teleph. No. 3886, Rector.)
Armstrong, J. R. C., A.AM.I.E.E., transmission engineer, N.Y., C. & H. R.R. Co., Room 1232, 335, Madison-ave., New York.
Arnold, Bion J., M.AM.I.E.E., M.AM.S.C.E., consulting electrical engineer, 1539, Marquette-bldg., Chicago, Ill.
Arnold, E. D., electrical & mechanical supplies, 909, East Howard-st., Creston, Iowa.
Arnold Co., electrical, civil & mechanical engineers, Marquette-bldg., Chicago, Ill.
Arnold, M. E., & Co., electrical contractors, 114, North 11th-st., Philadelphia, Pa.
Arnold & Wetherbee, installation contractors, Oklahoma, Okl. Territory.
Arny, C. W., & Sons, manufacturers of oak leather belting, 228–230, North 3rd-st., Philadelphia, Pa.
Arrowsmith Electric Co., installation contractors, Harrisburg, Pa.
Arrowsmith Electric Co., dealers in electrical supplies, 446, Penn-st., Reading, Pa.
Arsino Electric & Plating Co., electrical contractors, 751A, Boylston-st., Boston, Mass.
Ash, W. V., A.AM.I.E.E., chief electrician, Raritan Copper Works, Perth Ambay, N.J.
Ashe, S. W., A.AM.I.E.E., instructor in physics & electrical engineering, Polytechnic Institute, Brooklyn, N.Y.
Asheville Electric Co., light, power & traction, Asheville, N.C.
Asheville Mica Co., mica, Asheville, N.C. (Telegrams: "Mica, Asheville.")
Ashland Electric Co., installation contractors, 975, Milwaukee-ave., Chicago, Ill.
Ashland Electric Power & Light Co., Ashland, Ore.
Ashland Gas & Electric Light Co., Ashland, Ohio.
Ashland Light, Power & Street Railway Co., Ashland, Wis.
Ashtabula Rapid Transit Co., electric tramway, Ashtabula, Ohio.
Ashton Valve Co., manufacturers of pop-safety valves & steam-gauges, 271, Franklin-st., Boston, Mass. (Telegrams: "Ashton, Boston." Local Telephone No. 1306.)
Associated Engineering Co., electrical engineers, Empire-bldg., Pittsburg, Pa.
Association of Edison Illuminating Cos., Portland, Ore. (W. S. Barstow, secretary.)
Association of Engineering Societies, 257, South 4th-st., Philadelphia, Pa. (John C. Trautwine, jun., secretary.)
Association of Railway Telegraph Superintendents, c/o Wisconsin Central Railway, Milwaukee, Wis. (P. W. Drew, secretary.)
Astoria Electric Co., Astoria, Ore.
Atchison Railway, Electric Light & Power Co., Atchison, Kan.
Athens Electric Railway Co., Athens, Ga.
Athol Gas & Electric Co., Athol, Mass.
Athol & Orange Street Railway Co., Athol, Mass.

Atkins, Charles Gilman, A.AM.I.E.E., consulting engineer, Pratt & Atkins, 1001, Monadnock-bldg., Chicago, Ill.
Atkins, Harold B., consulting engineer, 80, William-st., New York. (Telegs.: "Habat, New York.")
Atkins, E. C., & Co., dealers in machine belting, Memphis, Tenn.
Atkins Electric Co., installation contractors, Newport News, Va.
Atkinson, John E., electrical supplies, 311, St. Louis-st., Springfield, Mo.
Atkinson, T. W., dealer in & fitter of electric bells, 12, Front-st., Rochester, N.Y.
Atkinson, Willard S., M.AM.I.E.E., general superintendent, University Power Co., Princeton, N.J.
Atkinson, G. H., & Co., installation contractors, 15, Exchange-pl., Jersey City, N.J. (Telegs.: "Kinson, Jersey City." W.U. & A.B.C., 4th edit.)
Atlantic City Electric Railway, Atlantic City, N.J.
Atlantic Coast Electric Light Co., Asbury Park, N.J.
Atlantic Coast Electric Railroad Co., Asbury Park, N.J.
Atlantic County Electric Co., Egg Harbour, N.J.
Atlantic Electric Light & Power Co., Atlantic City, N.J.
Atlantic Electric Light Works, Atlantic, Iowa.
Atlantic Insulated Wire & Cable Co., 120, Liberty-st., New York. (Telegs.: "Atinwico, New York." W.U. Code.)
Atlantic Shore Line Railway Co., Kennebunkport, Maine.
Atlas Contract & Supply Co., installation contractors, Rialto-bldg., San Francisco, Cal.
Atlas Engine Works, builders of steam engines & boilers, Indianapolis, Ind.
Atmospheric Product Co., manufacturers of nitric acid, nitrates & nitrites by electric fixation of atmospheric nitrogen, Niagara Falls, N.Y. (Telegrams: "Atmos, Niagara." Local Telephone Nos. 122 & 188.)
Attix Electrical Engineering Co., installation contractors, 283, Flatbush-ave., Brooklyn, N.Y.
Attleboro Steam & Electric Co., Attleboro, Mass.
Atwater Kent Manufacturing Works, makers of ignition specialities, 46, North 6th-st., Philadelphia, Pa.
Atwood-Stocker Co., installation contractors, Taunton, Mass.
Aubrey, B. W., installation contractor, Malone, N.Y.
Auburn Button Works, vulcanite manufacturers, Auburn, N.Y.
Auburn Light, Heat & Power Co., Auburn, N.Y.
Auburn & Syracuse Electric Rail Road Co., Syracuse, N.Y. (Bell Telephone No. 1253.)
Auburn & Turner Railroad, Lewiston, Maine.
Auburn Water & Electric Light Works, Auburn, Ind.
Audel, Theodore & Co., publishers of electrical & scientific books, &c., 63, 5th-ave., New York.
Auel, C. B., A.M.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Augusta & Aiken Railway Co., Augusta, Ga.
Augusta, Winthrop & Gardiner Railroad, Augusta, Maine.
Augusta Railway & Electric Co., Augusta, Ga.
Aultman Co., The, manufacturers of coal handling machinery, Canton, Ohio.
Aurora, Elgin & Chicago Railway Co., Aurora, Ill.
Aurora Gas Light, Coal & Coke Co., Aurora, Ind.
Aurora Light, Ice & Storage Co., Aurora, Mo.
Aus, C. F., installation contractor, Tacoma, Wash.
Austin, Chas. H., electrical engineer, Nashua, N.H. (Telephone No. 56-2.)
Austin, Sydney B., M.E., A.AM.I.E.E., consulting engineer, Rowland Telegraph Co., Baltimore, Md.
Austin, A. C., & Co., electric house work, Terre Haute, Ind.
Austin Electric Railway Co., Austin, Tex.
Austin Electrical Supply Co., electrical contractors, Austin, Tex.
Austin, M. B., & Co., electric wires & cables, 56 & 58, West Van Buren-st., Chicago, Ill.
Austin Separator Co., makers of steam separators, 19–25, Woodbridge-st., Detroit, Mich.
Austin Water Works, Electric Light & Power Plant, City of Austin, Tex.
Auto-Car Equipment Co., motor carriages, 1453, Niagara-st., Buffalo, N.Y.
Auto-Marine Electrical Co., manufacturing electricians, Watkins, N.Y.
Automatic Electric Co., makers of automatic telephones & switchboards, Van Buren & Morgan-sts., Chicago, Ill.
Automatic Switch Co., makers of automatic motor controller & switches, 131, Liberty-st., New York. (Telegs.: "Controller, New York." Teleph. No. 6630, Cort.)
Automatic Time Stamp Co., makers of electric & mechanical automatic time stamps & registers, 160, Congress-st., Boston, Mass. (Telegrams: "Time Stamp, Boston.")
Averrett, A. E., electrical engineer, General Electric Co., Schenectady, N.Y.
Axthelm Electric Co., dealers in electrical supplies, 314, 4th-ave., Pittsburg, Pa.
Ayer, James I., M.AM.I.E.E., manager Simplex Electric Heating Co., Cambridge, Mass.
Ayer Electric Light Co., Ayer, Mass.
Ayer & Lord Tie Co., railroad ties, Chicago, Ill.

Aylsworth, J. W., M.AM.I.E.E., Edison Laboratory, East Orange, N.J.
Azusa, City of, Electric Light & Power, Azusa, Cal. (Home Teleph. No. 3188.)

B. & B. Apparatus Co., Inc., manufacturers of high frequency, electrotherapeutical & X-ray apparatus, &c., 27, Central-st., Salem, Mass. (Teleph. No. 1067.)
B. & C. Electric Construction Co., installation contractors, 228, Bleeker-st., Utica, N.Y.
B. & R. Electric & Telephone Manufacturing Co., telephone & switchboard manufacturers, cor. 5th & Delaware-sts., Kansas City, Mo. (Telephone Nos. 2249 & 2250, Main.)
Babcock, Hinds & Underwood, electrolier manufacturers & fitters, Binghamton, N.Y.
Babcock & Wilcox Co., manufacturers of boilers, 85, Liberty-st., New York, N.Y.
Babson, A. C., A.AM.I.E.E., engineer, Seattle Office, General Electric Co., Bailey-blk., Seattle, Wash.
Babylon Electric Light Co., Babylon, N.Y.
Bachman, J. B., installation contractor, Provo City (opposite P.O.), Utah.
Backus Water Motor Co., manufacturers of water motors, 172, Pennsylvania-ave., Newark, New Jersey.
Baden, M. W., installation contractor, Winfield, Kan. (Telephone Nos.: Bell, 35; Independent, 35.)
Badger Electric Co., Ltd., Green Bay, Wis.
BADT, F. B., B.E., E.E., M.AM.I.E.E., consulting engineer, 1504, Monadnock-blk., Chicago, Ill. (Telegrams: "Badt, Chicago." Telephone No. 745, Harrison.)
Badt, F. B., & Co., electrical & mechanical engineers & experts, 1504, Monadnock-block, Chicago, Ill.
Baehr, W. A., M.AM.I.E.E., engineer, Laclede Gas Light Co., St. Louis, Mo.
Baggot, E., Co., dealers in gas & electric fixtures, 169–171, E. Adams-st., Chicago, Ill.
Bailey, F. W. C., consulting engineer, 1507, First National Bank-bldg., Cincinnati, Ohio.
Bailey, J. A., & Co., installation contractors, Memphis, Tenn.
Bailey Reflector Co., reflectors & shades, 547, 4th-st., Pittsburg, Pa. (Teleph. No. 2162, Court.)
Bailey-Reynolds Gas Fixture Co., electrolier manufacturers & fitters, Kansas City, Mo.
Baillard, E. V., M.AM.I.E.E., experimental work, models, &c., Fox-bldg., New York.
Bain, Forée, patent lawyer & solicitor & expert in electricity & mechanics, 947–949, Monadnock-blk., Chicago, Ill. (Telegrams: "Foreebain, Chicago." Telephone No. 792, Harrison.)
Bain, Wm. Gibbs, electrical & steam engineer & contractor, Real Estate Trust-bldg., Philadelphia, Pa. (Telephone No. 36–14, Filbert); & 85, Liberty-st., New York.
Bainbridge-Durban Electric Co., electrical construction & supplies, 26, North 7th-st., Philadelphia, Pa. (Bell Teleph. No. 896, Walnut; Keystone Teleph. No. 760, Main.)
Baird Manufacturing Co., makers of telephone apparatus, 1592, North Halsted-st., Chicago, Ill.
Baker, C. M., assistant general superintendent Postal Telegraph Cable Co., Chicago, Ill.
Baker, Joseph B., A.AM.I.E.E., General Electric Co., 839, Union-st., Schenectady, N.Y.
Baker, William C., manufacturer of car heaters, 143, Liberty-st., New York.
Baker, William Edgar, M.AM.S.C.E., M.AM.S.M.E., A.AM.I.E.E., W. E. Baker & Co., 27, William-st., New York. (Telegs.: "Webaker, New York." Teleph. No. 6545, Broad.)
Baker & Co., Inc., platinum manufacturers & refiners, 120, Liberty-st., New York.
Baker Light & Power Co., electric light contractors, Baker City, Ore.
Baker Motor Vehicle Co., makers of electric vehicles, 116, Jessie-st., Cleveland, Ohio.
Baker, W. E., & Co., engineers, 27, William-st., New York. (Telegs.: "Webaker, New York." Teleph. No. 6545, Broad.)
Bakersfield Power, Transit & Light Co., Bakersfield, Cal.
Bakersfield & Ventura Railway Co., 410, Wilcox-bldg., Los Angeles, Cal.
Baldinger & Kupferman, electrolier manufacturers & fitters, 433, Broadway, Brooklyn, N.Y.
Baldwin, William J., heating & ventilating engineer, manufacturer of electrical high pressure fans, World-bldg., New York.
Baldwin, B. L., & Co., consulting electrical engineers, Perin-bldg., Cincinnati, Ohio.
Balfour, Reginald, A.AM.I.E.E., assistant operating superintendent, Lachine Rapids Hydraulic & Land Co., 160, McCord-st., Montreal, Canada.
Ball, H. Dayton, dealers in electrical supplies, 14, James-st., Albany, N.Y.
Ball, H. P., M.AM.I.E.E., electrical engineer, 132, West 34th-st., New York.
Ball, W. D., A.AM.I.E.E., consulting engineer, 1326, First National Bank-bldg., Chicago, Ill.
Ball Electric Co., manufacturing electricians, 65, Colymer-st., Brooklyn, N.Y.
Ball Engine Co., manufacturers of steam engines, Erie, Pa.
Ball & Wood Co., builders of the Ball & Wood Steam Engines, 17, Battery-pl., New York, N.Y. (Telegrams: "Ballwood, New York.")
Ballard, F. W., M.AM.I.E.E., mechanical engineer, Sherwin-Williams Co., 100, Canal-st., Cleveland, Ohio.
Ballard Electric Co., electric light & power contractors, Ballard, Wash.
Ballou-Hutchins Electric Co., manufacturers of electrical switches, Providence, R.I.
Ballston Spa Electric Light & Power Co., Ballston Spa, N.Y.
Ballston Terminal Railroad, Ballston Spa, N.Y.

Balsley, R. O., electrical contractor, 471, South Pine-st., Indianapolis, Ind. (New Telephone No. 9811.)
Baltimore Electrical Supply Co., dealers in electrical supplies, 215, North Calvert-st., Baltimore, Md.
Baltimore & Ohio Railroad. Office: Camden Station, Baltimore, Md.
Baltimore, Sparrows Point & Chesapeake Railway Co., Baltimore, Md.
Baltimore & Washington Transit Co., Washington, D.C.
Bamber, W. C., A.AM.I.E.E., electrical engineer, H. W. Johns-Manville Co., 59th-st. Power House, New York.
Bancroft, K. H., electrical engineer, Lowell, Mass.
Bangor Electric Light, Heat & Power Co., Bangor, Pa.
Bangor Electrical Construction & Supply Co., electrical engineers, Bangor, Maine.
Bangor & Northern Railroad Co., Bangor, Maine.
Bangor Railway & Electric Co., Bangor, Maine.
Bangs, Chas. R., A.AM.I.E.E., special agent American Telephone & Telegraph Co., 15, Dey-st., New York.
Bankers Electric Protection Co., manufacturers of burglar alarms, &c., Chicago, Ill.
Banner Electric Co., installation contractors, 1418, Chouteau-ave., St. Louis, Mo.
Banner Electric Co., incandescent lamp manufacturers, Youngstown, Ohio.
Banton, A. N., electrical contractor & supplier, 49, Hudson-ave., Newark, Ohio.
Bar Harbour & Union River Power Co., Bar Harbour, Maine.
Baraboo Light, Heat & Power Co., Baraboo, Wis.
Baragwanath, Wm., & Son, manufacturers of steam jacket feed water boiler & purifier, 48–52, West Division-street, Chicago, Ill.
Barber & Ross, dealers in electric fixtures, 11th & G.-sts. N.W., Washington, D.C.
Barbour, Benj. F., installation contractor, 2119, 3rd-ave., Birmingham, Ala.
Barclay, John C., M.AM.I.E.E., assistant general manager & electrical engineer, Western Union Telegraph Co., 195, Broadway, New York.
Barden Electric & Machinery Co., electrical engineers, contractors & supply dealers, 109, Main-st., Houston, Tex.
Barfoot, Chas. G., installation contractor, Atlantic City, N.J.
Barker, Prof. G. F., M.I.E.E., The University, Philadelphia, Pa.
Barker, R. E., A.AM.I.E.E., electrical engineer, General Electric Co., Lynn, Mass.
Barnes, C. R., M.AM.I.E.E., city electrician, Rochester, N.Y.
Barnes, Edward A., A.AM.I.E.E., superintendent of the Fort Wayne Electric Works, Fort Wayne, Indiana.
Barnes, H. H., jun., M.AM.I.E.E., engineer, Stanley Electric Manufacturing Co., Pittsfield, Mass.
Barnes Electric Co., installation contractors, Sudbury-bldg., Boston, Mass.
Barnes, Geo. H., Chandelier Co., electrolier manufacturers & fitters, Detroit, Mich.
Barnes & Payton, electrical work, supplies, &c., 273, River-st., Troy, N.Y. (Telegrams: "Barnespayton, Troy." Long Distance Telephone No. 286.)
Barnes Wallace Co., makers of steel springs, Bristol, Conn.
Barnes, W. F. & Jno., Co., manufacturers of lathes & drilling machines, Rockford, Ill.
Barnesville Gas & Electric Light Co., Barnesville, Ohio.
Barnett, H. C., & Co., installation contractors, 923, 6th-ave., New York.
Barney & Smith Car Co., builders of steam & electric cars, Dayton, Ohio.
Barr & Creelman, installation contractors, 24, Exchange-st., Rochester, N.Y.
Barr, W. J., Manufacturing Co., telephone apparatus makers, Cleveland, Ohio.
Barré, Joseph, & Co., installation contractors, 25, Fulton-st., New York.
Barre & Montpelier Traction & Power Co., Barre, Vt.
Barrell & Tresham, installation contractor, 1292, Fulton-st., Brooklyn, N.Y.
Barres Electric Light & Power Co., Maquoketa, Iowa.
Barrett, John, & Co., electrical contractors, 6th & Alda-sts., Portland, Ore.
Barriett Electric Manufacturing Co., 327, East 6th-st., Cincinnati, Ohio. (Telegs.: "Barriett, Cincinnati." Teleph. Main No. 2644.)
Barron, Jas. S., & Co., dealers in electrical supplies, 339, Greenwich-st., New York.
Barstow, Wm. S., M.AM.I.E.E., consulting electrical engineer, 56–58, Pine-st., New York.
Barstow & Chambers, consulting electrical engineers, 56, Pine-st., New York.
Barstow, W. S., & Co., Inc., engineers, 56–58, Pine-st., New York.
Barth, Emanuel, brushes & globes for arc lamps, Pottsville, Pa.
Bartlett, H. N., insulating materials, 138, Liberty-st., New York.
Bartlett Illuminating Co., Saginaw, Mich.
Barton, E. M., A.AM.I.E.E., president Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Barton, Philip Price, M.AM.I.E.E., general manager The Niagara Falls Power Co., Niagara Falls, N.Y.; & general manager Canadian Niagara Power Co., Niagara Falls, Ont., Canada.
Barton Netting Co., electric light fixtures, 250, Woodward-ave., Detroit, Mich.
Bartz, Wygant & Brown, Inc., manufacturers of dynamos & motors, Hornellsville, N.Y.

Baseler, Benjamin, installation contractor, 43, North 10th-st., Philadelphia, Pa.
Bass Foundry & Machine Works, builders of Corliss steam engines, Fort Wayne, Ind.
Batavia Electric Light & Water Works, Batavia, Ohio.
Batchelor, Chas., M.AM.I.E.E., electrical engineer, Exchange Court-bldg., 52, Broadway, New York.
Bateman & Miller, electrical engineers & contractors, 145, East 23rd-st., New York. (Telephone No. 3474–18th-st.)
Bates, Frederick C., A.AM.I.E.E., sales engineer, General Electric Co., 44, Broad-st., New York.
Bates, J. H., M.AM.I.E.E., engineer, 29, Broadway, New York. (P.O. Box 118.)
Bates, Louis, dealer in electric house furnishing, 417, Washington-st., Hoboken, N.J.
Bates, Putnam A., consulting electrical engineer, 42, Broadway, New York.
Bates, D. L., & Bros. Co., makers of electric fans & power motors, Dayton, Ohio. (Telegrams: "Batesbro, Dayton.")
Bates, James A., & Co., installation contractors, Providence, R.I.
Bates Machine Co., mechanical engineers & engine makers, Joliet, Ill.
Batesville Water Works & Electric Light Plant, Batesville, Ark.
Bath Electric & Gas Light Co., Bath, N.Y.
Bath Iron Works, Ltd., contractors for marine electric & steam plants, Bath, Maine.
Batley, W. J., Electric Co., installation contractors, 207, Indiana-ave., Indianapolis, Ind.
Baton Rouge Electric & Gas Co., Baton Rouge, La.
Battery Power Co., makers of accumulators, Milwaukee, Wis.
Battle Creek Electric Co., Battle Creek, Mich.
Bauer, H. N., A.AM.I.E.E., cable electrician, Postal Telegraph Cable Co., Hasbrouck Heights, N.J.
Bauer & Black, Incorp., makers of electrical specialties, Chicago, Ill.
Bauer Lamp & Reflector Co., electrolier manufacturers & fitters, 529, Mission-st., San Francisco, Cal.
Baugher, A. L., electrical contractor, 553, West 10th-st., Erie, Pa. (Mutual Teleph. No. 1072.)
Baum, Frank George, A.AM.I.E.E., consulting electrical engineer, 624, Rialto-bldg., San Francisco, Cal.
Baxter, A. C., electrical contractor, Newton, Mass.
Baxter & Brown, electric light fixtures, 36, South Washington-st., Tiffin, Ohio.
Bay City Electric Plant, Bay City, Mich.
Bay City United Traction Co., Bay City, Mich.
Bay Shore Electrical Construction Co., installation contractors, 6, Mission-st., San Francisco, Cal.
Bay Shore Terminal Co., Norfolk, Va.
Bay State Belting Co., manufacturers of leather belting, 119, Franklin-street, Boston, Mass.
Bay State Lamp Co., incandescent lamp manufacturers (electric), Danvers, Mass.
Baylis, R. N., M.AM.I.E.E., president The Baylis Co., 140, Washington-st., New York.
Bayne, H., A.AM.I.E.E., assistant to Dr. M. I. Pupiri, Columbia University, New York, N.Y.
Beacon Electric Co., electric light & power contractors, Troy, N.Y.
Beacon Light Co., Chester, Pa.
Beacon Light Co., 506, South Spring-st., Los Angeles, Cal.
Beadle & Maxwell, electrical engineers, 82, Beaver-st., New York.
Bean, Irving McC., electrical engineer, 629, Connell-bldg., Scranton, Pa.
Beardslee Chandelier Manufacturing Co., electrolier manufacturers, 176 & 178, South Clinton-st., Chicago, Ill.
Beatrice Electric Co., Beatrice, Neb.
Beattie Electrical Co., manufacturing electricians, 332, West 4th-st., Cincinnati, Ohio.
Beaumont & Co., electrical engineers & contractors, 224, S. 40th-st., Philadelphia, Pa.
Beaumont Ice, Light & Refrigerating Co., Beaumont, Texas.
Beaumont Traction Co., Beaumont, Tex.
Beaver Dam Illuminating Co., Beaver Dam, Wis.
Beaver Valley Traction Co., Beaver Falls, Pa.
Bechtel, Ernest J., M.AM.I.E.E., electrical engineer & superintendent of lighting, Toledo Railways & Light Co., Toledo, Ohio.
Beck Electrical Repair Co., installation contractors, Columbus, Ohio.
Beck Flaming Lamp Co., arc lamp manufacturers (electric), 58, West 15th-st., New York.
Becker Bros., electrical engineers & repairers, 68, West Washington-st., Chicago, Ill. (Long Distance Teleph. Nos. 607 & 608, Main.)
Becker Engraving Co., name plates, 34, Oliver-st., Boston, Mass.
Becker-Braniard Milling Machine Co., milling machines & automatic gear cutters, Hyde Park, Mass.
Beckford, E. S., electrical contractor, Quincy, Mass.
Bedell, Dr. F., M.AM.I.E.E., professor of applied electricity, Cornell University, Ithaca, N.Y. (Telegrams: "Lledeb, New York.")
Bedford Electric Light Heat & Power Co., Bedford, Pa.
Bedford Heat, Light & Power Co., Bedford, Ill.
Bee, W. G., M.AM.I.E.E., Edison Storage Battery Co., Glen Ridge, N.J.
Beebe & Bennett, electrical engineers, 2210, Farmers' Bank-bldg., Pittsburg, Pa.

Beers Bros. Thermostat Co., thermostats, Culver-rd. at Eastern Widewaters, Rochester, N.Y.
Behrend, Bernard A., M.AM.I.E.E., chief engineer in charge & chief designer, Bullock Electric Manufacturing Co., Norwood, Ohio; & chief engineer, Electrical Department, Allis-Chalmers Co., Milwaukee, Wis.
Beidleman, H. S., electrical contractor, 2382, Broadway, New York.
Beidler, Francis, & Co., electric light & telephone poles, 519, West 22nd-st., Chicago, Ill.
Beiluss, Hermann A., Electric Co., installation contractors, 3705, Armour-ave., Chicago, Ill.
Beinert, Geo. D., electrical engineer, 32, Bible House, New York. (Telephone No. 90, Gramercy.)
Bel Air & Havre de Grace Rail Road & Power Co., Bel Air, Md.
Belcher & Loomis Hardware Co., electrical supply dealers, 89–91, Weybosset-st., Providence, R.I.
Belden Electrical Supply Co., installation contractors, 412, Joplin-st., Joplin, Mo. (Telephone Nos.: 192, Home; & 93, Bell.)
Belfast Gas & Electric Co., Belfast, Maine.
Belfield, A. Miller, patent lawyer, 1362, Monadnock-bldg., Chicago, Ill.
Bell, Alonzo C., A.AM.I.E.E., part owner & manager Bell Electric Motor Co., 197, Wooster-st., New York.
Bell, Dr. Louis, M.AM.I.E.E., consulting electrical engineer, 120, Boyleston-st., Boston, Mass.
Bell, R. Angelo, electrical contractor, 213, South 5th-st., Philadelphia, Pa.
Bell, Thomas H., installation contractor, 485, Hamilton-st., Albany, N.Y.
Bell Electric Co., Auburn, Cal.
Bell Electric Co., installation contractors, 2532, Nicolet-ave., Minneapolis, Minn.
Bell Electric Motor Co., electrical engineers & contractors & manufacturers of motors, 140, Pine-st., New York. (Telephone No. 2374, Spring.)
Bell Telephone Co., of Buffalo (Henry M. Watson, president; T. T. Ramsdell, vice-president; J. S. Baecher, secretary & treasurer), 14, West Seneca-st., Buffalo, N.Y.
Bell, Vernon, & Son, electrical contractors, 56, South Third-st., Minneapolis, Minn.
Belle Plaine Electric Light Co., Belle Plaine, Iowa.
Belleaire Light & Power Co., Belleaire, Ohio.
Belleville Gas & Electric Co., Belleville, Ill.
Bellevue Electric Light & Water Plant, Bellevue, Iowa.
Bellevue Light & Power Co., Bellevue, Ohio.
Bellman, John Jacob, A.AM.I.E.E., electrical engineer, 149, Broadway, New York.
Bellman & Sanford, engineers & contractors, 149, Broadway, New York. (Telegrams: "Drofsanbel, New York." Telephone No. 1790, Cort.)
Bellmer, E. F., & Co., electricians, 36, Beaver-st., New York.
Bellwood Electric Light Co., Bellwood, Pa.
Beloit Electric Co., Beloit, Wis.
Beloit Light & Water Co., Beloit, Kan.
Belton Electric Co., Belton, Tex.
Belvidere Gas & Electric Co., Belvidere, Ill.
Bemis Car Box Co., manufacturers of car trucks, 119, Liberty-st., Springfield, Mass.
Benallack, W. T., special agent, Michigan Fire & Marine Insurance Co., Detroit, Mich. (Telephone No. 881, Main.)
Bender, George, electrical engineer, 137, Centre-st., New York.
Bender, J. C., installation contractor, Allegheny, Pa.
Benecke, A. O., A.AM.I.E.E., consulting electrical engineer, 19, Arlington-ave., Vailsburg, N.J.
Benedict & Burnham Manufacturing Co., manufacturers of bare & insulated copper wire, Waterbury, Connecticut.
Benjamin, Park, M.AM.I.E.E., patent attorney, 203, Broadway, New York.
Benjamin Electric Manufacturing Co., makers of wireless clusters & receptacles, 42, West Jackson-boul., Chicago, Ill. (Telegs.: "Benjalect, Chicago." Western Union Code); 27, Thames-st., New York; & 157, Minna-st., San Francisco.
Bennett, Arthur J., installation contractor, 102, South Clinton-ave., Trenton, N.J.
Bennett, Edward E., A.AM.I.E.E., engineer, National Electric Signalling Co., Washington, D.C.
Bennett, Edwin H., A.AM.I.E.E., president Diehl Manufacturing Co., Elizabeth-port, N.J.
Bennett, John C., M.AM.I.E.E., with General Electric Co., 44, Broad-st., New York, N.Y.
Bennett, Willard S., A.AM.I.E.E., Engineering Department, The S. S. White Dental Manufacturing Co., 5, Union-sq., West, New York.
Bennington Electric Co., Bennington, Vt.
Bennington & Hoosick Valley Railway Co., Hoosick Falls, N.Y.
Benoliel, Sol. D., B.S., E.E., A.M., A.AM.I.E.E., M.A.E.S., general manager Roberts Chemical Co., Niagara Falls, N.Y. (Telephone No. 135, Niagara Falls.)
Benson, Wm. W., consulting electrical engineer, 925, Chestnut-st., Philadelphia, Pa.
Bentley, Edward M., electrical engineer & patent expert, 5, Beekman-st., New York. (Telegrams: "Embel, New York." Telephone No. 3448, Cort.)
Bentley, S. F., installation contractor, 693, Broad-st., Newark, N.J.

Benton Harbour & St. Joseph Electric Railway & Light Co., Benton Harbour, Mich.
Benton Power & Traction Co., St. Cloud, Minn.
Benton, T. P., & Son, electrical machinery manufacturers, 200, South Front-st., La Crosse, Wis. (Telegs.: "Bentolect, La Crosse." W.U. & Private Code. Teleph. No. 178.)
Berea Water Works & Electric Light Plant, Berea, Ohio.
Berg, E. J., M.AM.I.E.E., engineer, General Electric Co., Schenectady, N.Y.
Berg, Eskil, A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Berg & Co., electrical engineers & contractors, 39, Vesey-st., New York.
Bergren Electric Co., electrical supplies, 414, Jackson-st., St. Paul, Minn.
Berkeley Electric Lighting Co., Berkeley, Cal.
Berkley Street Railway Co., Berkley, Va.
Berks Electric Co., installation contractors, 13, South 4th-st., Reading, Pa.
Berkshire Street Railway Co., Beard-st., Pittsfield, Mass.
Berlin Electric Light Co., Berlin, N.H.
Bernard, E. G., Co., Incorporated, electrical engineers, manufacturers of dynamos, motors, &c., Troy, N.Y. (Long Dist. Telephone No. 212.)
Bernards Water Co., light & power, Bernardsville, N.J.
Bernet & Co., installation contractors, 3922, Cottage Grove-ave., Chicago, Ill.
Berry, Chas. W., electrical contractor, 296, Brackett-st., Portland, Maine.
Berry, D. E., & Co., electrical supplies & contracting, 30, Main-st., Evansville, Ind. (Telephone No. 150); & 317, Fredericia-st., Owensboro, Ky.
Berry Electric & Manufacturing Co., dealers in electrical supplies, St. Joseph, Mo.
Berstein, N. A., Co., installation contractors, 3, School-st., Boston, Mass.
Berwick Electric Light Co., Berwick, Pa.
Besly, C. H., & Co., copper brushes, 15-21, Clinton-st., Chicago, Ill.
Bessemer Electrical Supply & Cycle Co., electrical contractors, Bessemer, Ala.
Bessey, E. A., A.AM.I.E.E., engineer, Stanley G.I. Electric Manufacturing Co., Pittsfield, Mass.
Bethel Electric & Power Co., Bethel, Vt.
Bethell, U. N., A.AM.I.E.E., first vice-president New York Telephone Co., 15, Dey-st., New York.
Bethlehem Electric Light Co., Bethlehem, N.H.
Bethlehem Electric Light Co., Bethlehem, Pa.
Bethlehem Steel Co., manufacturers of steel forgings, castings, &c., South Bethlehem, Pa.
Betts, Philander, M.S., local secretary & M.AM.I.E.E., electrical engineer, Potomac Electric Power Co. Washington, D.C.
Betz, Frank S., Co., makers of electro-therapeutic apparatus, 90, Wabash-ave., Chicago, Ill.
Beverly Gas & Electric Co., Beverly, Mass.
Bevin Bros. Manufacturing Co., manufacturers of gongs & bells for electric & cable cars, East Hampton, Connecticut.
Bibbins, J. R., A.AM.I.E.E., engineer, Westinghouse Machine Co., Pittsburg, Pa.
Bickford, J. H., consulting electrical engineer, 110, State-st., Boston, Mass.
Bickford & Francis Belting Co., manufacturers of machine belting, Buffalo, N.Y.
Biddeford & Saco Railroad Co., Biddeford, Maine.
Biddle, James G., A.AM.I.E.E., dealer in electrical instruments & storage batteries, Stephen Girard-bldg., Philadelphia, Pa.
Bidstrup, J. F., & Co., installation contractors, 32, Frankfort-st., New York.
Bidwell Electric Co., manufacturing electricians, 133, South Clinton-st., Chicago, Ill.
Bielefeld & Burke Electrical Works, manufacturing electricians, New Orleans, La.
Big Fork Electric Power & Lighting Co., Kalispell, Mont.
Bigelow, C. H., mechanical & electrical engineer on railway power stations, 8, Broad-st., Salem, Massachusetts.
Bijou Electric Co., installation contractors, 18, Washington-ave. N., Minneapolis, Minn.
Bijur, Jos., A.AM.I.E E., electrical engineer, 42, Broadway, New York, N.Y. (Telegs.: "Genstobat, New York." Teleph. No. 3405, Broad.)
Billberg, C., M.AM.I.E.E., electrical engineer, 3311, Walnut-st., Philadelphia, Pa.
Billings & Spencer Co., manufacturers of commutator bars & line material, Hartford, Conn.
Binghamton Electrical Construction Co., electrical contractors, Binghamton, N.Y.
Binghamton Light, Heat & Power Co., Binghamton, N.Y.
Binghamton Railway Co., Binghamton, N.Y.
Binney & Smith Co., manufacturers of lamp black carbons & chemicals, 81-83, Fulton-st., New York, N.Y. (Telegrams: "Epilogue, New York." Telephone Nos. 3237 & 3238, John. A.B.C., Western Union, Lieber's, Standard & Cosmopolitan Codes used.) London office: 63, Farringdon-st., E.C.
Birdsall, E. T., M.E., M.AM.I.E.E., consulting electrical engineer, 26, Cortlandt-st., New York.
Birmingham Railway, Light & Power Co., 2100-2102, 1st-ave., Birmingham, Ala.
Bisbee Improvement Co., electric light contractors, Bisbee, Ariz.
Bishop, W. S., manufacturer of dynamos & motors, New Haven, Conn.

Bishop Gutta-Percha Co. (H. D. Reed, superintendent), manufacturers of telegraph cables, insulated wire & gutta-percha goods, 420–430, East 25th-st., New York, N.Y.

Bissell, G. W., M.E., consulting mechanical engineer, Ames, Iowa.

Bissell, F., Co., manufacturers of & dealers in electrical supplies, 226–228–230, Huron-st., Toledo, Ohio. (Telegrams: "Biselec, Toledo.")

Bissing, G. (Lyons & Bissing), 908, G-st., Washington, D.C.

Bissing, W. F., M.AM.I.E.E., electrical engineer, Kenyon & Kenyon, 49, Wall-st., New York.

Black, C. N., A.AM.I.E.E., general manager Metropolitan Street Railway Co., Kansas City, Mo.

Black, Howard D., A.AM.I.E.E., secretary & sales manager, Blackall & Baldwin Co., 39, Cortlandt-st., New York, N.Y. (Teleph. No. 7920, Cort.)

Black, S. D., A.AM.I.E.E., electrical engineer, The Rowland Telegraphic Co., Baltimore, Md. (Teleph. Nos.: 2345, St. Paul; & 2011, W.)

Black, Allen, Co., electric light fixtures, 144, East 6th-st., St. Paul, Minn.

Black & Boyd Manufacturing Co., electric light fixtures, 23, East 22nd-st., New York.

Black River Traction Co., Watertown, N.Y.

Blackall, Frederick S., M.AM.I.E.E., New York sales agent, Crocker-Wheeler Co., P.O. Box 267, New York. (Telegrams: "Blackall, New York." Telephone No. 7920, Cort.)

Blackall & Baldwin Co., electrical contractors, 39, Cortlandt-st., New York. (Telegs.: "Blackall, New York." Teleph. No. 7920, Cort.)

Blackburn, A. B., M.I.E.E., Hemet, Riverside County, Cal.

Blackburn, W. H., installation contractor, 247, Shirley-st., Boston, Mass.

Blackduck Electric & Telephone Co., Blackduck, Minn.

Blades, H. H., M.AM.I.E.E., general superintendent, Detroit Motor Co., 419, Cass-ave., Detroit, Mich.

Blair Electric Light & Power Co., Blair, Neb.

Blake, Francis, M.AM.I.E.E., electrical engineer, Auburndale, Mass.

Blake, H. W., A.AM.I.E.E., editor *Street Railway Journal*, 114, Liberty-st., New York.

Blake, Prof. Lucien I., electrician & professor of physics & electrical engineering, Kansas State University, Lawrence, Kansas.

Blake, Theo. W., A.AM.I.E.E., electrical engineer, secretary Goodyear Rubber Insulating Co., 1955, Park-ave., New York, N.Y.

Blake Electric Co., motor & dynamo manufacturers, 91, Oliver-st., Boston, Mass.

Blake, George F., Manufacturing Co., pumping machinery manufacturers, 114, Liberty-st., New York.

Blake Signal & Manufacturing Co., manufacturing electricians, 246, Summer-st., Boston, Mass.

Blake & Williams, installation engineers, 211, West 20th-st., New York.

Blanchard, F., installation contractor, Montpelier, Vt.

Blanchard, F. G., electrical engineer, 222, East 17th-st., Brooklyn, N.Y. (Telephone No. 4076, Main.)

Blanchester City Electric Light Plant, Blanchester, Ohio.

Blanck, W. A., consulting electrical engineer, Fisher-bldg., Chicago, Ill.

Blasier, M. E., & Co., manufacturers of electroliers & fixtures, 9, Charlotte-st., Utica, N.Y.

Blevney, John C., manufacturer of friction clutches, 216, High-st., Newark, N.J.

Bliss, Donald M., electrician, Engineering Specialty Co., 143, Liberty-st., New York.

Bliss, Geo. E., electrical supply dealers & contractors, Malden, Mass.

Bliss, Wm. L., A.AM.I.E.E., president Bliss Electric Car Lighting Co., 136, Liberty-st., New York. (Teleph. No. 8445, Cort.)

Bliss-Chester Co., incandescent lamp top & socket makers, Providence, R.I. (Telegrams: "Blischster, Providence." Lieber's Code.)

Bliss, E. W., Co., manufacturers of presses, dies & special tools for the manufacture of electrical appliances, 12, Adams-st., Brooklyn, N.Y. (Telegrams: "Bliss, Brooklyn"); & 4, rue Huntziger, Clichy près Paris. (Telegrams: "Arwilzin, Clichy la Garenne.")

Bliss Electric Car Lighting Co., Milwaukee, Wis.; & New York.

Bliss Electrical School, L. D. Bliss, president, 614, 12th-st., Washington, D.C.

Blizard, Chas., A.M.AM.I.E.E., third vice-president, Electric Storage Battery Co., Allegheny-ave. & 19th-st., Philadelphia, Pa. (Telegs.: "Chloride, Philadelphia." Teleph. No. 23–16, Tioga.)

Blodgett Clock Co., electric clocks, 141, Franklin-st., Boston, Mass. (Telephone No. 2010, Main.)

Blomkun Electric Co., installation contractors, 151, Reed-st., Milwaukee, Wis.

Blood, John Balch, M.AM.I.E.E., Blood & Hale, consulting engineers, 10, Post Office-sq., Boston.

Blood & Hale, consulting engineers, Post Office-sq., Boston, Mass.

Bloomington & Normal Railway Electric & Heating Co., Bloomington, Ill.

Blue Earth Electric Light & Water Works, Blue Earth, Minn.

Blue Grass Traction Co., Lexington, Ky.

Bluffton City Electric Light Plant, Bluffton, Ind.

Bluffton City Electric Light Plant, Bluffton, Ohio.

Blufield Electric Supply & Construction Co., electrical contractors, Blufield, W. Va.

Blum, B., electrical contractor, 141, Broadway, New York. (Telegs.: "Federalmo, New York.")

Blumberg, M. S., electrical engineer, 112, West 42nd-st., New York.

Blumenthal Sons & Co., installation contractors, 172, Washington-st., Chicago, Ill. (Telephone No. 3410, Main.)
Blundin, L. C., & Co., electrical contractors, 1414, South Penn-sq., Philadelphia, Pa.
Boardman Electric Construction Co., installation contractors, Memphis, Tenn.
Boardman River Electric Light & Power Co., Traverse City, Mich.
Bodine Electric Co., installation contractors, 72, South Canal-st., Chicago, Ill.
Bodine, J. E., Co., manufacturers of dental electrical appliances, Indianapolis, Ind.
Boehm, W. D., installation contractor, Sterling, Ill.
Bochm, H., & Co., manufacturers of incandescent lamps, Youngstown, Ohio.
Bogart, A. L., patent expert, 123, Liberty-st., New York.
Bogart, John, consulting electrical engineer, 16, Exchange-pl., New York. (Telegrams: "Tragob, New York." Telephone No. 766, Broad.)
Bogen, L. E., A.AM.I.E.E., Engineering Department, Bullock Electrical Manufacturing Co., Cincinnati, Ohio.
Boggs, L. S., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Bogia Regulating Socket Co., regulating socket maker, Philadelphia, Pa.
Bogue, Chas. J., Electric Co., manufacturers of search lights, projectors & focusing lamps, 213-215, Centre-st., New York, N.Y. (Cable address: "Machelect, New York." Teleph. No. 2111, Spring.)
Böhm, L. K., PH.D., consulting electrical expert & patent solicitor, 280, Broadway, Stewart-bldg., New York. (Teleph. No. 1089, Worth.)
Bohn, C. C., Electric Co., manufacturers of & dealers in electric supplies & general electrical construction, 780, 6th-ave., New York. (Teleph. No. 3317, Bryant.)
Boise Electrical Supply Co., installation contractors, Boise, Idaho.
Boissier Electric Co., makers of dynamos for electrotypers & electroplaters, 478, Pearl-st., New York, N.Y.
Bolan, Thomas V., A.M.AM.I.E.E., engineer & salesman, General Electric Co., 226, South 11th-st., Philadelphia, Pa.
Bolton, Reginald Pelham, consulting electrical engineer, 527, 5th-ave., New York.
Bonar, James, & Co., Inc., steam appliances, 516, Frick-bldg., Pittsburg, Pa. (Telephone No. 1593, Court.)
Bonnarjee, Basanta Chandra, A.I.E.E., c/o General Delivery, Los Angeles, Cal.
Bonville, Edward, maker of switches & switchboards, Fair Haven, Vt.
Boone Electric Co., Boone, Iowa.
Boonville Electric Light & Power Co., Boonville, Ind.
Boorman Electrical Co., installation contractors, 218, D.-st., Marysville, Cal.
Borde, Geo. U., consulting electrician, New Orleans, La.
Bordentown Electric Light & Motor Co., Bordentown, N.J.
Borne, Chas. A., manufacturing electrician, 60, Grand-st., New York, N.Y.
Borough Electric Light Plant, Sharpsburg, Pa.
Bosch, Adam, M.AM.I.E.E., electrical engineer, superintendent fire alarm telegraph, Newark, N.J.
Bossert Electric Construction Co., manufacturers of steel junction & outlet boxes, Utica, N.Y.
Boston Automatic Fire Alarm Co., 104, Milk-st., Boston, Mass.
Boston Belting Co., manufacturers of & dealers in mechanical rubber goods, 256, Devonshire-st., Boston, Mass. (Telegrams: "Belting, Boston.")
Boston Electric Co., manufacturers of & dealers in electrical supplies, 29, Harrison-ave., Boston, Mass.
Boston Electric Co., installation contractors, 123, Dorrance-st., Providence, R.I.
Boston Elevated Railway Co., Boston, Mass.
Boston Gear Works, job gear cutting of all kinds, 152, Purchase-st., Boston, Mass.
Boston & Great Falls Electric Light & Power Co., Great Falls, Montana. (Teleph. No. 73.)
Boston Incandescent Lamp Co., incandescent lamp manufacturers (electric), Danvers, Mass.
Boston Insulated Wire & Cable Co., 182, Freeport-st., Boston, Mass.
Boston & Maine Railroad Co., Concord & Manchester Branch, Concord, N.H.
Boston & Northern Street Railway Co., 84, State-st., Boston, Mass.
Boston & Worcester Street Railway Co., Boston, Mass.
Boston Woven Hose & Rubber Co., insulating rubber & tape, Boston, Mass.
Bottomley, H., M.AM.I.E.E., general superintendent, Fall River Electric Light Co., Fall River, Mass.
Boulder Electric Light & Power Co., Boulder, Col.
Bourne, T. F., expert & patent solicitor, 220, Broadway, New York, N.Y. (Teleph. No. 1694, Cort.)
Bowen Electric Co., installation contractors, Providence, R.I.
Bowie, A. J., jun., A.AM.I.E.E., irrigation engineering, U.S. Dept. of Agriculture, Washington, D.C.
Bowie & Love, electrical supplies, Tacoma, Wash.
Bowling Green Gas Light Co., Bowling Green, Ky.
Bowling Green Railway Co., Bowling Green, Ky.
Bowman & Gregg, electrical engineers, 19, Elm-st., Springfield, Mass.
Bown, D. E., consulting electrical engineer, 441, 6th-ave., Pittsburg, Pa.
Bowsher, N. P., Co., Incorporated, makers of balancing ways for armatures, pulleys, & other rotary parts, South Bend, Ind.

Boyce, Geo. R., dealer in electrical supplies, 295, Main-st., Orange, N.J.
Boycott, G. W. M., A.I.E.E., 43, West 33rd-st., New York.
Boyd, H. J., supplies & contracting, West Diamond-st., Allegheny, Pa.
Boyd, James, & Brother, makers of belting, packing, &c., 14, North 4th-st., Philadelphia, Pa.
Boyer, Elmer E., M.AM.I.E.E., testing department, Lynn Works, General Electric Co., Lynn, Massachusetts.
Boyle, R. C., & Co., electrical contractors & dealers in supplies, 4603, Frankford-ave., Philadelphia, Pennsylvania.
Boynton, E. C., M.AM.I.E.E., Christensen Engineering Co., 135, Broadway, New York.
Bracey Forse Electrical Construction Co., 307, Locust-st., St. Louis, Mo.
Brackett, Byron B., A.M., PH.D., M.AM.I.E.E., professor of physics & electrical engineering, Clarkson School of Technology, Potsdam, N.Y.
Brackett, C. F., A.M., M.D., LL.D., consulting electrician, Princeton University, Princeton, N.J.
Braddell, Alfred E., A.AM.I.E.E., chief electrical inspector Underwriters' Association (middle department), 316, Walnut-st., Philadelphia, Pa.
Braden Plb'g & Electric Co., installation contractors, San Antonio, Tex.
Bradfield, W. W., A.I.E.E., Marconi Wireless Telegraph Co. of America, 27, William-st., New York.
Bradford Electric Light & Power Co., Bradford, Pa.
Bradford Electric Street Railway Co., Bradford, Pa.
Bradford Electro-Plating & Supply Co., electrical contractors, Bradford, Pa.
Bradford & Hood, patent lawyers & solicitors, Suite 1235, State Life-bldg., Indianapolis, Ind. (Telegrams: "Bradod, Indianapolis." Long Distance Telephone No. 168.)
Bradford, Kyle & Co., manufacturers of insulated wire, Plymouth, Mass.
Bradford, Thomas, & Son, manufacturing electricians, Danielson, Conn.
Bradley, Charles S., M.AM.I.E.E., electrical engineer, president Atmospheric Products Co., 41, Park-row, New York. (Telegrams: "Forecabin, New York." Telephone No. 2594, Cort.)
Bradley, Chas. S., & Sons, consulting engineers, Room 810, 41, Park-row, New York.
Bradley, E. C., & Co., manufacturers of electrical specialities, 15 & 17, Stone-st., Rochester, N.Y.
Bradley & Hubbard Manufacturing Co., manufacturers of electric fixtures, Meriden, Conn.
Brady, E. D. A., electrical engineer, Waterbury, Conn.
Brady, F. J., electrical contractor, 5934, Broad-st., Pittsburg, Pa.
Brady, Frank W., M.AM.I.E.E., International Correspondence Schools, Scranton, Pa.
Brady, P. T., A.AM.I.E.E., manager, Central N.Y. Agency, Westinghouse Elec. & Mfg. Co., Syracuse, N.Y. (Telegs.: "Paul T. Brady, Syracuse." Cables: "Peetebrady," New York & Syracuse. Long Distance Teleph. Nos. 761 & 932); & 11, Pine-st., New York. (Teleph. No. 3800, Rector.)
Brady, Thos. H., manufacturer of electric light mast arms, &c., New Britain, Conn.
Braid Electrical Co., electrical supplies, 234, N. Market-st., Nashville, Tenn.
Brandt, G., & Son, electrical contractors, 1120, Oakdale-ave., Chicago, Ill.
Brattleboro Gas Light Co., Brattleboro, Vt.
Braun, David J., Manufacturing Co., manufacturers of electroliers, 135, West Washington-st., Chicago Ill. (Telephone No. 1228, Monroe.)
Brayton & Hooks, installation contractors, Utica, N.Y.
Brazil Electric Co., Brazil, Ind.
Bredsvold Manufacturing Co., electric light fixtures, cor. 3rd & Lucas-ave., St. Louis, Mo.
Breed, G., consulting electrician, Real Estate Trust-bldg., Philadelphia, Pa.
Breedon, Jacob, electrical contractor, 41, West Maumee-st., Adrian, Mich.
Breen Bros., electrolier manufacturers & fitters, Utica, N.Y.
Breese & Ferguson, consulting electricians, Norfolk, Va.
Brennan, E. A., electrical engineer, 112, 14th-st., Hoboken, N.J.
Brenner Bros. Manufacturing Co., electrolier manufacturers, Waterbury, Conn.
Brewer, Howard, electrical contractor, Fishkill Landing, N.Y.
Brewster, Walter Scott, A.AM.I.E.E., electrician, Standard Underground Cable Co., 65, Kearney-ave., Perth Amboy, N.J.
Brice Gas & Electric Co., electric light contractors, Mason City, Iowa.
Bridegam, W. E., electrical contractor, 240, Penn-st., Reading, Pa.
Bridgeport Brass Co., "phono-electric" wire manufacturers & rollers, Bridgeport, Conn. (Telegrams: "Brassport, Bridgeport." Directory & Lieber Codes); & 19, Murray-st., New York.
Bridgeport De-Oxidized Bronze & Metal Co., manufacturers of bronze & copper bars, Bridgeport, Connecticut.
Bridgeport Electric Light & Power Co., Bridgeport, Ohio.
Bridges & Holly Electric Light Co., Navasota, Tex.
Bridgeton Electric Co., Bridgeton, N.J.
Bridgton Water & Electric Co., electric light contractors, Bridgton, Maine.
Briggs, Marvin, dealer in dynamos & machinery, 17, Battery-pl., New York, N.Y.
Briggs, Wm. P., electrical supplies, New Bedford, Mass.

Briggs, E. A., Co., electrical light fixtures, 141, West 125th-st., New York.
Brigham City Electric Light & Power Plant, Brigham City, Utah. (Teleph. Nos. 63, Ind. & Bell.)
Bright, Graham, M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Brill Electric Co., 110, Jackson-st., Augusta, Ga.
Brill, J. G., Co., electric cable & steam cars, trucks, &c., 62nd-st., & Woodland-ave., Philadelphia, Pa. (Telegrams: "Brill, Philadelphia.")
Brilliant Electric Co., incandescent lamp makers, Cleveland, Ohio.
Brilliant Sign Letter Co., 711, Locust-st., St. Louis, Mo.
Brinckerhoff, H. M., M.AM.I.E.E., construction engineer, 60, Wall-st., New York.
Briner, C. J. & F. E., electrical engineers & contractors, 204, 206 & 208, Franklin-ave., St. Louis, Mo.
Bristol Co., recording instrument makers, Waterbury, Conn.; & 114, Liberty-st., New York.
Bristol County Gas & Electric Co., Bristol, R.I.
Bristol Gas & Electric Co., Bristol, Tenn.; & Bristol, Va.
Bristol & Plainville Tramway Co., Bristol, Conn.
Britten & Haines Electric Co., contractors & dealers, 17, John R.-st., Detroit, Mich.
Brixey, W. R., A.AM.I.E.E., manufacturer of Kerite insulated wires & cables, 203, Broadway, New York. Factory: Seymour, Conn. (Telegs.: "Dayhewit, New York." Teleph. No. 238, Cortlandt.)
Broad River Light & Power Co., Charleston, S.C.
Brock, Fenelon B., patent solicitor & expert, Atlantic-bldg., Washington, D.C.
Brockport Electric Co., Brockport, N.Y.
Brode Electric Co., Inc., supply dealers, 306-08, S. Los Angeles-st., Los Angeles, Cal. (Telephone Nos.: 872, Home; & 5810, Main.)
Brodhead, Albert, electrical engineer, Bethlehem, Pa.
Brodie Electric Co., manufacturers of electrical supplies, 42, Pleasant-st., Manchester, N.H.
Broiles Electric Co., installation contractors, Fort Worth, Tex.
Bromich, Joseph, manufacturer of steam boilers, 119, Jefferson-street, Topeka, Kan.
Bronson & Davis, manufacturing electricians, Blue Island, Ill.
Brookfield Electric Light Co., Brookfield, Mo.
Brookfield Glass Co., manufacturers of insulators & battery jars, 218 & 220, Broadway, New York. (Telegs.: "Brookfield, New York." Teleph. Nos. 6272 & 6273, Cort.)
Brooklyn Dry Cell Battery Co., makers of batteries, &c., 991, Madison-st., Brooklyn, N.Y. (Teleph. No. 826, L—Bushwick.)
Brooklyn Electric Equipment Co., electrical engineers, 12, Clifton-st., Brooklyn, N.Y.
Brooklyn Electric & Novelty Co., miniature lamps, 278, Fulton-st., Brooklyn, N.Y.
Brooklyn Electric Supply Co., electrical supplies, 6, Court-sq., Brooklyn, N.Y.
Brooklyn Heights Railroad Co., 168, Montague-st., Brooklyn, N.Y.
Brooklyn Rapid Transit Co., Brooklyn, N.Y.
Brooklyn Repair Co., electrical repairs, &c., 1450, Atlantic-ave., Brooklyn, N.Y.
Brooks, Frank A., consulting electrical & mechanical engineer, Charleston, Illinois. (Long Distance Telephone No. 500.)
Brooks, F. R., electrical contractor, Brookline, Mass.
Brooks, Morgan, M.AM.I.E.E., professor of electrical engineering, University of Illinois, Urbana, Ill.
Brooks, E. F., & Co., dealers in electrical fixtures, 531, 15th-st., Washington, D.C.
Brooks-Follis Electric Corporation, electrical contractors & supply dealers, 212, 1st-st., San Francisco, Cal.
Brophy, W., A.AM.I.E.E., consulting electrical engineer, 17, Egleston-st., Jamaica Plain, Mass.
Brosius Electric Co., installation contractors, Belleville, Ill.
Brower, H. C., & Son, dealers in electric bells, &c., 317, East Genesee-street, Syracuse, N.Y.
Brown, Chas. F., electrical construction, 319, East 23rd-st., New York. (Telegrams: "Brobrown, New York." Telephone No. 3751, Gramercy.)
Brown, E. C., installation contractor, Leadville, Col.
Brown, Edwin N., installation contractor, Troy, N.Y.
Brown, Fred. S., electrical supplies, 57, Temple-st., Waterville, Maine.
Brown, Gilman W., consulting electrical engineer, West Newbury, Mass.
Brown, G. M., installation contractor, Woonsocket, R.I.
Brown, Harold P., electrical engineer, manufacturer of Plastic Rail Bonds, 120, Liberty-st., New York. (Telegrams: "Lorah, New York." A1 & Lieber Codes used.)
Brown, I. B., installation contractor, 1413, G.-st., Washington, D.C.
Brown, J. Stanford, M.AM.I.E.E., consulting electrical & mechanical engineer, 489, 5th-ave., New York, N.Y. (Telephone No. 3545-38th.)
Brown, W. E., A.AM.I.E.E., engineer, New York & New Jersey Telephone Co., Brooklyn, N.Y.
Brown, William S., electrical materials, 3, West 29th-st., New York. (Telephone No. 6854, Cort.)
Brown, Addison W., Electric Co., electrical contractors, 195, Montague-st., Brooklyn, N.Y. (Teleph. No. 2086, Main.)
Brown, C. H., Engine Co., Inc., manufacturers of automatic cut-off steam engines, Fitchburg, Mass.
Brown Electric Co., installation contractors, 108, East Long-st., Columbus, Ohio.

Brown Electrical Construction Co., installation contractors, 305, Ellsworth-bldg., 355, Dearborn-st., Chicago, Ill. (Telephone Nos. 3698, Harrison & Automatic.)
Brown Engineering Co., electrical & contracting engineers, 2nd National Bank-bldg., Reading, Pa.
Brown, Frank P., & Co., electrolier manufacturers & fitters, 43, North 6th-st., Philadelphia, Pa.
Brown Hoisting Machinery Co., makers of electric elevators, Cleveland, Ohio.
Brown, James, & Son, electrical engineers & contractors, experimental work, 207, Wood-st., Pittsburgh, Pa.
Brown Lumber Co., manufacturers of cross-arms, &c., Meridian, Miss.
Brown, S. Arthur, & Co., installation contractors, 126, Liberty-st., New York.
Brown & Sharpe Manufacturing Co., machinery & tools, Providence, R.I.
Browne, Sidney Hand, M.AM.I.E.E., vice-president & general manager, Pittsburg & Allegheny Telephone Co., Pittsburg, Pa.
Browne, W. H., M.AM.I.E.E., treasurer, general manager & director Stanley Instrument Co., Great Barrington, Mass.
Browne, Wm. Hand, jun., technical editor, *Electrical Review*, 13, Park-row, New York.
Browne, Wm. L., electrical contractor, 545, Main-st., Worcester, Mass. (Telegs.: "Brownelec, Worcester." Teleph. No. 2630–2631.)
Browne, Borum & Co., electric light fixtures, 52, 2nd-st., Memphis, Tenn.
Browne Mills Electric Co., North Manchester, Ind.
Browne & Woodworth, patent attorneys, 31, State-st., Boston, Mass.
Brownell, H. G., consulting engineer, Garvin & Zane-sts., Louisville, Ky.
Brownell & Co., engine makers (steam), high speed, Dayton, Ohio.
Browning Manufacturing Co., manufacturers of dynamos & motors, Clinton-st., Mikwaukee, Wis.
Brownsville Electric Light Co., Brownsville, Pa.
Bruce Electric Co., installation contractors, 14, North Front-st., Columbus, Ohio.
Bruce-Hibbard Electric Co., electrical engineers & installation contractors, Fitchburg, Mass. (Teleph. No. 241–2, Fitchburg.)
Bruce-Meriam-Abbott Co., gas engine electric lighting plants, 1692, Columbus-rd., N.W., Cleveland, Ohio.
Bruckner Telephone & Electric Co., makers of telephones, 150, Nassau-st., New York, N.Y.
Brunner Chemical Works, lamp colouring compounds, 17, East 3rd-st., Cincinnati, Ohio.
Brunswick Electric Light & Power Co., Brunswick, Maine.
Brunswick Refrigerating Co., electric refrigerators, New Brunswick, N.Y.
Brunt, G. F., Porcelain Works, manufacturers of porcelain for electrical purposes & brunt regulating sockets, East Liverpool, Ohio.
Brush, C. F., M.E., M.S., PH.D., LL.D., M.AM.I.E.E., electrical engineer & inventor, 481, The Arcade, Cleveland, Ohio.
Brush Electric Illuminating Co., of N.Y., 55, Duane-st., New York.
Brush Electric Light & Power Co., Galveston, Texas.
Brussel, Dennis G., electrical contractor, 15, West 29th-st., New York. (Telephone No. 3060, Madison-sq.)
Bryan, James, consulting electrician, Park-bldg., Pittsburg, Pa.
Bryan, Wm. H., consulting electrical & mechanical engineer, 329, Lincoln Trust-bldg., St. Louis, Mo. (Bell Teleph. Main No. 2182.)
Bryan-Marsh Co., manufacturers of incandescent lamps, Glackner-bldg., 227 & 229, Fulton-st., New York. (Telegs.: "Glowlamp, New York." Long Distance Teleph. Nos. 6925 & 6926, Cortland.)
Bryan Water, Ice, Light & Power Co., Bryan, Tex.
Bryant, E. M., dealer in electrical supplies, electrical construction, 28, Hanover-st., Manchester, New Hampshire.
Bryant Electric Co., manufacturers of switches, &c., Bridgeport, Conn.
Bryant, F., & Co., electrical engineers & contractors, 728, Mass-ave., Cambridge, Mass.
Bryant, George W., & Co., electrolier manufacturers, 35, Hartford-st., Boston, Mass.
Bubeck & Guerin, makers of polished hard wood bases & boxes for electrical apparatus, 115–121, East 13th-st., New York, N.Y. (Teleph. No. 3965, Gramercy.)
Bubert, J. F., electrical engineer & contractor, 20, Boylston-pl., Boston, Mass.
Buchanan, J. F., & Co., electrical engineers & contractors, 36, North 4th-st., Philadelphia, Pa.
Buchel Power & Irrigation Co., electric light & power contractors, Cuero, Tex.
Buck, H. W., M.AM.I.E.E., electrical engineer, 49, Wall-st., New York.
Buckelew, Albert H., installation contractor, 136, Liberty-st., New York, N.Y. (Telephone No. 4459, Cortlandt.)
Buckeye Electric Co., manufacturers of incandescent lamps, Mason & Belden-sts., Cleveland, Ohio.
Buckeye Engine Co., builders of slow, medium & high speed automatic cut-off steam engines, 5, Franklin-ave., Salem, Ohio. (Telegrams: "Buckeye, Salem, Ohio.")
Buckhannon Water & Light Co., Buckhannon, West Virginia.
Buckingham, Charles L., A.AM.I.E.E., patent attorney, 38, Park-row, New York.
Bucyrus Gas & Electric Light Co., Bucyrus, Ohio.

Buehler, Joseph, electrical contractor, 571-573, 5th-avenue, New York, N.Y. (Telephone No 6317-38th-st.)
Buena Vista Electric Light & Power Plant, Buena Vista, Col.
Buffalo Battery Co., storage batteries, 30, State-st., Buffalo, N.Y.
Buffalo Electric Carriage Co., makers of electric vehicles, Buffalo, New York. (Telephone No. Amherst, 109.)
Buffalo Electric Co. (E. P. McCormick), dealers in electric goods & electrical supplies, 17, West Mohawk-st., Buffalo, N.Y.
Buffalo Electric Contracting Co., installation contractors, 62, Niagara-st., Buffalo, N.Y.
Buffalo Electric Supply Co., installation contractors, 15, West Mohawk-st., Buffalo, N.Y.
Buffalo Electrical Laboratory, Erie Co. Bank-bldg., Buffalo, N.Y.
Buffalo Forge Co., makers of engines for electric lighting, Buffalo, N.Y. Branches at New York; Chicago, Ill.; & London. (Telegrams: "Forge, Buffalo;" & "Buffaloes, London.")
Buffalo General Electric Co., electrical engineers & contractors, Buffalo, N.Y.
Buffalo & Niagara Falls Electric Light & Power Co., Niagara Falls, New York. (Telephone Nos. 175 & 275.)
Buffalo Southern Railway Co., Gardenville, N.Y.
Buffalo & Williamsville Electric Railway Co., Buffalo, N.Y.
Buffington Electric Co., installation contractors, 112, Michigan-st., Chicago, Ill.
Buker, C. W., electrical engineer & supplies, 1166, 5th-st., San Diego, Cal. (Teleph. No. 1657, Home, Red.)
Bull, Storm, M. E., professor of steam engineering, Wisconsin University, Madison, Wis.
Bullard Machine Tool Co., makers of machinery, Bridgeport, Conn.
Bullock, George, M.AM.I.E.E., president, Bullock Electric Manufacturing Co., Cincinnati, Ohio.
Bullock, M. C., consulting engineer, 1170, West Lake-st., Chicago, Ill.
Bullock Electric Manufacturing Co. *See* Allis-Chalmers Co.
Bunce, Theodore D., expert in batteries, Storage Battery Supply Co., 239, East 27th-st., New York, N.Y.
Bundy, R. D., installation contractor, Binghamton, N.Y.
Bunnell, J. H., & Co., manufacturers of & dealers in telegraphs & electrical instruments & supplies, 20, Park-pl., New York, N.Y.
Burch, E. P., M.AM.I.E.E., consulting electrical engineer, 1210, Guaranty-bldg., Minneapolis, Minn.
Burdett-Rowntree Manufacturing Co., electric dumbwaiters, Chicago, Ill.
Burdick, Dr. Gordon G., X-Ray Laboratory, 74, Madison-st., Chicago, Ill.
Burgess, Chas. Frederick, E.E., M.AM.I.E.E., electro-chemist & professor of applied electrochemistry, University of Wisconsin, Chemical Engineering-bldg., Madison, Wis.
Burgess Electric Co., manufacturing electricians, 312, West 1st-st., Duluth, Minn.
Burgess, J., & Sons, manufacturers of gasoline furnaces for electricians' use, Columbus, Ohio.
Burk, E. S., general electrical contractor, 7th & Market-sts., Chester, Pa. (Telephone No. 205.)
Burkart, Joseph, electrician, 1123, Broadway, New York. (Telephone No. 392, Madison-sq.)
Burke, Jas., M.AM.I.E.E., electrical engineer, Burke Electric Co., Erie, Pa.
Burke Electric Co., manufacturers of dynamo & electric machines, Erie, Pa.
Burkett, C. W., E.E., A.AM.I.E.E., chief engineer, Wisconsin Telephone Co., Milwaukee, Wis.
Burkholder, C. I., M.AM.I.E.E., electrical engineer, Schenectady, N.Y.
Burland, A. E., & Co., electrical engineers, 200, Thames-st., Newport, R.I.
Burleigh, Chas. B., M.AM.I.E.E., M.AM.S.M.E., &c., General Electric Co., 200, Summer-st., Boston, Mass.
Burleigh, H. W., electrical engineer, Franklin, N.H. (Long Distance Teleph. No. 11-3, Franklin, N.H.)
Burlingame, A., Co., makers of high speed automatic engines & wood pulleys, &c., 22, Cypress-st., Worcester, Mass.
Burlington County Railway Co., Hainesport, N.J.
Burlington Electric Light & Power Co., Burlington, N.J.
Burlington Light & Power Co., Burlington, Wis.
Burlington Light & Power Co., Burlington, Vt.
Burlington Traction Co., Burlington, Vt.
Burnet Co., dealers in electrical supplies, 121, Maiden-lane, New York.
Burnett, Douglas, M.AM.I.E.E., manager, Electrical Dept., Consolidated Gas, Electric Light & Power Co., Continental-bldg., Baltimore, Md.
Burnham, Williams, & Co., makers of electric, steam & compressed air locomotives, Baldwin Locomotive Works, 500, North Broad-st., Philadelphia. Sanders & Co., agents, 110, Cannon-st., London, Eng. (Telegrams: "Sanders, London." Telephone Nos.: Nat. 5636, Bank; P.O. 8882, Central.)
Burns, D. J., dealer in electrical supplies, 46, Genesee-st., Auburn, N.Y.
Burns, E. Z., installation contractor, Niagara Falls, N.Y.
Burns, Jas. F., electrical works, contractor & dealer in electrical supplies, 442, State-st., Schenectady, N.Y. (Telephone No. 90A.)
Burns, O. C., M.AM.I.E.E., electrical operator, Manhattan Railway Co., New York.

Burns Electric & Fixture Co., electrical supplies, 933, Broadway, Kansas City, Mo.
Burns, T. J., & Co., dealers in electrical supplies, Lynchburg, Va.
Burr, Clifford B., electrical contractor, 100, Main-st., Ansonia, Conn.
Burr, Garrett S., & Co., installation contractors, Hackensack, N.J. (Teleph. No. 294.)
Burroughs, Harris S., A.AM.I.E.E., electrical engineer, 19, William-st., New York, N.Y.
Burry, J., printing telegraphs, 654, Hudson-st., New York. (Telegs.: "Burryjohn, New York." Teleph. No. 1537, Chelsea.)
Burt, Byron T., M.AM.I.E.E., general manager, Chattanooga Electric Co., Chattanooga, Tenn.
Burt & Co., installation contractors, 364, Halsey-st., Newark, N.J.
Burt Manufacturing Co., oil filters & exhaust heads, Akron, Ohio.
Burtchaell, J. W., electrolier manufacturers, 316, Post-st., San Francisco, Cal.
Buschmann, A. J., electrical engineer & installation contractor, 72, West 38th-st., New York.
Bush, Charles S., Co., electrical supplies & construction, 17, 19 & 21, Richmond-st., Providence, R.I. (Telegrams: "Bush, Providence"); & 161, Milk-st., Boston, Mass. (Telegrams: "Claybush, Boston.")
Bush & Mallett Co., electrolier manufacturers, 3060-62-64, 17th-st., San Francisco, Cal. (Teleph. No. 149, Special.)
Bushnell, A., telegraph poles & mast-arms, S.E. corner 9th & Broadway, Kansas City, Mo.
Butler, H. W., M.AM.I.E.E., engineer, Manhattan Railway Co., 56, East 50th-st., New York.
Butler Electric Co., installation contractors, New Britain, Conn.
Butler Hard Rubber Co. *See* AMERICAN HARD RUBBER CO.
Butler Light, Heat & Motor Co., Butler, Pa.
Butler Passenger Railway Co., Butler, Pa.
Butte Electric Railway Co., Butte, Mont.
Butterfield, J. F., electrical engineer & installation contractor, 113, Adams-st., Chicago, Ill.
Butterworth & Reiter, electrical contractors & supplies, West 2nd-st., Dayton, Ohio.
Buyers' Reference Co., Inc., publishers of quarterly reference books for the use of buyers of electrical, steam, telephone, marine & automobile supplies, &c., 123, Liberty-st., New York, N.Y.
Byesville Glass & Lamp Co., makers of arc light & incandescent globes & shades, Byesville, Ohio.
Byllesby, H. M., & Co., electrical engineers, New York Life-bldg., Chicago, Ill.
Byrne, Thomas W., consulting electrical engineer, 8, Doane-st., Boston, Mass.

C. & C. Electric Co., dynamo manufacturers, 149, Broadway, New York.
C. O. D. Electric Works, installation contractors, 219½, Temple-st., Los Angeles, Cal.
Cable, D. J., & Co., electrical contractors, 26, 5th-st., Pittsburg, Pa.
Cabot, F. E., A.AM.I.E.E., electrical inspector, Board of Underwriters, 55, Kilby-st., Boston, Mass.
Cahill & Hall Elevator Co., electric elevators, San Francisco, Cal.
Cahn Electric Co., medical electricians & instrument makers, Denver, Col. (Teleph. No. 3117, Main.)
Cahoon, J. B., M.AM.I.E.E., AM.S.M.E., consulting engineer, 42, Broadway, New York. (Telegs.: "Cahrae, New York." W.U. Code.)
Cain, Charles D., installation contractor, Rantoul, Ill.
Cairo Electric & Traction Co., Cairo, Ill.
Calais Street Railway Co., Calais, Maine.
Caldwell, Edward, A.AM.I.E.E., McGraw Publishing Co., 114, Liberty-st., New York.
Caldwell, E. W., A.AM.I.E.E., electrical engineer, 36, W. 35th-st., New York. (Telephone No. 4051-38th.)
Caldwell, F. C., M.AM.I.E.E., professor of electrical engineering, Ohio State University, Columbus, Ohio (Teleph. No. Cit. 6529); & chief engineer, Electrical Dept., National Engineering Co.
Caldwell, E. F., & Co., electrolier manufacturers & fitters, 39, West 15th-st., New York.
California Artistic Metal & Wire Co., electrolier manufacturers, San Francisco, Cal.
California Electric Co., dealers in electrical supplies, 119, East 7th-st., Los Angeles, Cal.
California Electric Construction Co., installation contractors, San Francisco, Cal.
California Electrical Works, general supplies, 642, Folsom-st., San Francisco, Cal. (Teleph. No. 546, Temporary.)
California Gas & Electric Corporation, San Francisco, Cal.
California Gas Fixture Co., manufacturers of gas & electric fixtures, 515-519, Mission-st., San Francisco, Cal.
California Incandescent Lamp Co., electric lamp makers, Rialto-bldg., San Francisco, Cal.
California Street Cable Railroad Co., Hyde & California-sts., San Francisco, Cal.
Calumet Electric Street Railway Co., Chicago, Ill.
Calvert Electric Co., installation contractors, Calvert-bldg., Baltimore, Md.
Calvert Water, Ice & Electric Light Co., Calvert, Tex.
Cambden & Trenton Railway Co., Cambden, N.J. (Telephone No. 12x.)
Cambridge Electric Light Co., Cambridge, Mass.
Cambridge Gas & Electric Co., Cambridge, Ohio.

Camden & Co., electrical contractors, 714, Market-st., Parkersburg, W. Va.
Camden, Gloucester & Woodbery Railway, Gloucester City, N.J.
Camden Interstate Railway Co., Huntington, W. Va.
Camden & Suburban Railway Co., Camden, N.J.
Camden Water, Light & Ice Co., Camden, S.C.
Camden Water Wheel Works, turbine manufacturers, Camden, N.Y.
Cameron, A. S., Steam Pump Works, 433, East 23rd-st., New York.
Cameron Appliance Co., telephone apparatus manufacturers, 89, State-st., Boston, Mass.
Cameron & Barkley Co., installation contractors, Charlestown, S.C.
Cameron & Co., manufacturing electricians, 294, Dearborn-st., Chicago, Ill.
Cameron Electric Manufacturing Co., manufacturing electricians, Ansonia, Conn.
Camp, H. B., Co., conduit manufacturers, Aultman, Ohio.
Campbell, Benedict F., installation contractor, 154, Court-pl., Denver, Col.
Campbell, John, consulting electrical engineer, president & general manager Electrical Auditing Co., 726–729, Old South-bldg., Boston, Mass.
Campbell, R. L., installation contractor, 16 & 18, East Mitchell-st., Atlanta, Ga.
Campbell, William R., electrical contractor, 926, Sansom-st., Philadelphia, Pa.
Campbell Bros., electrical contractors, 146, Front-st., Traverse City, Mich.
Campbell Electric Co., Roentgen apparatus makers & dealers, Lynn, Mass.
Campbell, John, Co., electrolier manufacturers & fitters, 75, Hudson-st., New York.
Campbell Time Switch, manufacturing electricians, Lynn, Mass.
Campbell, W. A., & Co., electrical contractors, 193, 31st-st., Chicago, Ill.
Campis Electrical Works, installation contractors, 1003, Mission-st., San Francisco, Cal.
Canfield, C. E., A.AM.I.E.E., electrical engineer, Arlington, Vt.
Cann, George W., & Co., electrical supplies, 324, Broadway, Logansport, Ind. (Telephone No. 454.)
Cannell, Joseph J., & Co., electrical contractors, Everett-sq., Everett, Massachusetts. (Teleph. Nos. 151-2 & 89-3.)
Canton-Akron Electric Railway Co., Canton, Ohio.
Canton General Electric Co., Canton, S.D.
Canton Glass Co., specialties in electric work, Marion, Ind.
Canton Light, Heat & Power Co., Canton, Ohio.
Canton Supply Co., general electric & mill suppliers, 212, East 8th-st., Canton, Ohio.
Cantono Electric Tractor Co., motor carriages, 111, West 37th-st., New York.
Cape Girardeau & Jackson Rail Road Co., Cape Girardeau, Mo.
Cape Girardeau Water Works & Light Co., Cape Girardeau, Mo.
Cape May, Delaware Bay & Sewell's Point Railroad Co., Cape May City, N.J.
Cape May Light & Power Co., Cape May City, N.J.
Capital Electric Co., dealers in electrical supplies, Salt Lake City, Utah.
Capital Electric Co., incandescent lamp makers, Denver, Col.
Capital Electric Co., installation contractors, Richmond, Va.
Capital Electric Light, Motor & Gas Co., Boise City, Idaho.
Capital Gas & Electric Light Co., Frankfort, Ky.
Capital Light & Power Co., Jackson, Miss.
Capital Traction Co., Washington, D.C.
Capitol Electric Engineering Co., electrical contractors & supply dealers, Lansing, Mich.
Carbon Street Railway Co., Mauch Chunk, Pa.
Carborundum Co., Niagara Falls, N.Y. (Telegrams: "Carborundum, Niagara Falls.")
Carey, Geo. H., dealer in steel rails, steam & electric tramway supplies, 1, Broadway, New York. (Telegrams: "Torniscon, New York." A.B.C., A1 & Western Union Codes.)
Carhart, Henry S., LL.D., M.I.E.E., M.AM.I.E.E., professor of physics, & director of the Physical Laboratory, University of Michigan, Ann Arbor, Mich.
Carichoff, E. R., M.AM.I.E.E., consulting electrical engineer, 20, Broad-st., New York.
Carlisle & Finch Co., manufacturers of electrical specialties, 229, East Clifton-ave., Cincinnati, Ohio.
Carlisle Gas & Water Co., Carlisle, Pa.
Carlisle & Mechanicsburg Street Railway Co., Carlisle, Pa.
Carlisle & Mount Holly Railway Co., Carlisle, Pa.
Carlon Street Railway Co., Manch Chunk, Pa.
Carlton, Guy, electrical contractor, Hoblit-bldg., 528, North Main-st., Bloomington, Ill.
Carman, Chas. Whitney, & Co., consulting engineers, 9, East Jackson-boul., Chicago, Ill.
Carman & Fryer, installation contractors, Indianapolis, Ind.
Caro Light & Power Co., Caro, Mich.
Carolina Electric Co., Maxton, N.C.
Carolina Light & Power Co., Aiken, S.C.
Carondelet Electric Light & Power Co., St. Louis, Mo.
Carpenter, D. K., electrical supplies, 37, Belmont-st., Brockton, Mass.

Carpenter, H. V., M.AM.I.E.E., professor of mechanical & electrical engineering, Wash. State College, Pullman, Wash.
Carpenter Electric Light & Power Co., Catlettsburg, Ky.
Carpenter, H. T., & Co., electrolier manufacturers & fitters, Providence, R.I.
Carpenter, J. M., Tap & Die Co., manufacturers of screw-cutting tools, die stocks, &c., Pawtucket, R.I.
Carr, T. F., electrician & dealer in electrical supplies, 232, Columbus-ave., New York, N.Y.
Carrier, A. E., electric carbons & batteries, 220, Broadway, New York.
Carroll, Wm., city electrician, City Hall, Chicago, Ill.
Carroll Electric Co., installation contractors, 14th-st. & New York-ave., Washington, D.C.
Carrollton Electric Co., Carrollton, Ga.
Carson, David I., secretary & treasurer Southern Bell Telephone & Telegraph Co., 78, South Pryor-st., Atlanta, Ga.
Carson, Howard A., chief engineer, Boston Transit Commission, Boston, Mass.
Carstarphen Electric Co., 1522, Court-pl., Denver, Col. (Telephone No. 2818.)
Carter, A. S., electrical supplies, 531, 16th-st., Denver, Col. (Teleph. Main No. 3366.)
Carter Electric Co., electrical engineers & contractors, 229, Main-st., Springfield, Mass.
Carter Electric Co., installation contractors, Lewis-blk., Pittsburgh, Pa.
Carter, F. C., & Co., installation contractors, 719, Walnut-st., Philadelphia, Pa.
Carter & Gillespie Electric Co., electrical contractors & engineers, 40, North Broad-st., Atlanta, Ga. (Telephone No. 5000.)
Carteret Electric Light & Power Co., Carteret, N.J.
Carthage Electric Light & Heating Co., Carthage, Ill.
Carthage Electric Light & Power Co., Carthage, N.Y.
Carty, J. J., M.AM.I.E.E., chief engineer, New York Telephone Co. & New York & New Jersey Telephone Co., 15, Dey-st., New York.
Cascade Fixture & Electric Co., installation contractors, Seattle, Wash.
Cascade Light & Power Co., Berlin, N.H.
Case, Willard E., A.AM.I.E.E., electrical engineer, 196, Genesee-st., Auburn, N.Y.
Case Bros., manufacturers of insulating boards, Highland Park, Conn.
Case Manufacturing Co., makers of electric cranes, Columbus, Ohio.
Casey, A. C., Co., Incorporated, electric light fixtures, 894, Westminster-st., Providence, R.I. (Telephone No. 1303, Main.)
Casey & Hedges Manufacturing Co., manufacturers of automatic engines, Chattanooga, Tenn.
Cason & Barrett, consulting mechanical & electrical engineers, 209, Dwight-bldg., Kansas City, Mo.
Cass Hardware Co., electrical contractors, 10, Main-st., Hamilton, Ohio.
Cassidy & Son Manufacturing Co., manufacturers of electric & gas fixtures, 135, West 23rd-st., New York.
Cassier Magazine Co., 3, West 29th-st., New York; & 33, Bedford-st., Strand, London, W.C. (Telegrams: "Cassier, New York;" "Cassier, London.")
Cassier's Magazine (monthly, ann. sub. 12*s.*), 33, Bedford-st., Strand, London; & 3, West 29th-st., N.Y.
Caster, Chas. E., consulting electrical engineer, Burlington, Iowa.
Castner Electrolytic Alkali Co., Niagara Falls, N.Y.
Cataract Construction Co., 35, Wall-st., New York; & Niagara Falls, N.Y. (Telegrams: "Poikilite, New York.")
Cataract Electric Supply Co., dealers in electrical supplies, 11, West Swan-st., Buffalo, N.Y.
Cataract Electrical School, Erie Co. Bank-bldg., Buffalo, N.Y.
Cataract Power & Conduit Co., 718, Fidelity-bldg., Buffalo, N.Y.
Catawba Power Co., electric power contractors, Rock Hill, S.C.
Catlin, C. M., patents, 622, F.-st., Washington, D.C.
Catskill Electric Railway Co., Catskill, N.Y.
Catskill Foundry & Machine Works, manufacturers of motor gears & pinions, Catskill, N.Y. (Teleph. No. 153—L.)
Catskill Illuminating & Power Co., Catskill, N.Y.
Cawood Mica Co., Inc., mica merchants, 367, Ellicott-st., Buffalo, N.Y.
Cazenovia Electric Co., electric light contractors, Cazenovia, N.Y.
Cecil, Thomas, M.AM.I.E.E., chief electrician, Broadway & 35th-st., New York.
Cedar Rapids & Iowa City Railway & Light Co., Cedar Rapids, Iowa.
Cedar Rapids Electric Supply Co., electrical contractors, Cedar Rapids, Iowa.
Cedar Rapids & Marion City Railway Co., Cedar Rapids, Iowa.
Celina Electric Light Plant, Celina, Ohio.
Centaur Motor Co., makers of electric vehicles, 59, Franklin-st., Buffalo, N.Y.
Centerville Light & Traction Co., Centerville, Iowa.
Centerville Milling Co., electric light contractors, Centerville, S.D.
Central City Brass & Manufacturing Co., manufacturers of rail bonds, Syracuse, N.Y.
Central Construction Co., manufacturers of electric signs, Oshkosh, Wis.

Central District & Printing Telegraph Co., The (M. H. Buehler, general manager), Telephone-bldg., 7th-ave., & Montour Way, Pittsburgh, Pa.
Central Electric Co., installation contractors, 115, South 16th-st., Omaha, Neb.
Central Electric Co., installation contractors, Greensboro, N.C.
Central Electric Co., installation contractors, 124, Miami-ave., Detroit, Mich.
Central Electric Co., installation contractors, Altoona, Pa.
Central Electric Co., installation contractors, Colorado Springs, Col.
Central Electric Co., electrical contractors, 37 & 38, Thoms-bldg., 5th & Main-sts., Cincinnati, Ohio.
Central Electric Co., electrical construction & dealers in electrical supplies, 13, N. 13th-st., Philadelphia. (Telephone No. 3—44—31A.)
Central Electric Co., dealers in electrical supplies, 264, 5th-ave., Chicago, Ill.
Central Electric Co., installation contractors, South Bend, Ind.
Central Electric Co., installation contractors, Waco, Tex.
CENTRAL ELECTRIC LIGHTING, POWER & TRACTION STATIONS. See Light, Power & Traction Companies (Electric) in CLASSIFIED SECTION.
Central Electrical Supply Co., installation contractors, 29, West 15th-st., New York.
Central Hudson Construction Co., electrical contractors, 31, Market-st., Poughkeepsie, N.Y.
Central Iron Works, makers of electric elevators, Quincy, Ill.
Central Laboratory Supply Co., furnishers of laboratories (electrical), Lafayette, Ind.
Central Light & Power Co., San Francisco, Cal.
Central Machine Co., manufacturing electricians, Niagara Falls, N.Y.
Central Manufacturing Co., manufacturers of insulator pins & cross-arms, Chattanooga, Tenn.
Central Market Street Railway Co., 36, West Gay-st., Columbus, Ohio.
Central Mass. Electric Co., electrical supply dealers, Palmer, Mass.
Central Pennsylvania Light & Power Co., Clearfield, Pa.
Central Pennsylvania Traction Co., Harrisburg, Pa.
Central Railway Co., Peoria, Ill.
Central & South American Telegraph Co. (J. A. Scrymser, president; J. R. Beard, secretary), 66, Broadway, New York.
Central Station, The (monthly; subscriptions, U.S. $1, Foreign $2), 220, Broadway, New York.
Central Station Improvement Co., electrical engineers, Monadnock-blk., Chicago, Ill.
Centralia & Central City Street Railway Co., Centralia, Ill.
Centralia Gas & Electric Co., Centralia, Ill.
Centre & Clearfield Street Railway Co., Philipsburg, Pa.
Century Electric Co., manufacturers of electric motors, 404, North 4th-st., St. Louis, Mo.
Century Electric Corporation, jobbers of supplies, 28, 2nd-st., San Francisco, Cal. (Telegs.: "Century, San Francisco." W.U. Code. Teleph. No. 352, Bush.)
Century Electric Co. of San Jose, installation contractors, 20, South Market-st., San Jose, Cal. (Teleph. No. 91.)
Century Glass Co., makers of globes & shades, Bellaire, Ohio.
Century Telephone Construction Co., equippers of telephone exchange, 332, Ellicott-st., New York.
Chadbourn, Henry, solicitor of patents, 22, Congress-st., Boston, Mass. (Main Telephone No. 4635-1.)
Chadwick Boston Lead Co., electric cables & wires a specialty, Boston, Mass.
Chadwick, F. A., & Sons, electrical engineers, Syracuse, N.Y.
Chadwick, G. B., & Co., electric light & power installations, Portsmouth, N.H. (Teleph. No. 328-12.)
Challenge Manufacturing Co., primary batteries, 365, Market-st., Newark, N.J.
Chamberlain, J. C., M.AM.I.E.E., electrical engineer, 22, Thames-st., New York. (Telegrams: "Nobleza, New York.")
Chambers Bros. & Co., railway appliance manufacturers, North 52nd-st., Philadelphia, Pa.
Chambersburg Electric Light Department, Chambersburg, Pa.
Chambersburg, Greencastle & Waynesboro' Street Railway Co., Waynesboro', Pa. J. F. Geiser, electrical engineer & superintendent.
Champaign Gas & Electric Supply Co., installation contractors, Champaign, Ill.
Chandler, Charles F., M.AM.I.E.E., M.D., PH.D., D.SC., LL.D., professor of chemistry, Columbia University, 116th-st. & Amsterdam-ave., New York. (Telephone No. 289, Harlem.)
Chandler & Farquhar Co., machinery & machinists supplies, 36, Federal-st., & 131, Congress-st., Boston, Mass.
Chandler & Taylor Co., makers of the Chandler & Taylor single cylinder & compound automatic cut-off engines for electric lighting, Indianapolis, Ind. (Telegrams: "Phœnix, Indianapolis.")
Channell, C. E., electrical supplies, 115, Maple-st., Rutland, Vt. (Teleph. No. 217-3.)
Chapin, Chas. E., manufacturer of woven wire dynamo brushes, 27, Thames-st., New York.
Chapman, C. A., consulting electrical engineer, 204, Dearborn-st., Chicago, Ill.
Chapman, E. F., manager, Michigan Inspection Bureau, Detroit, Mich. (Teleph. No. 700, Main.)
Chapman, F. A., electrical engineer, contractor & supply dealer, 126, S. Kentucky-ave., Atlantic City, N.J
Chapman, P. E., electrical engineer, 17, North 10th-st., St. Louis, Mo. (Bell Teleph. Main No. 3836.)

Chapman Electric Co., electrical engineers, 1127, West Main-st., Louisville, Ky.
Chapman Electric Neutralizer Co., manufacturers of voltage regulators, Portland, Maine.
Chapman, Geo. M., & Co., general electricians & contractors, 43, East Main-st., Waterbury, Conn.
Charleston Construction Railway, Gas & Electric Co., electrical contractors, 122, Market-st., Charleston, S.C.
Charleston Electrical Supply Co., 217, Hale-st., Charleston, W. Va.
Charleston Gas & Electric Co., Charleston, Ill.
Charleston Illuminating Co., Charleston, Ill.
Charlotte Electric Railway, Light & Power Co., Charlotte, N.C.
Charlotte General Electric Co., electric light contractors, Charlotte, Mich.
Charlotte Railway, Light & Power Co., Charlotte, N.C.
Charlottesville & Albermarle Railway Co., Charlottesville, Va.
Charm Electric Co., installation contractors, 115, Leverett-st., Boston, Mass.
Charter Gas Engine Co., makers of the Charter gas engine, &c., Sterling, Ill.
Chase, E. O., electrical engineer & manufacturer, 46–54, Lawrence-st., Newark, N.J. (Telephone No. 850–L.)
Chase, Walter H., electrical engineer, 17, Bromfield-st., Boston, Mass.
Chase Electric Sign Co., makers of electric signs, Franklin-st., Chicago, Ill.
Chase-Shawmut Co., electrical specialties, Newburyport, Mass.
Chase Turbine Manufacturing Co., makers of the "Chase" turbine water-wheel, Orange, Mass.
Chatfield Electric Light & Power Co., Chatfield, Minn.
Chatham Electric Light, Heat & Power Co., Chatham, N.Y.
Chattanooga Armature Works, manufacturing electricians, Chattanooga, Tenn. (Telegrams: "Chatarm, Chattanooga." Telephone No. 14.)
Chattanooga Electric Co., Chattanooga, Tenn.
Chattanooga Electric Railway Co., Chattanooga, Tenn.
Chattanooga Machinery Co., machinery for making electrical insulator pins, brackets & cross-arms, Chattanooga, Tenn. (Telegrams: "Radcliffe, Chattanooga." Telephone No. 391.)
Chautauqua Traction Co., Jamestown, N.Y.
Chelsea Electric Light & Robbin Co., Chelsea, Vt.
Chelsea Gas Light Co., Chelsea, Mass.
Chemical & Electrical Co., electrozone manufacturers, 45, Broadway, New York.
Chemung Electric Co., installation contractors, Elmira, N.Y.
Cheney, W. C., M.AM.I.E.E., electrical engineer, Chamber of Commerce-bldg., Portland, Ore.
Cherokee Electric Light & Power Co., Cherokee, Iowa.
Chesapeake Construction Co., installation contractors, Norfolk, Va.
Chesapeake & Potomac Telephone Co. (A. P. Crenshaw, sec.), 722, 12th-st., Washington, D.C.
Chesney, C. C., M.AM.I.E.E., first vice-president & chief engineer, Stanley Electric Manufacturing Co., Pittsfield, Mass.
Chester, M. E., A.AM.I.E.E., telephone engineer, Western Electric Co., 463, West-st., New York.
Chester & Derry Railroad Association, Chester, N.H.
Chester, John W., Co., electrical contractors, 116, North College-st., Nashville, Tenn.
Chester Light, Water & Ice Co., The, Chester, Ill.
Chester Traction Co., Chester, Pa.
Chester Valley Electric Light, Heat & Power Co., Downingtown, Pa.
Chester, Wm. S., Co., manufacturing electricians, Bible House, New York.
Cheyenne Light, Fuel & Power Co., Cheyenne, Wyoming.
Cheyne, F. H., Electric Co., electrical contractors & supply dealers, 124, North Penn-st., Indianapolis, Ind. (Telephone Nos.: Main, 94; & New, 654.)
Cheyney, W. Irwin, & Co., electrical contractors, 1217, Filbert-st., Philadelphia, Pa.
Chicago Battery Co., storage batteries, 1421, Michigan-ave., Chicago, Ill.
Chicago Belting Co., manufacturers of leather belting, 67 & 69, South Canal-st., Chicago, Ill.
Chicago City Railway Co., 2020, State-st., Chicago, Ill.
Chicago Consolidated Traction Co., Chicago, Ill.
Chicago Department of Electricity, Chicago, Ill. Wm. Carroll, city electrician.
Chicago Edison Co., central station supply company & contractors for electric construction, 139, Adams-st., Chicago. (Telephone No. 1280, Main.)
Chicago Electric Protective Co., burglar alarm & patrol service, 151, Fifth-ave., Chicago, Ill. (Telephone No. 3183, Main.)
Chicago Electrical Traction Co., Chicago, Ill.
Chicago Engineering & Constructing Co., electric railway constructors, 1304–77, Jackson-boul., Chicago, Ill. (Telegs.: "Ceco, Chicago." Teleph. No. 4420, Harrison.)
Chicago Fuse-wire & Manufacturing Co., 64, North Jefferson-st., Chicago, Ill.
Chicago Gas & Electric Fixture Manufacturing Co., manufacturers of gas & electric fixtures, 19 & 23, South Jefferson-st., Chicago, Ill.

Chicago General Fixture Co., manufacturers of electric fixtures, 169, Adams-st., Chicago, Ill.
Chicago, Harvard & Geneva Lake Railway Co., Walworth, Wis.
Chicago Insulated Wire Co., manufacturers of insulated wires, 152 & 154, Lake-st., Chicago, Ill.
Chicago & Joliet Electric Railway Co., Joliet, Ill.
Chicago Lamp & Reflector Co., 17, Blue Island-ave., Chicago, Ill.
Chicago Mica Co., mica supplies, Valparaiso, Ind.
Chicago & Milwaukee Electric Railroad Co., Chicago, Ill.
Chicago Pneumatic Tool Co., electric drills, New York, N.Y.
Chicago Slate & Mantel Co., Chicago, Ill.
Chicago Suburban Water & Light Co., Oak Park, Ill.
Chicago Telephone Co. (C. E. Mosley, secretary & treasurer), Telephone-building, 203, Washington-street, Chicago, Ill.
Chicago Union Traction Co., Chicago, Ill.
Chicago Water, Motor & Fan Co., manufacturers of fans, motors & gas engines, 22, South Canal-st., Chicago, Ill.
Chico Gas & Electric Co., Chico, Cal.
Chicopee Municipal Electric Light Plant, Chicopee, Mass.
Childs, A. E., M.SC., M.AM.I.E.E., A.I.E.E., president The Light, Heat & Power Corporation, 131, State-st., Boston, Mass. (Telegrams: "Lihepowco, Boston." Telephone No. 3089, Main.)
Chillicothe Electric Light & Water Works, Chillicothe, Ill.
Chillicothe Electric Railroad Light & Power Co., Chillicothe, Ohio.
Chipman, W. E., & Co., installation contractors, 62, Sudbury-st., Boston, Mass.
Chippewa Electric Co., installation contractors, Sault Ste. Marie, Mich.
Chippewa Falls Water Works & Lighting Co., Chippewa Falls, Wis.
Chippewa Valley Electric R.R. Co., Eau Claire, Wis. (Teleph. No. 48, Black.)
Chloride of Silver Dry Battery Co., makers of medical & test batteries, 407 & 409, North Paca-st., Baltimore, Md. (Cable address: "Chloride, Baltimore." Long distance telephone.)
Choctaw Electric Co., South MacAlester, Indian Territory.
Christesen, C. A., electrician, 452, Amsterdam-ave., New York. (Telephone No. 2067, Riverside.)
Christiana Machine Co., makers of turbine water wheels, Christiana, Pa.
Christie, Wm. W., consulting electrical engineer, Paterson Savings Inst. Building, Paterson, N.J.
Chriswell-Mills Electric Co., installation contractors, 49, Niagara-st., Buffalo, N.Y.
Chrome Steel Works, crucible castings, Chrome, N.J.
Chubbuck, H. E., M.AM.I.E.E., general manager, Illinois Valley Railway Co., La Salle, Ill.
Church, L. H., installation contractor, Stamford, Conn.
Churcher Electric & Manufacturing Co., manufacturers of specialties, 132, Opera-pl., Cincinnati, Ohio.
Churchill, J. A., installation contractor, Conservat. Life-bldg., Los Angeles, Cal.
Churchill, J. C., electrical supplies, Meriden, Conn.
Churchward, Alex, M.AM.I.E.E., electrical engineer, 44, Broad-st., New York.
Cincinnati & Columbus Traction Co., Commercial Tribune-bldg., Cincinnati, Ohio.
Cincinnati, Dayton & Toledo Traction Co., Hamilton, Ohio.
Cincinnati Electric Motor Co., manufacturing electricians, 327, East 6th-st., Cincinnati, Ohio.
Cincinnati Electrical Tool Co., manufacturing electricians, 650-652, Evans-st., Cincinnati, Ohio. (Telegs.: "Electool, Cincinnati." Teleph. No. W. 016.)
Cincinnati Elevator Works, makers of electric elevators, 216, West 2nd-st., Cincinnati, Ohio.
Cincinnati Engineering & Investment Co., consulting electrical engineers, 63, Mitchell-bldg., Cincinnati, O.
Cincinnati Gas & Electric Co., Cincinnati, Ohio.
Cincinnati, Georgetown & Portsmouth Railroad, Cincinnati, Ohio.
Cincinnati, Lawrenceburg & Aurora Electric Street Railroad Co., Cincinnati, Ohio.
Cincinnati, Milford & Loveland Traction Co., Cincinnati, Ohio.
Cincinnati Northern Traction Co., The, Cincinnati, Ohio.
Cincinnati & Suburban Bell Telephone Co., Telephone-bldg., Cincinnati, Ohio. (Telephone No. 85, Main.)
Cincinnati Tool Co., manufacturers of splicing clamps, drills & patent wire cutters for electricians, Norwood, Cincinnati, Ohio.
Cincinnati Traction Co., Traction-bldg., cor. 5th & Walnut-sts., Cincinnati, Ohio. (Tel. Main No. 700.)
Circleville Light & Power Co., Circleville, Ohio.
Citizens' Electric Co., Battle Creek, Mich.
Citizens' Electric Co., Eureka Springs, Ark.
Citizens' Electric Illuminating Co., Pittston, Pa.
Citizens' Electric Light Co., Shenandoah, Pa.
Citizens' Electric Light, Heat & Power Co., McDonald, Pa.
Citizens' Electric Light, Heating & Power Co., Slatington, Pa.
Citizens' Electric Light & Power Co., Clifton Heights, Pa.
Citizens' Electric Light & Power Co., Cordele, Ga.
Citizens' Electric Light & Power Co., East St. Louis, Ill.

Citizens' Electric Street Railway Co., Newburyport, Mass.
Citizens' Gas & Electric Co., Pekin, Ill.
Citizens' Gas & Electric Co., Elyria, Ohio.
Citizens' Gas & Electric Co., Council Bluffs, Iowa.
Citizens' Gas, Electric & Heating Co., Mount Vernon, Ill.
Citizens' Gas, Electric & Power Co. of Nantucket, Nantucket, Mass. (Teleph. No. 9-12.)
Citizens' Light, Heat & Power Co., Eagle Grove, Iowa.
Citizens' Light & Traction Co., Salem, Ore.
Citizens' Light & Power Co., Adrian, Mich.
Citizens' Light & Power Co., Fort Worth, Tex.
Citizens' Lighting Co., La Salle, Ill.
Citizens' Railroad, Light & Power Co., Fishkill-on-Hudson, N.Y.
Citizens' Railway Light Co., Muscatine, Iowa.
Citizens' Railway, Light & Power Co., Newport News, Va.
Citizens' Water & Light Co., Winchester, Ind.
City Electric Co., installation contractors, 713, South Broadway, Los Angeles, Cal.
City Electric Light Co., Gallatin, Mo.
City Electric Light Co., Vincennes, Ind.
City Electric Light Plant, Alexandria, Minn.
City Electric Light Plant, Allegheny, Pa. (Telephone No. 421.)
City Electric Light Plant, Ames, Iowa.
City Electric Light Plant, Bloomfield, Iowa.
City Electric Light Plant, Bloomington, Ill.
City Electric Light Plant, Blue Island, Ill.
City Electric Light Plant, Bowling Green, Ky.
City Electric Light Plant, Brainerd, Minn.
City Electric Light Plant, Chicago, Ill.
City Electric Light Plant, Coldwater, Mich.
City Electric Light Plant, Columbus, Ind.
City Electric Light Plant, Danvers, Mass.
City Electric Light Plant, Dover, Del.
City Electric Light Plant, Dunkirk, N.Y.
City Electric Light Plant, Easton, Pa.
City Electric Light Plant, Falls City, Neb.
City Electric Light Plant, Gainesville, Ga.
City Electric Light Plant, Galion, Ohio. (Telephone Nos.: 14, Bell; & 160, Home.)
City Electric Light Plant, Galveston, Tex.
City Electric Light Plant, Goshen, Ind.
City Electric Light Plant, Greenfield, Ind.
City Electric Light Plant, Indianola, Iowa. (Telephone No. 75, Mutual.)
City Electric Light Plant, Jamestown, N.Y.
City Electric Light Plant, Kalamooza, Mich.
City Electric Light Plant, Lewiston, Maine.
City Electric Light Plant, Litchfield, Minn.
City Electric Light Plant, Little Rock, Ark.
City Electric Light Plant, Lyons, Iowa.
City Electric Light Plant, Madison, N.J.
City Electric Light Plant, Marblehead, Mass.
City Electric Light Plant, Marquette, Mich.
City Electric Light Plant, Marshalltown, Iowa. Fred Deal, electrician.
City Electric Light Plant, Muncie, Ind.
City Electric Light Plant, North Attleboro, Mass.
City Electric Light Plant, Northfield, Vt.
City Electric Light Plant, Owensboro, Ky.
City Electric Light Plant, Paris, Ill.
City Electric Light Plant, St. Charles, Mo.
City Electric Light Plant, St. Joseph, Mo.
City Electric Light Plant, Savannah, Mo.
City Electric Light Plant, Stuart, Iowa.
City Electric Light Plant, Swanton, Vt.
City Electric Light Plant, Topeka, Kan.
City Electric Light Plant, Waseka, Minn.
City Electric Light Plant, Wheeling, W. Va.
City Electric Light Plant, Ypsilanti, Mich.
City Electric Light & Power Plant, Hannibal, Mo.

City Electric Light & Power Plant, Richmond, Ind.
City Electric Light & Power Plant, Seattle, Wash.
City Electric Light & Water Plant, Batavia, Ill.
City Electric Light & Water Plant, Holland, Mich.
City Electric Light & Water Works Plant, Lansing, Mich.
City Electric Railway Co., Port Huron, Mich.
City Electric Railway Co., Rome, Ga.
City Electrical Co., installation contractors, 753, Main-st., Hartford, Conn.
City Gas & Electric Co., Paris, Ill.
City of Austin Light & Power Plant, Austin, Minn.
City of Brookings Electric Light, Brookings, S. Dakota.
City of Hamilton Electric Lighting Plant, Hamilton, Ohio.
City Railroad Co., Dayton, Ohio.
City Railway Co., Wheeling, W. Va.
City Water & Light Plant, Rushville, Ind.
Clapperton, George, A.I.E.E., 253, Broadway, New York.
Claremont Railway & Lighting Co., Claremont, N.H.
Clark, Clarence D., electrical engineer, California Gas & Electric Corporation, Napa, Cal.
Clark, C. M., A.AM.I.E.E., Clark & MacMullen, 20–22, Broad-st., New York, N.Y.
Clark, Eugene Bradley, M.AM.I.E.E., vice-president & general manager, American Sintering Co., 207, Railway Exchange, Chicago, Ill. (Teleph. No. 5950, Harrison.)
Clark, E. H., electric bell work, 19, Washington-st., Long Branch, N.J.
Clark, E. P., M.AM.I.E.E., 12, Reid-ave., Brooklyn, N.Y.
Clark, E. W., manufacturer of wire covering machinery, 31, Wells-st., Hartford, Conn.
Clark, Le Roy, jun., M.AM.I.E.E., vice-president Safety Insulated Wire & Cable Co., 114, Liberty-st., New York, N.Y.
Clark, Norman F., A.AM.I.E.E., W. E. Baker & Co., 27, William-st., New York.
Clark, Wm. J., A AM.I.E.E., general manager foreign department, General Electric Co., 44, Broad-st., New York.
Clark, Wallace S., A.AM.I.E.E., engineer, Wire, Cable & Tube Department, General Electric Co., Schenectady, N.Y.
Clark Automatic Telephone Switchboard Co., manufacturers of telephones & switchboards, 15, Custom House-st., Providence, R.I.
Clark Bros., manufacturers of steam engines for electrical purposes, Belmont, N.Y.
Clark Electrical Engineering Co., manufacturers of wireless telegraph, telephone instruments & electrical apparatus, Cass-ave. & State-st., Detroit, Mich. (Teleph. No. 3101.)
Clark, J., jun., & Co., electrical supplies, dynamo, motor & electrically driven tool manufacturers, 313, W. Main-st. Factory: Bergmann, nr. Shelby & L. & N. R. R., Louisville, Ky. (Telegrams: "Clarque, Louisville." Telephone No. 726.)
Clark, L. P., & Co., electrical supply dealers, 510, Arch-st., Philadelphia, Pa. (Long Distance Telephone No. 2240A, Market.)
Clark & Hyde, electrical contractors, Marietta, Ohio.
Clark & MacMullen, consulting engineers, 20, Broad-st., New York.
Clark & Mills Electric Co., electrical engineers & contractors, 1444, Mass-ave., Cambridge, Mass. (Teleph. No. 1169, Cambridge); 543, Boylston-st., Boston, Mass. (Teleph. No. 127, Back Bay); & 44, Central-st., Manchester, Mass. (Teleph. Nos. 11-13, Manchester.)
Clark, Thomas E., Wireless Telegraph & Telephone Co., Detroit, Mich.
Clarke, Chas. L., M.AM.I.E.E., electrical engineer & patent expert, 120, Broadway, New York, N.Y.
Clarksburg Electric Light Co., Clarksburg, W. Va.
Clarkson Memorial School of Technology, Potsdam, N.Y.
Clausen, H. P., M.AM.I.E.E., chief engineers, American Electric Telephone Co., Chicago, Ill.
Clausen, Burch & Pillsbury, electrical engineers, National German-American Bank-bldg., St. Paul, Minn.
Clayton Electric Co., installation contractors, 6223, Penn-ave., Pittsburg, Pa.
Cleary, E. M., installation contractor, Oakland, Cal.
Cleburne Gas & Electric Co., Cleburne, Tex. (Teleph. Nos. 36 & 1036.)
Cleland, H. W., electrolier manufacturers & fitters, Wilkinsburg, Pa.
Clement, Edward E., A.AM.I.E.E., patent attorney & electrical expert, McGill-bldg., 908, G-st., N.W. Washington, D.C. (Telegs.: "Clempat, Washington.")
Clendenin Bros., manufacturers of battery zincs & copper, 111, S. Gay-st., Baltimore, Md.
Cleveland Armature Works, repairing & armature winding, 4732–34, St. Clair-ave., N.E., Cleveland, Ohio. (Telegs.: "Armature, Cleveland." Teleph. No. 666, East.)
Cleveland Construction Co., electric railway installers, Hamilton-bldg., Akron, Ohio.
Cleveland Light & Power Co., Cleveland, Ohio.
Cleveland Electric Railway Co., electric railway owners & operators, Cleveland, Ohio. (D. F. Carver, electrical engineer.)

Cleveland Electrical Supply Co., dealers in electrical supplies, 726, Prospect-ave., S.E., 703, Huron-rd., Cleveland, Ohio.
Cleveland Engineering Co., New England-bldg., Cleveland, Ohio.
Cleveland Gas & Electric Fixture Co., manufacturers of gas & electric fixtures, Rose-bldg., Cleveland, Ohio.
Cleveland, L. W., Co., electrical supplies, 414–416, Congress-st., Portland, Maine.
Cleveland & Ryan, electrical contractors, 26, Cortlandt-st., New York.
Cleveland & Sharon Electric Railway, Cleveland, Ohio.
Cleveland & South-Western Traction Co., 614, Garfield-bldg., Cleveland, Ohio.
Cleveland Telephone Co., cor. Seneca & Champlain-sts., Cleveland, Ohio.
Cleveland Twist Drill Co., makers of twist drills & reamers, Cleveland, Ohio.
Clinton Electric Co., Clinton, N.Y.
Clinton Gas Light Co., Clinton, Mass.
Clinton Gas Light & Coke Co., Clinton, Iowa.
Clinton Light & Water Co., Clinton, Mo.
Clinton Mills Power Co., Cooperstown, N.Y.
Clinton Wire Cloth Co., manufacturers of lamp guards, Clinton, Mass.
Cloos, Jacob, consulting engineer, Milwaukee, Wis. (Teleph. No. 2167, Main); & 1408, Berlin-st., La Crosse, Wis. (Teleph. No. 789A, New.)
Cloquet Electric Co., electric light contractors, Cloquet, Minn.
Cloran, G. J., M.AM.I.E.E., electrical engineer, Interborough R. T. Co., 320, St. Nicholas-ave., New York.
Clough, Albert L., A.M.AM.I.E.E., consulting engineer, Box 114, Manchester, N.H. (Teleph. No. 920, Manchester.)
Clough, Dr., electrical contractor, Wolfboro, N.H.
Cloverdale Electric Light Co., Cloverdale, Cal.
Clower, W. M., contracting & consulting electrical engineer, 308 & 310, Commerce-st., Dallas, Tex. (Telephone No. 403, Main.)
Clute Bros., Inc., dealers in electrical supplies, 49 & 51, Mohawk-st., Cohoes, N.Y.
Coal Belt Electric Railway Co., Marion, Ill.
Coast Electric Co., installation contractors, 312, San Pablo-ave., Oakland, Cal.
Coatesville Electric Light, Heat & Power Co., Coatesville, Pa.
Cobb, H. E., insulating wire, insulators, &c., 1501, Monadnock-bldg., Chicago, Ill. (Teleph. Nos.: 3262, Harrison; & 3862, Automatic.)
Coburn Trolley Track Manufacturing Co., Holyoke, Mass.
Cochran, J. H., consulting electrical engineer, 303, West Main-st., Louisville, Ky.
Cochrane, William, & Son, electrical contractors, Oswego, N.Y.
Codman, J. S., A.AM.I.E.E., electrical engineer, 127, Federal-st., Boston, Mass.
Codman, J. S., & Co., manufacturers' agents, 127, Federal-st., Boston, Mass. (Teleph. No. 1753, Main.)
Cody, L. P., A.AM.I.E.E., manager & engineer, Grand Rapids Electric Co., 9, South Division-st., Grand Rapids, Mich. (Telephone No. 5505, Citizens.)
Coe Brass Manufacturing Co., manufacturers of brass goods, Torrington, Conn.
Coe, James A., & Co., iron & steel merchants, special brands re-rolled Norway iron, 106, Mulberry-st., Newark, N.J.
Cœur d'Alene & Spokane Railway Co., Cœur d'Alene, Idaho.
Coffeyville Electric Light Plant, Coffeyville, Kan.
Coffin, C. A., A.AM.I.E.E., president General Electric Co., 44, Broad-st., New York.
Coffin, H. A., installation contractor, 13, Clifton-st., Malden, Mass.
Cogan, H. M., A.AM.I.E.E., electrical engineer, American Sugar Refinery Co., Kent-ave., Brooklyn, N.Y.
Coghlin, John P., A.AM.I.E.E., electrical engineer & contractor, 24, Pearl-st., Worcester, Mass.
Cohasset Electric Co., Cohasset, Mass.
Cohen, J. B., electric light fixtures, 433, Westminster-st., Providence, R.I.
Coho, H. B., electric light, heat & power machinery, 26, Cortland-st., New York.
Cohoes Gas Light Co., Cohoes, N.Y.
Colby, A. O., installation contractor, La Crosse, Wis.
Colby, E. A., M.AM.I.E.E., electrical engineer, Lock Box 113, Newark, N.J.
Cole, Henry E., consulting electrical engineer, Park-bldg., Pittsburg, Pa.
Cole, J. A., electrical engineer, Erickson Electric Equipment Co., Inc., 280, Devonshire-st., Boston, Mass.
Cole, Rex I., installation contractor, Port Huron, Mich. (Long Distance Telephone No. 126.)
Cole, Wm. Howard, M.AM.I.E.E., chief engineer, Goldschmidt Thermit Co., 43, Exchange-pl., New York.
Cole, W. W., M.AM.I.E.E., vice-president & general manager, Elmira Water, Light & Railroad Co., Elmira, N.Y.
Coleman, J. F., consulting electrical engineer, Hibernia Bank & Trust Co.-bldg., New Orleans, La.
Colles, George Wetmore, consulting electrical engineer & patent expert, 404, Alhambra-bldg., Milwaukee, Wis. (Telegs.: "Colles, Milwaukee." Teleph. No. 3127, Grand.)

Collins, Archie Frederick, A.M.AM.I.E.E., electrical engineer, Collins Marine Wireless Telephone Co., 11, Broadway, New York.
Collins Construction Co., installation contractors, 92, La Salle-st., Chicago, Ill.
Collinwood Electric Light Plant, Collinwood, Ohio.
Collyer Insulated Wire Co., manufacturers of insulated wire, Pawtucket, R.I.
Colonial Electric Co., manufacturers of incandescent lamps & electrical machinery, Ravenna, Ohio.
Colonial Fan & Motor Co., fan motor makers, Warren, Ohio.
Colonial Sign & Insulator Co., manufacturers of electric signs, Akron, Ohio.
Colorado Novelty & Electric Co., manufacturing electricians, 609, 17th-st., Denver, Col.
Colorado Springs & Cripple Creek District Railway Co., Colorado Springs, Col.
Colorado Springs Electric Co., Colorado Springs, Col.
Colorado Springs & Interurban Railway Co., Colorado Springs, Col.
Colt, J. B., & Co., manufacturers of electric focusing arc lamps, 23, Barclay-st., New York.
Columbia City Electric Light & Water Plant, Columbia, Mo.
Columbia Construction Co., installation contractors, Colby & Abbott-bldg., Milwaukee, Wis.
Columbia Electric Co., installation contractors, Harrisburg, Pa.
Columbia Electric Street Railway, Light & Power Co., Columbia, S.C.
Columbia Electric Supply Co., dealers in electrical supplies, 329, 4th-ave., New York.
Columbia Electrical Engineering Co., electrical engineers, 57, Warren-st., Boston, Mass.
Columbia Incandescent Lamp Co., manufacturers of incandescent electric lamps, 2115, Locust-st., St. Louis, Mo.; & New York; Chicago; Minneapolis; & San Francisco.
Columbia Machine Works, manufacturers of electric railway supplies, 269, Chestnut-st., Brooklyn. Office: 18, Fulton-st., Brooklyn, N.Y.
Columbia & Montour Electric Railway Co., Bloomsburg, Pa.
Columbia Phonograph Co., 90, West Broadway, New York City. (Telegs.: "Colpho, New York.")
Columbia University (Schools of Mines, Chemistry, Engineering & Architecture), W. 116th-st., New York. For Professors, *see under* SCHOOLS.
Columbia University Electrical Engineering Department, Morningside Heights, New York. (Telegrams: "Columbia University, N.Y." Telephone Connection.)
Columbia Water & Light Co., Columbia, Tenn.
Columbian Electric Co., electrical supplies, 113, South Rose-st., Kalamazoo, Mich.
Columbian Electrical Co., dealers in electric light & telephone supplies, 820, Frederick-ave., St. Joseph, Mo. (Telephone No. 451.)
Columbus, Buckeye Lake & Newark Traction Co., Columbus, Ohio.
Columbus City Electric Light Plant, Columbus, Ohio.
Columbus, Delaware & Marion Railway Co., Columbus, Ohio.
Columbus Electric Light Plant, Columbus, Neb.
Columbus Electric Light & Power Co., Columbus, Miss.
Columbus Electrical Supply & Construction Co., electrical contractors, 1113, Broad-st., Columbus, Ga.
Columbus Electrical Works, 80–82, North Wall-st., Columbus, Ohio. (Bell Telephone No. 1353.)
Columbus Insulated Wire & Brass Co., The, makers of magnet wire, Columbus, Ohio.
Columbus, London & Springfield Railway Co., Columbus, Ohio.
Columbus Machine Co., makers of gas & gasoline engines, Columbus, Ohio.
Columbus, Marion & Bucyrus Railway, Delaware, Ohio.
Columbus, Newark & Zanesville Electric Railway Co., Newark, Ohio.
Columbus Railroad Co., Columbus, Ga.
Columbus Railway & Light Co., Columbus, Ohio. (Telephone No. 62.)
Columbus Street Railway & Light Co., Columbus, Ind. (Teleph. No. 216.)
Columbus, Urbana & Western Electric Railway Co., Columbus, Ohio.
Colwell Lead Co., manufacturers of sheet-lead, &c., 51–65, Centre-st., New York.
Comanche Light & Power Co., Lawton, Okl.
Comfort Electric Co., installation contractors, 918, Poydras-st., New Orleans, La.
Commercial Cable Co. (Mackay-Bennett System), Postal Telegraph-bldg., 253, Broadway, New York. C. H. Mackay, president; Geo. G. Ward, chairman, vice-president & general manager; Albert Beck, secretary; J. O. Stevens, asst.-secretary.
Commercial Construction Co., installation contractors, 114, East 28th-st., New York, N.Y.
Commercial Electric Co, manufacturers of electric power & lighting machinery, North Western-ave. & 21st-st., Indianapolis, Ind. (Telegrams: "Commercial, Indianapolis." W.U. Code.)
Commercial Electric Co., installation contractors, 302, East 3rd-st., Los Angeles, Cal.
Commercial Electric Co., installation contractors, New Orleans, La.
Commercial Electric Co., electric light contractors, Painesville, Ohio.
Commercial Electric Co., installation contractors, 2279, Washington-ave., Ogden, Utah.
Commercial Electrical Supply Co., manufacturers of electrical supplies, 15th & Pine-sts., St. Louis, Mo. (Long Distance Teleph. No. 1295, Main.)

Commercial Pacific Cable Co., Postal Telegraph-bldg., 253, Broadway, New York. C. H. Mackay, president; G. G. Ward, chairman, vice-president & general manager; Albert Beck, secretary.
Commercial Supply Co., electrical supplies, 104, Wayne-st., Detroit, Mich.
Commonwealth Electric Co., 139, Adams-st., Chicago, Ill.
Commonwealth Power Co., Jackson, Mich.
Commonwealth Power Co., Kalamazoo, Mich. (Teleph. No. 108.)
Commutator Co., manufacturers of hard drawn commutator segments, 119-121, 1st-st. North, Minneapolis, Minn. (Telegrams: "Comco.")
Compagnie Française des Câbles Telegraphiques, 44, Broad-st. (Telephone No. 452, Broad); 65, 5th-ave. (Telephone No. 1004, Gramercy); 1, Worth-st., cor. Hudson-st. (Telephone No. 394, Franklin); 1, Mercer-st. (Telephone No. 1236, Spring); Pulitzer-bldg., Park Row (Telephone No. 2069, John); 581, Broadway (Telephone No. 1238, Spring); & 281, 5th-ave., New York (Teleph. No. 397, Madison-sq.). (Telegrams: "Francab, New York.")
Compressed Fibre Co., insulating material manufacturers, 6, Beacon-st., Boston, Mass.
Compton, Alfred G., A.AM.I.E.E., professor of applied mathematics at the College of New York, 17, Lexington-ave., New York.
Comstock, Louis K., M.AM.I.E.E., president, L. K. Comstock & Co., Inc., 114, Liberty-st., New York City.
Conant, Wm. S., consulting electrical engineer, Moffat-blk., Detroit, Mich.
Concord Electric Co., Concord, N.H. (Telephone No. 36-4.)
Concord Electric Light Plant, Concord, Mass.
Concord, Maynard & Hudson Street Railway Co., Maynard, Mass.
Concordia Electric Light Co., Concordia, Kansas. (Telephone No. 160.)
Condict, G. Herbert, M.AM.I.E.E., electrical engineer, 5, Nassau-st., New York.
Condit Electrical Manufacturing Co., manufacturers of circuit breakers & switches, 67, Batterymarch-st., Boston, Mass.
Conduit Wiring Co., electrical wiring & machinery, 14, West 29th-street, New York, N.Y. (Telephone No. 3318-3319, Madison-sq.)
Conestoga Traction Co., Lancaster, Pa.
Coney Island & Brooklyn Railroad Co., Brooklyn, N.Y.
Conley Foil Co., The, makers of tin foil for electrical uses, 521, West 25th-st., New York.
Conneaut & Erie Traction Co., Erie, Pa.
Conneaut Municipal Electric Light Plant, Conneaut, Ohio.
Connecticut Dynamo & Motor Co., manufacturers of generators, motors & special machinery, 526, West 25th-st., New York.
Connecticut Electrical Equipment Co., installation contractors, Meriden, Conn. (Telephone No. 63-3.)
Connecticut Railway & Lighting Co., Bridgeport, Conn. (Telephone No. 679.)
Connecticut Railway & Lighting Co., New Britain, Conn.
Connecticut Telephone & Electric Co., telephone apparatus makers, Meriden, Conn., U.S.A. (Telegrams: "Telephone, Meriden." Long Distance Telephone No. 63-3.)
Connecticut Valley Street Railway Co., Greenfield, Mass.
Connelly, John D., dynamo & motor manufacturer, San Antonio, Tex.
Conover, Frank B., installation contractor, Allenhurst, N.J.
Conover, Geo. W., telegraph & telephone supplies, Suite 1112, 135, Adams-st., Chicago, Ill.
Conrad, Frank, A.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Conrad, H. J., electrical supplies & construction, 819, Iberville-st., New Orleans, La.
Conroy, Philip F., installation contractor, Newport, R.I.
Conshohocken Electric Light & Power Co., Conshohocken, Pa.
Consolidated Car Fender Co., 110, East 23rd-st., New York.
Consolidated Car Heating Co., manufacturers of electric heaters, Albany, N.Y.
Consolidated Chandelier Co., manufacturers of electric fixtures, 231-233, Broadway, New York.
Consolidated Electric Co., electric light contractors, Greenwich, N.Y.
Consolidated Electric Co., installation contractors, Byrne-bldg., Los Angeles, Cal.
Consolidated Electric Co., installation contractors, Nashville, Tenn.
Consolidated Electric Co., installation contractors, Norfolk, Va.
Consolidated Electric Lamp Co., Danvers, Mass.
Consolidated Electric Light Co. of Maine, Portland, Maine.
Consolidated Electric Light & Power Co., Gowanda, N.Y.
Consolidated Electric Light & Power Co., Kansas City.
Consolidated Gas Co., Long Branch, N.J.
Consolidated Gas & Electric Co., Batavia, N.Y.
Consolidated Gas, Electric Light & Power Co., 302, Continental-bldgs., Baltimore, Md.
Consolidated Gas & Light Co., Tiffin, Ohio.
Consolidiated Light & Power Co., Whitehall, N.Y.
Consolidated Light, Power & Ice Co., Joplin, Mo.
Consolidated Lighting Co., Montpelier, Vt.

Consolidated Railway Co., New Haven, Conn.
Consolidated Railway Co., New London, Conn.
Consolidated Railway Co., Norwich, Conn.
Consolidated Railway Co., Port Chester, N.Y.
Consolidated Railway Co., Putnam, Conn.
Consolidated Railway Electric Lighting & Equipment Co., Nassau & Pine-st., New York. (Telegrams: "Crelec, New York." Telephone No. 4865, Cort.)
Consolidated Railway & Light Co., Philadelphia, Pa.
Consolidated Railways, Light & Power Co., Wilmington, N.C.
Consolidated Traction Co., 29, Exchange-pl., Jersey City, N.J.
Consolidated Traction Co., Indianapolis, Ind.
Consolidated Trading Co., engineers, contractors & agents, Hudson-bldg., 32, Broadway, New York. (Telephone No. 2776, Broad.)
Consumers' Carbon Co., makers of electric light carbons, Lancaster, Ohio.
Consumers' & Electric Light & Power Co., De Soto, Mo. (Telephone Nos. 28 & 29.)
Consumers' Electrical Association, manufacturers electro-therapeutic apparatus, 1008, Sutter-st., San Francisco, Cal.
Consumers' Heat & Electric Co., Bloomington, Ill.
Consumers' Heat, Light, Water & Power Co., Belington, W. Va.
Consumers' Supply Co., Incorp., electrical & gas supplies, Los Angeles, Cal.
Contoocook Electric Light Co., Contoocook, N.H.
Contra Costa Electric Light & Power Co., Martinez, Cal.
Contractors' Electrical Co., installation contractors, 7, East 42nd-st., New York.
Cook, Arthur E., installation contractor, Morse & Cook-bldg., Meriden, Conn.
Cook, Frank B., telephone protective apparatus, material & supplies, 250, West Lake-st., Chicago, Ill. (Teleph. No. 1117, Monroe.)
Cook, W. H., installation contractor, Farmington, Maine.
Cook Electric Co., installation contractors, 342, Vernon-ave., Long Island City, N.Y.
Cook Electric Installation Co., Arno-bldg., Cincinnati, Ohio.
Cooke Electric Co., Edward T., electrical contractors, 1408, Chestnut-st., St. Louis, Mo. (Telephone No. C. 415, Kinloch.)
Cooke-Wilson Electric Supply Co., installation contractors, Penn-ave. & 3rd-st., Pittsburg, Pa.
Cooligan, J. J., installation contractor, Fort Wayne, Ind.
Cooper, A. J., electrical contractor, 305, Chelsea-st., East Boston, Mass.
Cooper, J. W., general dealer in electrical goods, Medina, N.Y.
Cooper, William, M.AM.I.E.E., consulting electrical & mechanical engineer, 732, Union Trust-bldg., Cincinnati, Ohio.
Cooper, C. & G., Co., builders of steam engines, Mount Vernon, Ohio.
Cooper Hewitt Electric Co., manufacturers of mercury vapour lamps & converters, 220, West 29th-st., New York. (Telegs.: "Hewitlight, New York.")
Copeland, Clem. A., installation contractor, Bradbury-bldg., Los Angeles, Cal.
Copenhagen Automatic Fire Alarm Co., Sheboygan, Wis.
Coquille River Electric Co., electric light contractors, Coquille, Ore.
Coraopolis City Electric Light Plant, Coraopolis, Pa.
Corbit, W. H., electrical contractor, 258, 4th-ave., New York, N.Y.
Corey, F. B., M.AM.I.E.E., M.AM.S.M.E., engineer, General Electric Co., Schenectady, N.Y.
Corey, R. B., agent for conduit, wire, &c., 39, Cortlandt-st., New York. (Telephone No. 3569, Cort.)
Corn Palace Electric Construction Co., electrical contractors, 414, Jackson-st., Sioux City, Iowa.
Cornell, Chas. L., M.AM.I.E.E., Niles-Bement-Pond Co., 111, Broadway, New York.
Cornell University, Ithaca, N.Y. *See* SCHOOLS.
Corning, John Woodside, A.M.AM.I.E.E., electrical engineer, Boston Elevated Railway Co., 439, Albany-st., Boston, Mass.
Corning Light, Heat & Power Co., Corning, Iowa.
Corning Gas & Electric Co., Corning, N.Y.
Corning & Painted Post Street Railway Co., Corning, N.Y.
Cornwall Electric Light & Power Co., Cornwall-on-Hudson, N.Y.
Cornwell, R. M., Co., gasoline engine, dynamo & motor makers, Syracuse, N.Y.
Corona Gas & Electric Co., Corona, Cal.
Coronado Railroad Co., Coronado, Cal.
Corrao, Wm. A., Electric Co., electrical engineers & contractors, 1101–2, Chemical-bldg., St. Louis, Mo.
Correll Electric Co., electrical contractors, 72, Eberly-blk., Columbus, Ohio.
Corsicana Gas & Electric Co., Corsicana, Tex.
Corson, William R. C., A.AM.I.E.E., consulting electrical engineer, 36, Pearl-st., Hartford, Conn.
Cortland Traction Co., electric light contractors, Cortland, N.Y.
Corvallis Electric Light & Power Co., Corvallis, Ore.

Cory, Clarence L., M.AM.I.E.E., M.I.E.E., consulting electrical engineer & professor of electrical engineering, University of California, Berkeley, Cal.
Cory, Meredith & Allen, consulting electrical engineers, 321, Pine-st., San Francisco, Cal.
Cosden, John W., & Co., electrical engineers, 246, Massachusetts-ave., Boston, Mass.
Coshocton Light & Heating Co., Coshocton, Ohio.
Cottage City & Egartown Traction Co., Cottage City, Mass.
Cottle & Murphy, installation contractors, 260, Dover-st., Boston, Mass.
Cotton, C. A., electrical machinery, Boston, Mass.
Couch & Seeley Co., telephone apparatus manufacturers, 24, Binford-st., Boston, Mass.
Couch, S. H., Co., telephone apparatus makers, 156, Pearl-st., Boston, Mass.
Coulson-McDonnell Electric Co., installation contractors, 9, Cornhill, Boston, Mass.
Couple-Gear Freight Wheel Co., manufacturers of electric trucks, Grand Rapids, Mich.
Courtis, W. M., A.M., mining engineer & metallurgist, 412, Hammond-bldg., Detroit, Mich. (Telegrams: "Ilex, Detroit.")
Courtney, A. C., installation contractor, 730, North Eutaw-st., Baltimore, Md.
Covington Light & Water Co., Covington, Ind.
Coward, Fredk. E., installation contractor, Springfield, Mass.
Cowen, Julian Betty, A.AM.I.E.E., manager of Export Department, General Incandescent Arc Light Co., 42, Broadway, New York.
Cowie Electric Co., installation contractors, 1413, Grand-ave., Kansas City, Mo. (Teleph. Nos.: Bell, 834, Grand; & Home, 3834, Main.)
Cowles, Alfred H., M.AM.I.E.E., electrical engineer, president Electric Smelting & Aluminium Co., Lockport, N.Y.
Cowles, J. W., M.AM.I.E.E., electrical engineer, Edison Electric Illuminating Co., 516, Atlantic-ave., Boston, Mass.
Cowles Electric Smelting & Aluminium Co., aluminium, silicon & manganese alloys, Lockport, N.Y.
Cox, Frank Powell, M.AM.I.E.E., electrical engineer, General Electric Co., Lynn, Mass.
Cox, L. D., isolated dynamo & steerage plants, Sheridan, Ind.
Craig, Wm. P., installation contractor, East Orange, N.J.
Craig & Craig, electrolier manufacturers & fitters, Springfield, Mass.
Crain, L. D., A.AM.I.E.E., professor of mechanical engineering, The State Agricultural College, Fort Collins, Col.
Cram, Wm. E., electrical engineer, 227, Tremont-st., Boston, Mass.
Cramer Electric Co., Hailey, Idaho.
Cramer & Rosenthal, electrical engineers, Houston, Tex.
Crampton, Faust F., electrical engineer, 800, H.-st. N.W., Washington, D.C.
Crane, F. N., electric supplies & contracting, 292, Mulberry-st., Newark, N.J. (Long Distance Teleph. No. 4439, J.)
Crane, J., jun., consulting electrician, 1122, Tremont-bldg., Boston, Mass.
Crane Co., manufacturers of valves, fittings & wrought pipe, Chicago, Ill. (Telegrams: "Cranecoy, Chicago." Private Code, A.B.C. 4th edition, Lieber's & Western Union.)
Crasker, Ernest, Co., installation contractors, 649, Columbus-ave., New York.
Cravath, James Raley, A.AM.I.E.E., Western editor, *Electrical World*, 1139, Monadnock-blk., Chicago, Ill.
Crawford, David F., A.AM.I.E.E., general superintendent Motive Power Pennsylvania Lines, Pittsburgh, Pennsylvania.
Crawford Bros., electrical contractors, 321, Warren-st., Boston, Mass.
Crawfordsville Electric Co., makers of transformers, Crawfordsville, Ind. (Teleph. Nos.: 18, Home; & 91, Bell.)
Crawfordsville Electric Light & Power Co., Crawfordsville, Ind.
Crawfordsville Wire & Nail Co., telephone & telegraph wire, Monadnock-bldg., Chicago, Ill.
Crawley Electric Co., manufacturers & dealers in electric light supplies, Peoria, Ill. (Teleph. No. 720.)
Crawley Electric Co., electrical engineers, Duluth, Minn. (Telephone Nos.: 796, Long Distance; & 775, Local.)
Crawshaw, J. J., M.AM.I.E.E., superintendent of exchanges, Bell Telephone Co. of Mo., 47, Telephone-bldg., St. Louis, Mo.
Creaghead, Thomas J., B.S., A.AM.I.E.E., electrical engineer, president & general manager Creaghead Engineering Co., 340-342, Main-st., Cincinnati, Ohio.
Creaghead Engineering Co., manufacturers of railway supplies, 340-342, Main-st., Cincinnati, Ohio. (Telegs.: "Creaghead, Cincinnati." Lieber Code & W.U. Code. Teleph. No. 2068, Main.)
Creamer, W. G., & Co., fine iron, brass, & bronze castings, 96, John-st., New York.
Crehore, Albert C., PH.D., A.M.AM.I.E.E., Crehore-Squire Intelligence Transmission Co., Yonkers, N.Y.
Creighton, E. E. F., A.AM.I.E.E., assistant professor, Union University, Schenectady, N.Y.
Crescent City Light, Water & Power Co., Crescent City, Cal.
Crescent Electric Co., electrical supplies, Oakland, Cal. (Teleph. No. 4570, Oakland.)
Crescent Electric & Manufacturing Co., 24th & Liberty-sts., Pittsburgh, Pa.

Crescent Electrical Manufacturing Co., switches, sockets & cut-outs, 5, Prospect-st., Rochester, N.Y.
Crescent Insulated Wire & Cable Co., wire coverers, indiarubber & gutta percha, Trenton, N.J.
Crescent Iron Works, electrical contractors, Springfield, Mo.
Crest Manufacturing Co., makers of induction coils, Cambridgeport, Mass.
Crested Butte Light & Water Co., electric light contractors, Crested Butte, Col.
Crestline Illuminating Co., Crestline, Ohio.
Creston Gas & Electric Co., Creston, Iowa.
Criner Electric Co., installation contractors, 3908, 5th-ave., Pittsburg, Pa.
Crock, Howard E., & Co., electrolier manufacturers, 320, West Mulberry-st., Baltimore, Md.
Crocker, Francis B., PAST PRES.AM.I.E.E., M.I.E.E., consulting engineer, professor of electrical engineering, Columbia University, New York. (Telephone No. 1400, Morningside.)
Crocker-Wheeler Co., manufacturers & electrical engineers, Ampere, N.J.; New York; Chicago; Pittsburg; Boston; Philadelphia, Pa.; Baltimore; New Orleans; Denver; & San Francisco. (Telegs.: "Crockwheel, Ampere." Teleph. No. 500, Branchbrook, Newark.)
Cronen, J. J., electrical supplies, 538, 3rd-st., Louisville, Ky.
Crook Electric Co., electrical contractors, 60, State-st., Detroit, Mich.
Crooker-Mantel & Tile Co., electrolier manufacturers & fitters, 230, Weybosset-st., Providence, R.I.
Crookston Water Works, Power & Light Co., Crookston, Minn.
Crosby, O. T., A.M.AM.I.E.E., c/o J. G. White & Co., Inc., 43–49, Exchange-pl., New York.
Crosby, C. H., & Co., installation contractors, 170, Summer-st., Boston, Mass.
Crosby Steam Gauge & Valve Co., manufacturers of steam valves, 95, Oliver-st., Boston, Mass.
Cross, Chas. R., M.AM.I.E.E., Thayer professor of physics & director of the Rogers laboratory, Massachusetts Institute of Technology, Boston, Mass.
Crosselmire & Ackor Co., platinum manufacturers & refiners, 42, Walnut-st., Newark, N.J.
Crossman, Gilbert, M.E., A.AM.I.E.E., telephone engineer, Western Electric Co., 463, West-st., New York.
Crouse-Hinds Co., makers of switches, Syracuse, N.Y.
Crouse-Hinds Electric Co., electrical contractors, 23, Dey-st., New York.
Crouse-Tremaine Carbon Co., electric light carbon manufacturers, Fostoria, Ohio.
Crowell, Robinson, A.AM.I.E.E., superintendent, Mining District, Standard Electric Co., Sutter Creek, Cal.
Crown Electrical Co., installation contractors, 105, North Gay-st., Baltimore, Md.
Crown Woven Wire Brush Co., makers of dynamo brushes, Salem, Mass.
Crumb, W. H., & Co., engineers & contractors, 1263, Monadnock-bldg., Chicago, Ill.
Cudworth, Axteel & Co., consulting electrical engineers, Life-bldg., Kansas City, Mo.
Culbert, E. H., installation contractor, 1337, Susquehanna-ave., Philadelphia, Pa.
Culin & Son, F. A., general electrical contractors, Provident Life-bldg., Philadelphia, Pa.
Cullman City Electric Light Plant, Cullman, Ala.
Cumberland Electric Railway Co., Cumberland, Md.
Cumberland & Westernport Electric Railway Co., Cumberland, Md.
Cummings, E. W., consulting electrical engineers, Seattle, Wash.
Cunningham, E. R., B.S., PH.B., M.AM.I.E.E., Des Moines City Railway Co., Des Moines, Iowa.
Curran, Jas., Elevator Co., manufacturing electricians, 114, West 2nd-st., Cincinnati, Ohio.
Current Electric Co., telephone apparatus makers, 52, State-st., Chicago, Ill.
Currie, H. A., M.AM.I.E.E., assistant engineer N.Y., C. & H. R.R. Co., 335, Madison-ave., New York.
Currier, Eugene, electrical contractor, 8519, Germantown-ave., Philadelphia, Pa.
Cursset, P.D., A.M.I.E.E., Westinghouse Electric & Manufacturing Co., Flat Iron-bldgs., New York.
Curtis & Co. Manufacturing Co., belting & supplies, 42, South Canal-st., Chicago, Ill.
Cushing, Arthur P., Mexican & South American patents & trade marks, 43, Tremont-st., Boston, Mass. (Cable address: "Apcush, Boston." Telephone No. 2210, Haymarket.)
Cushing, Harry Cooke, Jun., M.AM.I.E.E., electrical consulting engineer, 220, Broadway, New York.
Cushman Electric Co., manufacturers of dynamos & motors, Concord, N.H.
Cuthbert & Black, electrical contractors, Central Union Block, Chicago, Ill.
Cuthbert City Electric Light & Water Plant, Cuthbert, Ga.
Cutler-Hammer Manufacturing Co., rheostats, &c., Milwaukee, Wis. (Telegrams: "Cutler, Milwaukee, Wis.")
Cutter Electrical & Manufacturing Co., automatic magnetic circuit breakers & rheostats & flush switches, 19th & Hamilton-sts., Philadelphia, Pa.
Cutter, George, Co., manufacturers of electric light specialities, South Bend, Ind.
Cynthiana Electric Light Co., Cynthiana, Ky.

D. K. Electric Co., installation contractors, 222, Chestnut-st., St. Louis, Mo.
D & W Fuse Co., makers of non-arcing fuses, Providence, R.I.
Dadmun, C. W., electrical construction & repair work, 20, Warren-st., Concord, N.H.
Daft, Leo, M.AM.I.E.E., consulting electrical engineer, Rutherford, N.J.
Dale, John F., installation contractor, Elmira, N.Y.

Dale Co., manufacturers of electric lighting fixtures & specialities, 9th-ave., 13th & Hudson-sts., New York, N.Y. (Teleph. No. 1516, Chelsea.)
Dallas Consolidated Electric Street Railway Co., Dallas, Tex.
Dallas Electric Corporation, light, power & traction, 84, State-st., Boston, Mass.
Dallas Electric Light Co., Dallas, Ore.
Dallas Electric Light & Power Co., Dallas, Texas.
Dallas Electric Sign Manufacturing Co., Dallas, Tex.
Dallas Ice Factory, Light & Power Co., Dallas, Tex.
Dallett, Thos. H., & Co., manufacturers of electric motors & generators, York-street & Sedgley-avenue, Philadelphia, Pa.
Dalton, E. C., installation contractor, Oakland, Cal.
Dalton Electrical Co., installation contractors, Meridian, Miss.
Daly, Thos. I., electrical contractor, Cambridge, Mass.
Damon, Geo. A., A.M.A.M.I.E.E., managing engineer, The Arnold Co., Borland-bldg., Chicago, Ill.
Danbury & Bethel Gas & Electric Light Co., Danbury, Conn.
Danbury & Bethel Street Railway Co., Danbury, Conn.
Daniels, H. P., M.AM.I.E.E., Testing Department, General Electric Co., Schenectady, N.Y.
Dansville Gas & Electric Light Co., Dansville, N.Y.
Danville Foundry & Machine Co., manufacturers of dynamos & motors, Danville, Ill.
Danville Railway & Electric Co., Danville, Va.
Danville Street Railway & Light Co., Danville, Ill.
Darby, Edw., & Sons, wire guards for incandescent lamps, 233, Arch-st., Philadelphia, Pa.
Darche Electric Clock Co., manufacturers of electric alarm clocks, 830, South Halsted-st., Chicago, Ill.
Dare, Benjamin A., consulting electrician, 120, Liberty-st., New York.
Darling, E. R., dealer in electrical supplies, 138, Main-st., Woonsocket, R.I.
Darlington, Frederick, M.AM.I.E.E., electrical engineer, Stanley Electric Manufacturing Co., Great Barrington, Mass.
Darlington, F. W., PH.B., M.AM.I.E.E., consulting electrical engineer, 1140–1143, Real Estate Trust-bldg., Philadelphia, Pa. (Telegs.: "Wildarfred, Philadelphia." Teleph. No. Bell 308, Walnut.)
Darlington, Wayne, PH.B., M.E., consulting mining engineer, 1139, Real Estate Trust-bldg., Philadelphia, Pa.
Darlington Electric Fountain & Supply Co., Real Estate Trust-bldg., Philadelphia, Pa. (Telegrams: "Wildarfred, Philadelphia.")
Darlington Electric Light & Water Power Co., Darlington, Wis.
Darlington Light & Water Co., Darlington, S.C.
Dartmouth & Westport Street Railway Co., New Bedford, Mass.
Dates, H. B. S. B., A.AM.I.E.E., professor of electrical engineering, Case School of Applied Science, Cleveland, Ohio.
Daubert & Schrecker, electrical contractor, 1006, 3rd-st., Louisville, Ky.
Davenport Foundry & Machine Co., engineers, founders & machinists, cor. 4th & Division-sts., Davenport, Iowa. (Telephone No. 3.)
Davenport Gas & Electric Co., Davenport, Iowa.
Davenport & Suburban Railway Co., Davenport, Iowa.
Davids, Richard W., consulting electrical engineer & expert, 202, Bullit-bldg., Philadelphia, Pa.
Davidson, Edward C., A.AM.I.E.E., patent lawyer, 141, Broadway, New York. (Telegs.: "Delodav, New York." Teleph. No. 1446, Cort.)
Davidson, J. C., M.AM.I.E.E., electrician & chief engineer, SS. White Dental Manufacturing Co., Prince's Bay, S. Id., N.Y.
Davidson, M. T., maker of electrical plant, pumps, &c., 43–53, Keap-street, Brooklyn, N.Y.
Davidson, C. Y., Co., electric light fixtures, 328, North Charles-st., Baltimore, Md.
Davis, A. G., S.B., M.L., M.AM.I.E.E., manager Patent Dept., General Electric Co., Schenectady, N.Y.
Davis, Chas. Henry, C.E., M.I.E.E., M.AM.I.E.E., consulting engineer, Broad Exchange-bldg., New York (Telegrams: "Lrac, New York." Telephone Nos. 1049 & 696, Cort.); 4, State-st., Boston; & 204, Walnut-pl., Philadelphia. (Telephone Nos. 886–1 & 886–2, Boston; & 50–59, Philadelphia.)
Davis, Edward, consulting electrical engineer, 1000, Betz-bldg., Philadelphia, Pa.
Davis, H. P., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Davis, Joseph P., M.I.E.E., M.AM.I.E.E., 215, Palisade-ave., Yonkers, New York.
Davis, Lewis S., installation contractor, 221, West 116th-st., New York.
Davis, Minor M., M.AM.I.E.E., traffic manager & assistant electrical engineer, Postal Telegraph Cable Co., 253, Broadway, New York.
Davis, Ph. W., A.AM.I.E.E., of Chas. K. Stearn's Office, 93, Federal-st., Boston, Mass.
Davis, S., electrical contractor, 14, West 29th-st., New York.
Davis, W. J., jun., A.AM.I.E.E., electrical engineer, Power & Mining Department, General Electric Co., Schenectady, N.Y.

Davis Bros. Electric Co., electrical contractors, Alton, Ill.
Davis Electric Co., installation contractors, Easton, Pa.
Davis, I. B., & Son, manufacturers of feed water heaters, Hartford, Conn.
Davis, M., & Sons, manufacturers of switch cut-outs, Salem, Ohio.
Davis-Brown Electric Co., Inc., engineers, contractors & jobbers, 115, South Cayuga-st., Ithaca, N.Y.
Dawes, F. B., electrical contractor, Hudson, Mass.
Dawes Manufacturing Co., manufacturers of electric signs, Pittsburg, Pa.
Dawson, Eugene C., installation contractor, 921, 14th-st., Denver, Col.
Dawson, Jno. H., electrical supplies & construction, 1047, Main-st., Joplin, Mo. (Telephone Nos.: 361, Bell; & 355, Home.)
Day, W. J., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Day & Night Sign Co., electric signs, 82, Beaver-st., New York.
Day, Thomas, Co., Incorp., manufacturers of electric light fixtures, 725, Mission-st., San Francisco, Cal. (Telegrams: "Dayco, San Francisco.")
Dayton Autoelectric Co., manufacturers of electrical advertising specialities, Dayton, Ohio.
Dayton Citizens' Electric Co., Dayton, Ohio.
Dayton Electric Light & Power Co., Dayton, Wash.
Dayton Electrical Manufacturing Co., manufacturing electricians, Reibold-bldg., Dayton, Ohio.
Dayton Fan & Motor Co., manufacturers of belt & electric ventilating fans, 611, East 3rd-st., Dayton, Ohio. (Telegrams: "Ventilator, Dayton, Ohio.")
Dayton Globe Iron Works Co., manufacturers of the new American turbine water wheel, Dayton, Ohio. (Telegrams: "Globe, Dayton." Telephone No. 653.)
Dayton Hardware Co., dealers in electric supplies, 194, 1st-st., corner Taylor-st., Portland, Ore.
Dayton Lighting Co., Dayton, Ohio.
Dayton Manufacturing Co., manufacturers of Silvey storage batteries, Dayton, Ohio. (Telegrams: "Vapor, Dayton.")
Dayton & Muncie Traction Co., Dayton, Ohio.
Dayton & Northern Traction Co., 31, South Ludlow-st., Dayton, Ohio.
Dayton, Springfield & Urbana Electric Railway Co., Springfield, Ohio.
Dayton & Troy Electric Railway Co., Dayton, Ohio.
Dayton & Western Traction Co., electric tramway, Dayton, Ohio.
Dayton & Xenia Transit Co., electric railway (C. J. Ferneding, president), Dayton, Ohio.
Dean, Thos. A., installation contractor, Lancaster, Pa.
Dean, W. C., A.AM.I.E.E., electrical & mechanical engineer, Bank of Commerce-bldg., Norfolk, Va.
Dean, W. F., contracting engineer, 42, Church-st., New Haven, Conn.
Dean, W. T., A.AM.I.E.E., chief electrician, Illinois Steel Co., Chicago, Ill.
Dean, Wm. W., electrical engineer, 8, Bank-st., Morristown, N.J.
Dean Bros., manufacturers of steam pumps, Indianapolis, Ind.
Dean Electric Co., manufacturers of telephones, switchboards & telephone apparatus, Elyria, Ohio. (Telegs.: "Dean, Elyria." A.B.C. Code, 5th edit.)
Dean, S., & Co., electrical contractors, 4, Province-st., Boston, Mass.
Deane & Lobdell, electrical engineers, 113, Devonshire-st., Boston, Mass.
Deane Steam Pump Co., manufacturers of pumps, Holyoke, Mass. (Telegrams: "Deane, Holyoke.")
Dearborn Electric Co., electric light & telephone supplies, 122, West Jackson-boul., Chicago, Ill.
Deavitt, H. M., practical & consulting chemist, 1126, National Life-bldg., 159, La Salle-st., Chicago, Ill. (Telephone No. 4640, Central.)
Decatur Railway & Light Co., Decatur, Ill.
Decker, Delbert H., attorney & electrical patent expert, 141, Broadway, New York.
Decker, Edward P., M.AM.I.E.E., electrical engineer, Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Decker Electric Co., installation contractors, 519, Main-st., Cincinnati, Ohio.
Decker Electrical Co., engineers & contractors, 157, Minna-st., San Francisco, Cal.
Decorah Electric Light Co., Decorah, Iowa.
De Coster, H. F., electrical contractor, 35, West 21st-st., New York. (Telephone No. 116, Gramercy.)
De Crow, Charles Edward, A.AM.I.E.E., Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Deebank, Frank, installation contractor, Kankakee, Ill.
Deem Electric Construction Co., installation contractors, Reading, Pa.
Deer Lodge Electric Co., Deer Lodge, Mont.
de Forest, Dr. Lee, A.AM.I.E.E., wireless telegraphy specialist, 5164, Washington-ave., St. Louis, Mo.
De Land, Fred., general manager & treasurer Carnegie Telephone Co., Panhandle Telephone Co., Latrobe Telephone Exchange Co., Federal Telephone Co., Elizabeth Telephone Co., Pennsylvania Telegraph & Telephone Co., Washington Co. Telephone Co., Kiskiminitas Valley Telephone Co., Washington Telephone Co., Westmoreland Telephone Co., & McKeesport Telephone Co., Pittsburg, Pa., &c. (Telephone No. 2653.)
Delany, P. B., M.AM.I.E.E., electrical engineer, South Orange, N.J.

Delaval, Leon, M.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
De Laval Steam Turbine Co., Trenton, N.J.
Delaware & Atlantic Telegraph & Telephone Co., N.W. cor. 17th & Filbert-sts., Philadelphia, Pa. (Telephone No. 2790, Filbert.)
Delaware County & Philadelphia Electric Railway Co., Clifton Heights, Pa.
Delaware Electric Light, Heat & Power Co., Delaware, Ohio.
Delaware Hard Fibre Co., manufacturers of hard fibre for electrical purposes, Wilmington, Del.; & 189, Central-st., London, E.C.
Del Mar, Wm. A., A.I.E.E., 557, West 141st-st., New York.
Delphos Electric Light & Power Co., Delphos, Ohio.
Delta Electric Light & Power Co., Greenville, Miss.
Delta Electric Light, Power & Manufacturing Co., Greenville, Miss.
Delta Electric Power Co., Delta, Pa.
Delta Manufacturing Co., dry batteries, Bloomfield, N.J.
Demara & Classon, electrical contractors, Addison, N.Y.
Deming Electric Co., 338, East 17th-st., Minneapolis, Minn.
Deming Co., electric pumps, Salem, Ohio.
Dempster, Thomas, A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Denison Light & Power Co., Denison, Texas.
Denison & Sherman Railway Co., Denison, Tex.
Densmore & Le Clear, consulting electrical engineers, 15, Exchange, Boston, Mass.
Denton, City of, Water & Light Department, Denton, Tex.
Denver Electric Wiring Co., installation contractors, Denver, Col.
Denver Electrical Co., 18th-st. & Broadway, Denver, Col.
Denver Engineering Works Co., manufacturers of electric mine hoists & box electric rock drills, 30th & Blake-sts., Denver, Col. (Telegs.: "Shepring, Denver.")
Denver Gas & Electric Co., Denver, Col.
Denver Highlands Electric Co., Denver, Col.
Denver & Northwestern Railway Co., Denver, Col.
Denver Novelty Works & Manufacturing Co., manufacturers of electrical supplies, 1520, Lawrence-st., Denver, Col.
De Pere Electric Light & Power Co., De Pere, Wis.
Depew & Lancaster Light, Power & Conduit Co., Lancaster, N.Y.
Deposit Electric Co., electric light contractors, Deposit, N.Y.
Derby Gas Co., Derby, Conn.
Derby & Morse, electrical supplies, Lowell, Mass.
Derry Electric Light Co., Derry, N.H.
Des Moines City Railway Co., 607, Mulberry-st., Des Moines, La.
Des Moines Edison Light Co., Des Moines, La.
Detroit City Electric Light Plant, Detroit, Mich.
Detroit Copper & Brass Rolling Mills, rollers of copper & brass, sheet wire & bar, Detroit, Mich. (Telegrams: "Copper, Detroit." Long Distance Telephone No. 2, West.)
Detroit Electric Co., electrical engineers & contractors, Shelby & Larned-sts., Detroit, Mich.
Detroit Gas & Electric Fixture Co., electrolier manufacturers & fitters, 179, Larned-st. W., Detroit, Mich.
Detroit Lubricator Co., manufacturers of sight feed lubricators & oilers, Hodges-bldg, Detroit, Mich.
Detroit, Monroe & Toledo Short Line Railway Co., Monroe, Mich.
Detroit Steel Casting Co., castings for dynamos, Detroit, Mich.
Detroit United Railway Co., Detroit, Mich.
De Veau Telephone Manufacturing Co., 27, Rose-st., New York.
Devere Electric Co., dealers in electrical supplies, 234, West 4th-st., Cincinnati, Ohio. (Teleph. No. 2083.)
Devine, J. P., Co., insulating material manufacturers, 312, Mooney-Brisbane-bldg., Buffalo, N.Y.
Devoe, F. W., & Co., manufacturers of varnishes & japans, 101, Fulton-st., New York, N.Y.
Dewson, John A., installation contractor, Easton, Pa.
Dexter, J. Boyd, installation contractor, Annapolis, Md.
Diamond Glass Co., manufacturers of insulators & battery jars, Royersford, Pa.
Diamond Meter Co., electrical meters, Peoria, Ill.
Diamond State Fibre Co., Elsmere, Del.
Dick, William Amzi, M.AM.I.E.E., designing electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Dicke Tool Co., telephone & telegraph construction tools, Downer's Grove, Ill.
Dickens, James, electrical engineer & contractor, 40, Pleasant-st., Newburyport, Mass.
Dickenson, S. S., M.I.E.E., M.AM.I.E.E., general superintendent, Commercial Cable Co., 253, Broadway, New York.
Dickerson, E. N., A.AM.I.E.E., attorney-at-law, 141, Broadway, New York.
Dickerson, Van Dusen, & Co., manufacturers of bare and insulated wire, 32, Cliff-st., New York.

Dickey-Sutton Carbon Co., makers of carbons & batteries, Lancaster, Ohio.
Dickinson, A. T., electrical contractor, 55, Prospect-st., Rockville, Conn.
Dickinson, E. D., M.AM.I.E.E., Steam Turbine Eng. Dept., General Electric Co., Schenectady, N.Y.
Dickinson Hard Rubber Co., manufacturers of hard rubber, Springfield, Mass.
Dickson, J. D., electrical engineer, Newport, R.I.
Didwalis, John, electrical contractor, 507, South Main-st., Wilkes Barre, Pa.
Diehl, Philip, M.AM.I.E.E., electrical engineer & inventor, Singer Sewing Machine Co., 528, Morris-ave., Elizabeth, N.J.
Diehl Manufacturing Co., electrical apparatus, &c., Elizabeth, N.J. (Telegrams: "Diehl, Elizabeth." Telephone No. 203A, Elizabeth. Lieber's Code used.)
Dielectric Manufacturing Co., insulating material manufacturers, St. Louis, Mo.
Diener, Edmund H., electrical contractor, 30, North Water-st., Philadelphia, Pa.
Dieterich, Fred. G., A.AM.I.E.E., solicitor of patents & mechanical expert, 602, F.-st., Washington, D.C.
Dillon, D. M., manufacturer of steam boilers, Fitchburg, Mass.
Dillon, E. P., A.AM.I.E.E., electrical engineer, Colorado Springs Electric Co., 107, Kiowa-st., Colorado Springs, Col.
Dillon, T. L., installation contractor, 344, 4th-ave., New York.
Dillon Electric Light & Power Co., Dillon, Mont.
D'Infreville, Georges, M.I.E.E., M.AM.I.E.E., electrical expert & engineer, 455, Canal-st., New York.
Dinkey, Alva C., A.AM.I.E.E., superintendent electric department, Homestead Steel Works, Munhall, Pa.
Dinn, P. J., & Co., manufacturers of lamp hoods & posts, 278, Dover-st., Boston, Mass.
Direct U.S. Cable Co., 61, New-st. (Telephone No. 322, Broad); 444, Broome-st. (Telephone No. 975, Spring); & 21½, Spruce-st., New York. (Telephone No. 2485, John.)
Dittrich & Co., installation contractors, 113, West 125th-st., New York. (Telegrams: "Ohmet, New York." Telephone No. 2081, Harlem.)
Dittrich & Jordan, manufacturing electricians, 1821, Lorain-st., Cleveland, Ohio.
Dix, W. S., M.AM.I.E.E., mechanical & electrical engineer, 52, William-st., New York.
Dixie Electro-Magnet Co., makers of magnetic separators for grain, &c., Memphis, Tenn.
Dixon, James, A.AM.I.E.E., electrical engineer, Gray National Telautograph Co., Room 142, 80, Broadway, New York.
Dixon Electric Power & Water Co., Dixon, Cal.
Dixon, Joseph, Crucible Co., manufacturers & miners of graphite, plumbago & black lead, Wayne-st., cor. Monmouth-st., Jersey City, N.J.
Doane, S. Everett, M.AM.I.E.E., Mason & East 45th-sts., Cleveland, Ohio.
Doble, Robert McF., consulting & supervising engineer, Colorado Springs, Col.
Dodd, Samuel Thomson, A.AM.I.E.E., Railway Department, General Electric Co., Schenectady, N.Y.
Dodge, Prof. Omenzo G., M.AM.I.E.E., U.S. Naval Academy, Annapolis, Md.
Dodge & Day, electrical, mechanical & consulting engineers, Drexel-bldg., Philadelphia, Pa.
Dodge Manufacturing Co., makers of Dodge Special Dynamo Pulley, Mishawaka, Ind.
Dodson, U. G., installation contractor, 53rd-st. & Haverford-ave., Philadelphia, Pa.
Doerr, Mitchell & Co., dealers in electrical supplies, Spokane, Wash.
Doherty, H. L., M.AM.I.E.E, general manager American Light & Traction Co., 6, Wall-st., New York.
Dole, Charles E., dealer in electrical supplies, Bangor, Maine. (Telephone No. 74, Bangor.)
D'Olier Engineering Co., mechanical & electrical engineers & contractors, 119–121, South 11th-st., Philadelphia, Pa. (Bell Teleph. No.: 32–19; Filbert Keystone 111, Main.)
Domestic Engineering, Chicago, Ill. (Weekly; ann. sub., $1.00.)
Dominion Electric Co., installation contractors, 206, Grand-ave., Milwaukee, Wis.
Dommerque, Franz J., M.AM.I.E.E., secretary Kellogg Switchboard & Supply Co., cor. Congress & Green-sts., Chicago, Ill.
Donahoe & Shoebottom, electrical engineers, 84, Griswold-st., Detroit, Mich.
Donahoo, J. F., installation contractor, Bond-bldg., Washington, D.C.
Donaldson, Wm. W., A.AM.I.E.E., electrical engineer, Gould Storage Battery Co., 1, West 34th-st., New York.
Donat, R. F., electric house work, 990, 6th-ave., New York, N.Y.
Doncourt, A., installation contractor, Flushing, N.Y.
Dongan Instrument Co., makers of electric instruments, Albany, N.Y.
Donley, W. E., Electric Light & Power Co., Big Rapids, Mich.
Doolittle, Clarence E., A.AM.I.E.E., manager & electrician Roaring Fork Electric Light Co., Aspen, Col.
Doran, W. S., electrical engineer, Allis Chalmers Co., Milwaukee, Ill.
Dorlan, Philip S., installation contractor, 25, Grand-st., Troy, N.Y.
Doss Bros. Electric Construction Co., electrical engineers, 1731, Champa-st., Denver, Col.
Dothan City Electric Light Plant, Dothan, Ala.
Doty, C. E., & Co., electrical contractors, 88, Washington-st., Chicago, Ill.
Dotzert, Jas. H., dealer in electrical supplies, Newburg, N.Y.
Dotzert, A. J., & Co., installation contractors, 27, Westminster-st., Providence, R.I.

Doubleday-Hill Electric Co., general electrical supplies, 919, Liberty-ave., Pittsburg, Pa. (Telegs.: "Double Hill, Pittsburgh." Teleph. Nos.: Bell, 1577, 1578, 1579, Grant; P. & A., 1542, Main.)
Dougherty, Proctor L., A.AM.I.E.E., electrical engineer, Treasury Department, Washington, D.C.
Douglas Improvement Co., electric light, Douglas, Ariz.
Dover Electric Light Co., Dover, N.J.
Dover & Foxcroft Light & Heat Co., Dover, Maine.
Dover Gas Light Co., Dover, N.H.
Dow, Alex, M.AM.I.E.E., general manager Edison Illuminating Co., Detroit, Mich.
Dow, Geo. E., Pumping Engine Co., makers of steam power pumping machinery, San Francisco, Cal.
Dow, H. W., assistant professor of mechanical engineering, Iowa Street College, Ames, Iowa.
Dow Portable Electric Co., manufacturers of dry batteries, 218, Fremont-st., Boston, Mass.
Dowagiac Municipal Electric Light Department, Dowagiac, Mich.
Dowie, Horace, A.AM.I.E.E., with Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Dowling, Wm., & Co., turbine waterwheel makers, Logansport, Ind.
Downes, L. W., A.AM.I.E.E., D & W Fuse Co., Providence, R.I.
Downing, P. M., A.AM.I.E.E., operating engineer, California Gas & Electric Corporation, 925, Franklin-st., San Francisco, Cal.
Downs, E. S., PH.D., M.AM.I.E.E., erecting engineer, Westinghouse Electric & Mfg. Co., New York City.
Downward Light Electric Co., makers of Downward Light incandescent lamps, 32, Union-sq. East, New York. (Telephone No. 3786, Gramercy.)
Doxsee Bariere Electric Co., dealers in electrical supplies, 1414, Chestnut-st., St. Louis, Mo.
Doylestown Electric Co., electric light contractors, Doylestown, Pa.
Doylestown & Willow Grove Railway Co., Willow Grove, Pa.
Drake, John I., electrical engineer, Providence, R.I.
Drake Cycle & Electric Co., electrical contractors, Huntingdon, Pa.
Dravo Contracting Co., installation contractors, Lewis-blk., Pittsburg, Pa.
Drendell Electrical & Manufacturing Co., switch boards, controllers, &c., Mission & Erie-sts., San Francisco, Cal. (Telegs.: "Demco, San Francisco.")
Dressel Railway Lamp Works, manufacturers of head lights for electric cars, 3876, Park-ave., New York.
Dressel, Charles E., & Co., scientific & electrical apparatus makers, 143–147, East 23rd-st., New York. (Long Distance Teleph. No. 1526, Gramercy.)
Drew, Stanton H., electrical engineer, 540, Main-st., Cincinnati, Ohio.
Driver-Harris Wire Co., resistance wire manufacturers, Harrison, N.J. (Telegrams: "Wildriveo.")
Drohan, T. E., A.AM.I.E.E., superintendent of shops, Northern Electric Manufacturing Co., Madison, Wis.
Drysdale, Dr. W. A., A.M.AM.I.E.E., M.AM.S.M.E., consulting electrical & mechanical engineer, 414–418, Hale-building, Philadelphia, Pa. (Telegrams: "Drysdale, Philadelphia." Long Distance Telephone.)
Dublin, James W., electrical contractor, Altoona, Pa.
Dublin Water Works & Electric Light Plant, Dublin, Ga.
Du Bois, A. D., A.AM.I.E.E., electrical engineer, Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Du Bois Electric Traction Co., Du Bois, Pa.
Dubuiski Electric Works, electrical supplies, 108, Soledad-st., San Antonio, Tex.
Dubuque Turbine & Roller Mill Co., manufacturers of turbines, Dubuque, Iowa. (Telegrams: "Turbine, Dubuque.")
Dudley, Chas. B., M.AM.I.E.E., chemist, Pennsylvania R. R. Co., Altoona, Pa.
Duff Manufacturing Co., makers of lifting jacks, Allegheny, Pa. (Telegrams: "Leverjack, Allegheny.")
Duffy Bros., electrical supplies, 16, East-ave., Pawtucket, R.I.
Duluth General Electric Co., Duluth, Minn.
Duluth Street Railway Co., Duluth, Minn.
Duluth Telephone Co., Duluth, Minn.
Dunbar, F. W., M.AM.I.E.E., electrical engineer, c/o Kellogg Switchboard & Supply Co., S.W. cor. Congress & Green-sts., Chicago, Ill.
Duncan, John D. E., A.AM.I.E.E., Sanderson & Porter, 52, William-st., New York.
Duncan, Louis, M.AM.I.E.E., consulting electrical engineer, 56, Pine-st., New York.
Duncan, T., A.AM.I.E.E., electrical engineer & manager, Duncan Electric Manufacturing Co., Lafayette, Ind.
Duncan Electric Manufacturing Co., La Fayette, Ind.
Dunham, Carrigan, & Hayden Co., jobbers in electrical supplies, 100 Kansas-st., San Francisco, Cal.
Dunkirk & Fredonia Railroad Co., Fredonia, N.Y.
Dunlap, Will Knox, M.AM.I.E.E., managing director Westinghouse Co.'s Louisiana Purchase Exposition, St. Louis, Mo.
Dunmore Electric Light, Heat & Power Co., Dunmore, Pa.
Dunn, Gano S., M.S., E.E., M.AM.I.E.E., vice-president & chief engineer Crocker-Wheeler Co., Ampere, N.J. (Telegs.: "Crockwheel, Ampere." Teleph. No. 500, Branch Brook, Newark.)
Dunshee Electric Co., electrical contractors, McKeesport, Pa.
Du Perow, M., jobber in electrical supplies, 518, 10th-st. N.W., Washington, D.C. (Teleph. No. 4035, Main.)

Duquesne Electric Co., electrical engineers & contractors, 526, 4th-st., Pittsburg, Pa. (Telegrams: "Langton, Pittsburg." Telephone No. 2132–4, Court.)
Durand Light & Power Co., Durand, Wis.
Durango Light & Power Co., Durango, Col. (A. Peters, superintendent.)
Duranoid Manufacturing Co., battery jar covers, switch handles, insulations, &c., 213 221, Chestnut-st., Newark, N.J.
Durant, Ed., M.AM.I.E.E., 115, East 26th-st., New York.
Durant, Geo. F., A.AM.I.E.E., Bell Telephone Co. of Mo., Telephone-bldg., St. Louis, Mo.
Durbrow & Hearne Manufacturing Co., electrical contractors & supply dealers, 12, Wooster-st., New York, N.Y. (Telegrams: "Ortogonio, New York." Telephone No. 4199, Spring.)
Durdin & Weil, installation contractors, 15, North Clinton-st., Chicago, Ill.
Durham Traction Co., Durham, N.C.
Dusinberre, G. B., M.AM.I.E.E., manager Westinghouse Electric & Manufacturing Co., Cleveland, Ohio.
Dustin, Charles E., Co., electrical & steam machinery, 11, Broadway, New York.
Dutchess Light, Heat & Power Co., Rhinebeck, N.Y.
Duvall, E. S., patents attorney, Loan & Trust-bldg., Washington, D.C.
Dwight, Theodore, electrical engineer, 99, John-st., New York, N.Y.
Dwyer Machine Co., photometer makers, Lynn, Mass.
Dyer, R. N., M.AM.I.E.E., patent attorney, 31, Nassau-st., New York.
Dyer & Dyer, patent solicitors, 31, Nassau-st., New York, N.Y.
Dyersburg City Electric, Water & Light Plant, Dyersburg, Tenn.

E. J. Electric Installation Co., electrical engineers, 13, East 30th-st., New York. (Telephone No. 3964, Mad.)
E. & M. Construction Co., installation contractors, 1012, Wood-st., Pittsburg, Pa.
E. M. F. Electric Co., installation contractors, Colorado Springs, Col.
Eager Electric Co., dynamo & motor manufacturers, Watertown, N.Y.
Eagle Electric Works, dynamos, 124, S. Jeffersen-ave., Peoria, Ill.
Eagle Electric Works, light & power, Washington, Ill.
Eagle Electrical Co., installation contractors, Elizabeth, N.J.
Eagle Paint & Varnish Co., makers of insulating varnish, Pittsburg, Pa.
Eagle-Mercer Electric Co., electrical engineers, 111–113, East 7th-st., Topeka, Kan.
Earl, M. A., consulting electrical engineer, First National Bank-bldg., Chicago, Ill.
East Aurora Electric Light Co., East Aurora, N.Y.
East Chicago Water & Light Co., East Chicago, Ind.
East Coast Electric Light, Power & Ice Co., West Palm Beach, Fla.
East Creek Electric Light & Power Co., East Creek, N.Y.
East Hampton Electric Light Co., East Hampton, Conn.
East Jersey Street Railway Co., Perth Amboy, N.J.
East Liverpool Light & Traction Co., The, East Liverpool, Ohio.
East Palestine Electric Light Works, East Palestine, Ohio.
East River Electric Co., Bluefield, W. Va.
East Saint Louis & Suburban Railway Co., East St. Louis, Ill.
Easterbrook, J. F., M.AM.I.E.E., consulting engineer, 82, York-sq., New Haven, Conn.
Eastern Carbon Works, carbon makers for electrical purposes, Jersey City, N.J.
Eastern District Messenger Co., electrical contractors, 153, Broadway, Brooklyn, N.Y.
Eastern Electric Cable & Wire Co., manufacturers of "Clark" insulated wires & cables, 61–63, Hampshire-st., Boston, Mass.
Eastern Electric Co., manufacturing electricians, 281, Franklin-st., Boston, Mass.
Eastern Electrical Supply Co., dealers in electrical supplies, 42, Vesey-st., New York.
Eastern Ohio Traction Co., Cleveland, Ohio.
Eastern Pennsylvania Railways Co., Lansford, Pa. H. C. Fritsch, superintendent.
Eastern Wisconsin Railway & Light Co., Fond du Lac, Wis.
Eastman, George Nial, A.AM.I.E.E., in charge of Testing Laboratory, Chicago Edison Co., 139, Adams-st., Chicago, Ill. (Telephone No. 1280, Main.)
Eastman Machine Co., makers of electric cloth cutting machines, Buffalo, N.Y.
Easton Power Co., Easton, Pa.
Easton Transit Co., Easton, Pa.
Eastport Electric Lighting Co., Eastport, Maine.
Eastwood, A. C., M.AM.I.E.E., vice-president, general manager & engineer, Electric Controller & Supply Co., Cleveland, Ohio.
Eaton, Chase & Co., contractors, constructors & dealers in electrical supplies, 3, Commerce-st., Norwich, Conn. (Telephone No. 117–2.)
Eaton Electric Light, Power & Ice Manufacturing Co., Eaton, Ohio.

Eaton & Prince Co., manufacturers of electric elevators, 74, Michigan-ave., Chicago, Ill.
Eaton, S. Edw., & Co., electrical construction & repairing, 660, Hudson-st., New York. (Telephone No. 18, Chelsea.)
Eau-Claire Lighting & Power Co., Eau-Claire, Wis.
Eck Dynamo & Motor Works, C. A. Eck, proprietor, manufacturers of electric fans & generators, Belleville, N.J.
Eckert, Gen. T. T., M.I.E.E., Western Union Telegraph Co., 195, Broadway, New York.
Ecklund, A. E., installation contractor, 3405, Bates-st., Pittsburg, Pa.
Eclipse Electrical Co., electrical engineers & electric supplies, 1124, Pine-st., St. Louis, Mo.
Eco Magneto Clock Co., watchman's recorders, Boston, Mass.
Economical Electric Lamp Co., manufacturers of regulating incandescent lamps, 96, Warren-st., New York.
Economy Electric Co., electrical contractors, 492, Pearl-st., Cleveland, Ohio.
Economy Electric Co., incandescent lamp manufacturers, Warren, Ohio.
Economy Electric Corporation, electrical manufacturers, South Bend, Ind.
Economy Light & Power Co., Joliet, Ill.
Eddy, A. H., electrochemical & mechanical engineer, Windsor, Conn. (Telephone No. 31-6.)
Eddy, C. M., electrical engineer & contractor, 819, Madison-ave., Toledo, Ohio. (Teleph. No. 1032.)
Edelkamp, John, electrical contractor, 266, West 41st-st., New York.
Eden, R. C., electrical inspector, Underwriters' Association of the Middle Department, 22, Clinton-st., Newark, N.J.
Edes Manufacturing Co., manufacturers of battery zincs, Plymouth, Mass.
Edgar, C. L., M.AM.I.E.E., general manager & chief engineer Edison Electric Illuminating Co., 70, State-st., Boston, Mass.
Edgar, Wm. B., electrical construction work, Fall River, Mass.
Edinburg Electric Light Plant, Edinburg, Ill.
Edison, Thos. A., M.I.E.E., M.AM.I.E.E., electrician & inventor, Orange, N.J.
Edison Decorative & Miniature Lamp Department, General Electric Co., Harrison, N.J.
Edison Electric Co., Los Angeles, Cal.
Edison Electric Construction Co., installation contractors, San Francisco, Cal.
Edison Electric Illuminating Co., Altoona, Pa.
Edison Electric Illuminating Co., Ashland, Pa.
Edison Electric Illuminating Co., Boston, Mass.
Edison Electric Illuminating Co. of Brockton, Brockton, Mass. (Teleph. No. 254.)
Edison Electric Illuminating Co. of Brooklyn, Edison-bldg., Brooklyn, N.Y.
Edison Electric Illuminating Co., Cumberland, Md.
Edison Electric Illuminating Co., Hazleton, Pa.
Edison Electric Illuminating Co., Lancaster, Pa.
Edison Electric Illuminating Co., Lebanon, Pa.
Edison Electric Illuminating Co., Mount Carmel, Pa.
Edison Electric Illuminating Co., Pottsville, Pa.
Edison Electric Illuminating Co., Sunbury, Pa.
Edison Electric Illuminating Co., Tamaqua, Pa.
Edison Electric Illuminating Co., West Chester, Pa. (Telephone No. 164.)
Edison Electric Illuminating Co., Williamsport, Pa.
Edison Electric Light Co., York, Pa.
Edison Electric Light & Power Co., Amsterdam, N.Y.
Edison Illuminating Co., Detroit, Mich.
Edison Lamp Works (General Electric Co.'s Incandescent Lamp Factory), Harrison, N.J.
Edison Manufacturing Co., makers of Edison Lalande batteries, medical appliances, & battery motors, 31, Union-sq., New York. (Telegrams: "Kurilian, New York.") Factory: Orange, New Jersey.
Edison Sault Electric Co., Saulte St. Marie, Mich.
Edison Storage Battery Co., storage batteries, Orange, N.J.
Edmands, Samuel Summer, A.AM.I.E.E., head inspector in applied electricity, department of science & technology, Pratt Institute, Brooklyn, N.Y.
Edmunds, E. T., electrical contractor, 178, Devonshire-st., Boston, Mass.
Edmunds Electric Co., electrical engineers & contractors, Schmitz-blk., 1019, Calhoun-st., Fort Wayne, Ind.
Edstrom, A., installation contractor, 1476, West Madison, Chicago, Ill.
Edwards, Clifton V., A.AM.I.E.E, solicitor of patents, 220, Broadway, New York.
Edwards, H. J., A.I.E.E., Dayton Motor Car Co., Dayton, Ohio.
Edwards, Jas. P., A.AM.I.E.E., assistant electrical engineer, Postal Telegraph Cable Co., Atlanta, Ga.
Edwards & Co., manufacturers of electric house furnishings, &c., 405, East 144th-st., New York. (Telegs.: "Buzzers, New York." Lieber Code. Teleph. Nos.: 8, Melrose; & 3175, Harlem.)

Edwards, W. S., Manufacturing Co., manufacturers & dealers of electric light fixtures, 21, Lake-st., Chicago, Ill.
Egan Electric Co., Inc., electrical supplies, 227, Elm-st., Dallas, Tex.
Egan Electric Massage Vibratory Co., medical manufacturing electricians, Petersbury, Ill.
Egbert, F. W., marine electrical engineer & contractor & dealer in electrical supplies, Tompkinsville, New York, N.Y.
Eglin, James Meikle, A.AM.I.E.E., chief of electric department, Edison Electric Light Co. of Philadelphia, 10th & Sansom-sts., Philadelphia, Pa.
Eglin, Wm. C. L., A.AM.I.E.E., engineer Incandescent Lighting Department, Philadelphia Electric Co., N.E. cor. 10th & Sansom-sts., Philadelphia, Pa. (Telephone No. 3-52-60.)
Ehrenreich, J. J., M.AM.I.E.E.. contracting electrical engineer, 503, 5th-ave., New York.
Eickemeyer & Osterheld Manufacturing Co., makers of machinery, machine tools & supplies, Yonkers, N.Y.
Eidlitz, Chas. L., electrical engineer & contractor, 1168, Broadway, New York.
Eimer & Amend, manufacturers & importers of chemical apparatus, corner 18th-st. & 3rd-ave., New York.
Eimer, R. G., Electric Co., electrical engineers, Alameda, Cal.
Einbigler & Adler, electricians, 56, New-st., New York, N.Y.
Ekstrand, C., A.AM.I.E.E., superintendent engineer, Brooklyn Co-operage Co., Kent-ave., Brooklyn, N.Y.
Ekström, Axel, A.M.I.E.E., consulting electrical engineer, Delaware & Hudson Co., Albany, N.Y.
El Reno Electric Light & Power Co., El Reno, Okl.
Elam, C. M., electrical contractor, (P.O. Box 514), Greenboro', N.C.
Elblight Co. of America, Elblight System, 53, West 24th-st., New York. (Telegrams: "Elblight, New York." Telephone No. 547, Madison.)
Elbridge Electrical Manufacturing Co., makers of the "Elbridge" line of ignition apparatus, Elbridge, N.Y. (Telegs.: "Electelb, Skaneateleşjunction.")
Elder, Herbert, installation contractor, 204, North 2nd-st., Harrisburg, Pa.
Eldred Manufacturing Co., makers of electrical specialties, Chicago, Ill.
Eldredge Electric Manufacturing Co., makers of electrical specialties, Springfield, Mass.
Eldridge, A. E., electrical contractor, 136, 9th-st., Pittsburg, Pa. (Telephone No. 602.)
Electric Appliance Co., dealers in electrical supplies, 111-121, Townsend-st., San Francisco, Cal.
Electric Appliance Co., general electrical supplies, 92, W. van Buren-st., Chicago, Ill.
Electric Appliance Manufacturing Co., manufacturing electricians, Easton, Pa.
Electric Auditing Co., consulting electrical engineers, Old South-bldg., Boston, Mass.
Electric Boat Co., 5, Nassau-st., New York.
Electric Club of Cleveland, The, Arcade-bldg., Cleveland, Ohio.
Electric Club of Pittsburg, Pittsburg, Pa.
Electric Co. of America, The, Philadelphia, Pa.
Electric Construction Co., installation contractors, Lebanon, Pa.
Electric Construction Co., installation contractors, Old South-bldg., Boston, Mass.
Electric Construction Co., dealers in electrical supplies, 111, Seneca-st., Seattle, Wash.
Electric Construction Co., installation contractors, 713, 14th-st., N.W., Washington, D.C.
Electric Construction Co., electrical engineers, St. Joseph, Mo.
Electric Construction Co. of New Jersey, 56, Montgomery-st., Jersey City, N.J.
Electric Construction Co. of Va., electrical engineers, Richmond, Va.
Electric Construction & Machinery Co., installation contractors, Moline, Ill.
Electric Construction & Machinery Co., Rock Island, Ill.
Electric Construction & Supply Co., installation contractors, Oswego, N.Y.
Electric Contract Co., portable electric lamp makers, 175, Grand-st., New York. (Telegrams: "Econtco, New York.")
Electric Contracting & Repairing Co., electrical engineers, 391, Myrtle-ave., Brooklyn, N.Y. (Teleph. No. 3907 L., Prospect.)
Electric Contracting & Supply Co., dealers in arc lamps, &c., 27, Thames-st., New York, N.Y.
Electric Controller & Supply Co., manufacturers of electric crane controllers, Cleveland, Ohio.
Electric Equipment Co., electrical contractors, 526, Court-st., Reading, Pa.
Electric Equipment Co., installation contractors, Erie, Pa.
Electric Goods Manufacturing Co., manufacturers of electrical supplies, 115, Purchase-st., Boston, Mass.
Electric Heat Regulator Co., Minneapolis, Minn.
Electric Installation & Equipment Co., installation contractors, 218, Grand-st., New York.
Electric Journal (ann. sub., United States, Canada & Mexico, $1.50; Foreign countries, $2.0 a year, payable in advance), Box 911, Pittsburg, Pa.
Electric Launch Co., electric launch builders, Bayonne, N.J. (Telegrams: "Eleclaunch.")
Electric Light Co., Manitowoc, Wis.
Electric Light Co., Ottawa, Ohio. (Teleph. No. 157.)
Electric Light Plant, Tomah, Wis.

Electric Light & Power Co., North Abington, Mass.
Electric Light & Power Co., Hightstown, N.J.
Electric Light & Water Works (Municipal), Chelsea, Mich.
Electric Lighting Co. of Mobile, Mobile, Ala.
Electric & Machine Construction Co., installation contractors, 6014, Center-ave., Pittsburg, Pa.
Electric Machinery Co., makers of dynamos, &c., 13th & 14th-aves., & Polk & Tyler-sts. N.E., Minneapolis, Minn. (Jas. T. Boustead, president & general superintendent; Chas. H. Chalmers, vice-president & general manager.)
Electric Motor & Equipment Co., manufacturing electricians, Newark, N.J.
Electric Motor Inspection & Repair Co., installation contractors, 34, Park-row, New York.
Electric Novelty & Appliance Co., installation contractors, Richmond, Va.
Electric Novelty Co., installation contractors, 43, Monroe-st., Memphis, Tenn.
Electric Porcelain & Manufacturing Co., Trenton, N.J.
Electric Power Co., Boise, Idaho.
Electric Power & Equipment Co., installation contractors, 219, West 125th-st., New York.
Electric Railway Equipment Co., manufacturers of wrought iron & steel tubular poles, 431, East Front-st., Cincinnati, Ohio. (Telegrams: "Equipment, Cincinnati." Telephone No. 2169, Main.)
Electric Railway, Light & Ice Co., Junction City, Kan.
Electric Railway & Manufacturers' Supply Co., Inc., dealers in electrical supplies, 619, Howard-st., San Francisco, Cal.
Electric Railway & Power Co. of Tiffin, Tiffin, Ohio.
Electric Railway Review (monthly; ann. sub., U.S., $1; foreign, $3). L. E. Gould, editor, 1660, Monadnock-bldg., Chicago, Ill. (Telegs.: "Railage, Chicago." W.W. Code. Teleph. Nos.: 27, Harrison; & 2268, Automatic.)
Electric Service Co., installation contractors, South Bend, Ind.
Electric Service Supplies Co., dealers in electric street railway supplies, 1020, Filbert-st., Philadelphia (Telegs.: "Maylundt"); 303, Dearborn-st., Chicago (Telegs.: "Wilmax"); Keokuk, Iowa. (Telegs.: "Gardaric").
Electric & Steam Engineering Co., consulting electrical engineers, Chemical-bldg., St. Louis, Mo.
Electric Storage Battery Co., The, makers of the Chloride Accumulator, 19th-st. & Allegheny-ave., Philadelphia, Pa. (Telegrams: "Chloride, Philadelphia.")
Electric Storage Supply Co., storage battery renting, installing & repairing, 78, Stanhope & Trinity-pl., Boston, Mass.
Electric Street Railway Co., Clarksville, Tenn.
Electric Supply & Battery Co., manufacturers of storage batteries, electric supply dealers & contractors, 7510, Woodland-ave., S.E., Cleveland, Ohio.
Electric Supply Co., installation contractors, 348, North Calvert-st., Baltimore, Md.
Electric Supply Co., installation contractors, Charleston, S.C.
Electric Supply Co., dealers in electrical apparatus & supplies, Memphis, Tenn. (Teleph. No. 1600.)
Electric Supply Co., Marietta, Ohio.
Electric Supply Co., dealers in electrical supplies, 40, Drayton-st., Savannah, Ga.
Electric Supply Co., manufacturers of & dealers in electrical supplies, 410, Neb.-st., Sioux City, Iowa. (Teleph. No. 1700.)
Electric Supply Co., supplies & electrical contractors, Tacoma, Wash.
Electric Supply & Construction Co., installation contractors, Knoxville, Tenn.
Electric Supply & Construction Co., 80, East Gay-st., Columbus, Ohio. (Teleph. Nos.: 3183, City; & 1183, Bell.)
Electric Supply & Construction Co., installation contractors, West Park-st., Franklin, Pa.
Electric Supply & Construction Co., installation contractors, 317, Joplin-st., Joplin, Mo.
Electric Supply & Fixture Co., installation contractors, Decatur, Ill.
Electric Supply & Fixture Co., dealers in electrical supplies & fixtures, Pasadena, Cal.
Electric Supply & Plumbing Co., installation contractors, Lake City, Fla.
Electric Therapeutic Appliance Co., Cleveland, Ohio.
Electric & Train Lighting Syndicate, Ltd., Montreal, Canada.
Electric Utilities Co., makers of telephones, 310, Mott-ave., New York.
Electric Vehicle Co., makers of electric vehicles, Hartford, Conn.
Electric Ventilating Co., electric fan makers, 221, East Kinzie-st., Chicago, Ill.
Electric & Water Co., Grand Rapids, Wis.
Electric Wiring & Repairing Co., electrical contractors, 49, Beaufort-st., Providence, R.I.
Electric Works, municipal electric light plant, South Norwalk, Conn. (Telephone No. 24.) J. A. Volk, president; C. N. Smith, secretary; A. E. Winchester, general superintendent.
Electrical Age, The (monthly; Foreign, P.U., $3.75 per annum; U.S., $2.50), 3, West 29th-st., New York.
Electrical Apparatus Co., manufacturing electricians, Elbridge, N.Y.
Electrical Appliance Co., manufacturing electricians, Cincinnati, Ohio.

Electrical Appliance Co., installation contractors, Portland, Ore.
Electrical Appliance Manufacturing Co., manufacturers of electrical devices, 19, Buckingham-avenue, Waterbury, Conn. (Telephone No. 317-3.)
Electrical Constructing Co., installation contractors, 131, East Long-st., Columbus, Ohio.
Electrical Construction Co., installation contractors, 312, West 6th-st., Los Angeles, Cal.
Electrical Construction Co., installation contractors, 423, Richmond-ter., New Brighton, N.Y.
Electrical Construction Co., electrical contractors, 120, Miami-ave., Detroit, Mich.
Electrical Construction Co., electrical engineers, 117, West 4th-st., Little Rock, Ark.
Electrical Construction Co., electrolier manufacturers & fitters, Y. M. C. A.-blk., 322, 6th-st., Racine, Wis. (Telegs.: "Electroconstruct, Racine." Bell Teleph. No. 16.)
Electrical Construction & Manufacturing Co., installation contractors, 25, 3rd-ave., New York.
Electrical Construction & Supply Co., installation contractors, Alton, Ill.
Electrical Contractors' Association of Rochester, N.Y., 416, Wilder-bldg., Rochester, N.Y.
Electrical Engineer Institute of Correspondence Instruction, 240-242, West 23rd-st., New York. Joseph Wetzler, M.E., E.E., president.
Electrical Engineering Co., dealers in incandescent lamps, supplies, &c., 21, North 6th-st., Minneapolis, Minn. (Teleph. No. 1722.)
Electrical Engineering Co., 112, Marion-st., Seattle, Wash. (Telephone Nos. 38, Sunset Union & Independent.)
Electrical Engineering Co., installation contractors, 125, West Mohawk-st., Buffalo, N.Y.
Electrical Engineering & Supply Co., installation contractors, Mobile, Ala.
Electrical Equipment Co., electrical engineers, contractors & supplies, 1039, North-st., Lincoln, Neb. (Telephone No. 3811, Aut.)
Electrical Equipment & Supply Co., electrical engineers, 341, 2nd-ave., Pittsburg, Pa.
Electrical Installation Co., electric railway construction & equipment, 1517, Monadnock-bldg., Chicago Ill. (Telegrams: "Plant, Chicago." Telephone No. 1219, Harrison.)
Electrical Machinery & Specialty Co., dealers in electric machinery, 204, 206 & 208, Franklin-ave., St. Louis, Mo. (Telephone Nos.: 1828, Bell, Main; Kinloch A 743.)
Electrical Maintenance Co., 149, Pearl-st., Boston, Mass.
Electrical Maintenance & Repair Co., installation contractors, 200-202, Market-st., Newark, N.J. (Teleph. No. 3494.)
Electrical Manufacturers' Export Co., 42, Broadway, New York.
Electrical Manufacturing Co., Incorp., manufacturers & dealers in electrical supplies, 2, Court-pl., Cleveland, Ohio.
Electrical Material Co., dealers in electrical supplies, 221, North Calvert-st., Baltimore, Md.
Electrical Material & Construction Co., installation contractors, 115, East Van Buren-st., Chicago, Ill.
Electrical Repair & Construction Co., manufacturers of motors & plating machines, 2060, 4th-st., Cleveland, Ohio.
Electrical Review (weekly; ann. sub., U.S. and Canada, $3; foreign, $5), published at 13, Park Row, New York. (Telegrams: "Electview, New York." Telephone No. 21, Cort.)
Electrical Supply Co., installation contractors, Sacramento, Cal.
Electrical Supply Co., dealers in electrical supplies, 131-141, Francis-st., Madison, Wis.
Electrical Supply Co., dealers in electrical supplies, Saginaw, Mich.
Electrical Supply & Construction Co., electrical supplies, 1522, Stout-st., Denver, Col.
Electrical Supply & Construction Co., electrical contractors, Jacksonville, Fla.
Electrical Supply & Construction Co., installation contractors, Wilmington, N.C.
Electrical Supply & Construction Co., electrical supplies & fixtures, 287 & 291, West Federal-st., Youngstown, Ohio.
Electrical Supply & Manufacturing Co., installation contractors, Scranton, Pa.
Electrical Testing Laboratories, electrical testing engineers, 80th-st. & East End-ave., New York. (Teleph. No. 5513, 79th-st.)
Electrical Trades Association, 804, Drexel-bldg., Philadelphia, Pa.
Electrical World (weekly; ann. sub., U.S. $3, P.U. $6), 114, Liberty-st., New York, N.Y. (Telegs.: "Electrical, New York.") J. M. Wakeman, president & general manager; T. C. Martin & W. D. Weaver, editors; A. C. Boughton, secretary. A. C. Shaw, Hastings House, London, European manager.
Electrician Publishing Co. (W. A. Kreidler, president), publishers of the *Western Electrician* & electrical books, Suite 507, Marquette-bldg., Chicago, Ill. (Teleph. No. 1746, Main.)
Electrochemical & Metallurgical Industry (monthly), 114-118, Liberty-st., New York (E. F. Roeber, PH.D., editor). (Ann sub., P.U. 9s.)
Electro-Construction Co., installation contractors, Arcade-bldg., Philadelphia, Pa.
Electrocraft (ann. sub., $1), Electrocraft Publishing Co., Detroit, Mich.
Electro-Dynamic Co., manufacturers of dynamos & motors, Bayonne, N.J. (Telegrams: "Edco-Bayonne.")
Electro Mechanical Co., installation contractors, 132, Prince-st., New York.

Electrose Manufacturing Co., manufacturers of hard rubber substitutes & other insulating materials, 127, North 10th-st., Brooklyn, N.Y.

Electro Sign Co., installation contractors, 182, Dearborn-st., Chicago, Ill.

Electro Surgical Instrument Co., makers of electrically lighted surgical instruments & electro-therapeutic appliances, Rochester, N.Y. (Telegs.: "Esico, Rochester.")

Electro-Therapeutic Manufacturing Co., electro-medical apparatus, 26, West Maryland-st., Indianapolis, Ind.

Electro-Therapeutist (ann. sub., U.S., $1.00; Foreign, $1.25), Lima, Ohio. (H. C. Bennett, M.D., M.E., editor.)

Elektron Manufacturing Co., manufacturers of electric elevators, electric motors, dynamos, &c., 60, Wilbraham-rd., Springfield, Mass. (Telephone No. 216); & 156, 5th-ave., New York.

Elevator Supply & Repair Co. (S. D. Collett, vice-president & Eastern manager), 136, Liberty-st., New York.

Elevator Supply & Repair Co., 76, West Monroe-st., Chicago, Ill.

Elgin Aurora & Southern Traction Co., Elgin, Ill.

Eline, J. Frank, & Co., dealers in electrical supplies, 110, East Baltimore-st., Baltimore, Md.

Elizabeth City Electric Light & Power Co., Elizabeth City, N.C.

Elizabeth, Plainfield & Central Jersey Street Railway Co., Elizabeth, N.J.

Elizabeth & Raritan River Street Railway Co., New Brunswick, N.J.

Elizabethtown & Marietta Electric Light Co., Marietta, Pa.

Elkhart Electric Co., Elkhart, Ind.

Ellensburgh City Electric Plant, Ellensburgh, Wash.

Ellinger, Edgar, A.AM.I.E.E., electrical engineer, George A. Fuller Co., 114, Liberty-st., New York.

Elliott, S. K., electrical machinery, 322–324, Champlain-ave. N.W., Cleveland, Ohio.

Elliott Bros. Electric Co., manufacturers of armature & field coils, dynamo repairing, 970, Hamilton-st., Cleveland, Ohio.

Elliott-Leach Co., electrolier manufacturers & fitters, 143, Grand River-ave., Detroit, Mich. Indianapolis, Ind. (New Telephone No. 1026.)

Elliott Telephone & Electric Co., The, manufacturers of telephones, supplies, &c., 518–520, Mass-ave.,

Ellis, A. L., installation contractor, 269, Dearborn-st., Chicago, Ill.

Ellison, Wm., & Sons' Manufacturing Co., manufacturers of dynamos without revolving armatures, 1018, North 6th-st., St. Louis, Mo.

Ellsworth Heat, Light & Power Co., Ellsworth, Wis.

Ellwood Ivins Tube Works, platinum merchants, 487, Broadway, New York.

Elm City Engineering Co., installation contractors, New Haven, Conn.

Elmer, Wm., jun., A.AM.I.E.E., Altoona Machine Shop, Altoona, Pa.

Elmhurst Electric Light & Power Co., Elmhurst, Ill.

Elmira Electric Works, manufacturing electricians, Elmira, N.Y.

Elmira Water, Light & Railroad Co., Elmira, N.Y.

Elmwood Electric Light Co., Elmwood, Ill.

El Paso Electric Railway Co., El Paso, Tex.

El Paso Electrical Supply Co., electrical contractors, El Paso, Tex. (Telephone No. 335.)

El Paso Gas, Electric Light & Power Co., El Paso, Tex.

Elvington, F. A., installation contractor, Wabash, Ind.

Elwell, W. P., installation contractor, 36, Main-st., Peabody, Mass. (Teleph. No. 35-2, Con.)

Elwell-Parker Electric Co. of America, dynamo & motor makers, 4222, Hamilton-ave., Cleveland, Ohio. (Telegrams: "Lwellparker, Cleveland.")

Elwood Electric Light Co., Elwood, Ind.

Ely, Wm. Grosvenor, jun., A.AM.I.E.E., assistant superintendent of construction, General Electric Co., Schenectady, N.Y.

Emergency Electrical Contracting Co., installation contractors, 37, Wiloby-st., Brooklyn, N.Y.

Emerick, Louis W., A.AM.I.E.E., general manager, Fulton Light, Heat & Power Co., Fulton, N.Y.

Emerson, Harrington, counselling engineer, 12, West 31st-st., New York.

Emerson Electric Light Co., Encampment, Wyo.

Emerson Electric Manufacturing Co., manufacturers of direct & alternating current motors & fans, 21st-st. & Washington-ave., St. Louis, Mo. (Telegs.: "Emelec, St. Louis.")

Emery, I. C., manufacturing electrician, Rochester, N.Y.

Emmet, W. L. R., electrical engineer, General Electric Co., Schenectady, New York.

Emmetsburg Electric Light, Heat & Power Co., Emmetsburg, Iowa.

Emmous Electric Construction Co., installation contractors, 84, La Salle-st., Chicago, Ill.

Empire China Works, electrical specialties, 156, Green-st., Brooklyn, N.Y.

Empire Electric Co., installation contractors, 1317, 2nd-ave., New York.

Empire Electric Sign Co. (W. N. McComb, manager), electric sign manufacturers, 162–164, East 118th-st., New York, N.Y.

Empire State Dry Battery Co., dry batteries makers, 55, Dey-st., New York.

Empire State Power Co., Amsterdam, N.Y.

Empire State Telephone & Telegraph Co., Auburn, N.Y.
Emporia City Electric Light & Power Plant, Emporia, Kan.
Enfield Electric Light & Power Co., Thompsonville, Conn.
Engberg's Electric & Mechanical Works, manufacturing electricians, St. Joseph, Mich.
Engelhardt Electric Co., installation contractors, 172, Fox-st., Buffalo, N.Y.
Engineer (semi-monthly), 355, Dearborn-st., Chicago, Ill. (Telephone No. 824, Harrison.)
Engineering Co. of America, electrical engineers, 11, Broadway, New York; Boston-bldg., Denver, Col.; Chicago, Ill.; Charlotte, N.C.; Baltimore, Md.; & Boston, Mass.
Engineering & Equipment Co., electric conveying machinery & specialties, 407, 7th-ave., Pittsburg, Pa.
Engineering Magazine, 140, 142, Nassau-st., New York.
Engineering & Mining Journal (weekly; price $5; P.U., $8.00 per annum), & "The Mineral Industry" (annually), 505, Pearl-st., New York; & 20, Bucklersbury, London, E.C.
Engineering Record (weekly), 114, Liberty-st., New York. (Ann. sub., $3.00; P.U., $6.00.)
Engineers' Club of Philadelphia, 1122, Girard-st., Philadelphia, Pa.
Engineers' Review (monthly; ann. sub. U.S. & Canada, $1·00., P.O., $1·50.) Caxton-bldg., Cleveland, O.
Engstrom, Axel H., consulting engineer, Bullitt-bldg., Philadelphia, Pa.
Enid Electric & Gas Co., Enid, Okla. Ter.
Enos Co., electric & gas fixtures, 5, West 39th-st., New York, N.Y. (Teleph. No. 1533, Chelsea.)
Enterprise Electric Co., installation contractors, 194, West Broadway, New York.
Enterprise Electric Light, Heat & Power Co., Garner, Iowa.
Enterprise Electrical Co., electrical contractors, 1225, Euclid-ave., Cleveland, Ohio.
Enterprise Electrical Co., installation contractors, Middletown, N.Y.
Enterprise Manufacturing Co., electrical machinery manufacturers, Philadelphia, Pa.
Enterprise Power Co., Clifton, Ariz.
Entrekin, S. W., installation contractor, 1226, Oxford-st., Philadelphia, Pa.
Entz, Justus B., A.AM.I.E.E., consulting electrical engineer, Electric Storage Battery Co., 19th-st. & Allegheny-ave., Philadelphia, Pa.
Eppinger & Russell Co., manufacturers of wooden underground conduits, Long Island City, N.Y.
Equitable Electric Co., installation contractors, 1808, Belle Glade, St. Louis, Mo.
Erben, H. F. T., A.AM.I.E.E., designing engineer, General Electric Co., Schenectady, N.Y.
Erdman, H. H., installation contractor, Ridgway, Pa.
Erickson Electric Equipment Co., installation contractors, 117, West 28th-st., New York.
Erickson Electric Equipment Co., Inc., elec. engineers & contractors, 280, Devonshire-st., Boston, Mass.
Erickson-Wyman Co., electric lift makers, Seattle, Wash.
Erie, Cambridge Union & Corry Railway Co., Erie, Pa.
Erie City Iron Works, builders of steam engines & boilers for electrical purposes, Erie, Pa. (Telegrams: "Selden, Erie.")
Erie County Electric Co., The, electric light contractors, Erie, Pa.
Erie Electric Motor Co., electric machinery makers, Erie, Pa.
Erie Rapid Transit Street Railway Co., Erie, Pa.
Erie Traction Co., Erie, Pa.
Erikson Electric Co., installation contractors, 280, Devonshire-st., Boston, Mass.
Erner Electric Co., dealers & contractors, 62, Public-sq., Cleveland, Ohio.
Erner & Hopkins Co., electrical engineers, 162 & 164, North 3rd-st., Columbus, Ohio.
Escanaba Electric Street Railway Co., Escanaba, Mich.
Eskew, O. E., & Co., electrical engineers & contractors, Asbury-park, N.J.
Essex Electrical Co., manufacturing electricians, 14th-ave. & Bergen-st., Newark, N.J.
Esterline, J. W., A.AM.I.E.E., asst. prof. of electrical engineering, Purdue University, Lafayette, Ind.
Esty, William, M.AM.I.E.E., professor of electrical engineering, Lehigh University, South Bethlehem, Pa.
Etheridge, Locke, M.E., A.AM.I.E.E., electrical engineer, 427, Monadnock-blk., Chicago, Ill. (Telephone No. 1428, Gray.)
Euclid Avenue Electrical Co., dealers in electrical supplies, 1213, Euclid-ave., Cleveland, Ohio.
Eufaula Gas, Electric Light & Power Co., Eufaula, Ala.
Eureka Electric Co., telephone apparatus, Genoa, Ill.
Eureka Electric Co., electrical supplies, Pittsfield, Mass.
Eureka Electrical Construction Co., installation contractors, 1374, Montezuma, Pittsburg, Pa.
Eureka Electrical Engineering & Supply Co., installation contractors, Altoona, Pa.
Eureka Tempered Copper Works, manufacturers of commutators, commutator segments, North East, Pa.
Eutaw Water Works, Electric & Power Co., Eutaw, Ala.
Evans, Wm., electrical engineer & contractor & dealer in electrical supplies, Phœnix, Arizona.
Evans, Almirall & Co., contractors for electric light plants, 281, Water-st., New York, N.Y.
Evans Electric Co., 301, Park-bldg., Pittsburg, Pa. (Bell Telephone No. 262, Grant.)
Evans, G. T., & Co., electrical contractors, 115, 9th-st., Pittsburg, Pa. (Teleph. No. 2102, Grant.)
Evans Marble Co., slate for switchboards, Baltimore, Md.
Evanston Electric Light Co., Evanston, Wyo.

Evansville Electric Railway Co., Evansville, Ind.
Evansville Gas & Electric Light Co., Evansville, Ind.
Evansville & Princeton Traction Co., 230, West Broadway, Princeton, Ind.
Everett Railway & Electric Light Co., Everett, Wash.
Everit, Edward Hotchkiss, A.AM.I.E.E., engineer, So. N. E. Telephone Co., New Haven, Conn.
Ewing-Merkle Electric Co., electrical apparatus & supplies, 1106, Pine-st., St. Louis, Mo.
Excello Arc Lamp Co., The, arc lamp manufacturers, 24, East 21st-st., New York.
Excelsior Electric Maintenance Co., installation contractors, 162, West 29th-st., New York.
Excelsior Electrical & Manufacturing Co., electrical engineers, Masonic Temple, Cleveland, Ohio.
Exeter, Hampton & Amesbury Street Railway, Exeter, N.H.
Eyanson, George T., Co., Inc., manufacturers of switches, fuses, &c., Commerce-st., cor. 7th-st., Philadelphia, Pa.
Eyges, Charles, installation contractor, 14, Ashland-st., Boston, Mass.
Eyre, M. K., A.AM.I.E.E., Buckeye Electric Co., Cleveland, Ohio.

Fahnestock Electric Co., makers of telephone transmitters & apparatus, 129, Patchen-ave., Brooklyn, N.Y.
Fairbanks, Morse & Co., dynamos, motors, steam-engines, gas & gasoline engines, steam pumps, friction clutches, &c., Chicago, Ill. (Telegrams: "Eclipse, Chicago.")
Fairfield Gas & Electric Co., Fairfield, Iowa.
Fairhaven Electric Co., Fairhaven, Vt.
Fairhaven Marble & Marbleized Slate Co., electric slate, Fairhaven, Vt.
Fairmont & Clarksburg Traction Co., Fairmont, W. Va.
Fairmount Park Transportation Co., Philadelphia, Pa.
Fajans, Isidor, electrical contractor, 54, Lexington-ave., New York. (Teleph. No. 586, Mad.-sq.)
Falkenau Construction Co., electrical contractors, 106, La Salle-st., Chicago, Ill.
Fall Mountain Electric Light & Power Co., Bellows Falls, Vt.
Fall River Electric Light Co., Fall River, Mass.
Fallek, Henry, electrical contractor, 247, Atlantic-ave., Brooklyn, N.Y. (Teleph. No. 2474, Main.)
Faller Automatic Telephone Exchange Co. of New York, makers of telephone apparatus, 48, Exchange, New York.
Falvy-Wilson Co., electrolier manufacturers & fitters, New Orleans, La.
Faraday Heat, Power & Light Co., Morton, Pa.
Fargo, C. E., installation contractor, 1516, St. Clair, Cleveland, Ohio.
Fargo & Moorhead Street Railway Co., Fargo, N.D.
Faribault Gas & Electric Co., Faribault, Minn.
Faries Manufacturing Co., electrolier manufacturers & fitters, Decatur, Ill.
Farmer, F. M., A.AM.I.E.E., Lamp Testing Bureau, 80th-st. & East End-ave., New York.
Farmington Electric Co., Farmington, Maine.
Farmington River Power Co., Hartford, Conn.
Farmington Street Railway Co., The, Hartford, Conn.
Farnham Co., installation contractors, 140, Dearborn-st., Chicago, Ill. (Telegs.: "Mahnraf, Chicago." Teleph. Nos.: 5542, Central; & 1343, Automatic.)
Farnsworth Electrical Works, manufacturing electricians, 612, Mission-st., San Francisco, Cal.
Farr Telephone & Construction Supply Co., manufacturers of telephones & telephone supplies, 118–120, West Jackson-boul., Chicago, Ill.
Farrand, Dudley, A.AM.I.E.E., general manager Electric Department, Public Service Corporation of N.J., 207, Market-st., Newark, N.J.
Farrell, John, electrician, New Rochelle, N.Y.
Farrell, Martin E., electrical engineer, 9, Robinson-st., Allegheny, Pa.
Farrell, J. S., & Co., electrolier manufacturers & fitters, 332, North Illinois-st., Indianapolis, Ind.
Farrell Light, Heat & Water Co., Brinkley, Ark.
Farrell, M. J., & Son, electrical contractors, 111, 4th-ave., Pittsburg, Pa.
Fastnacht, W. E., installation contractor & city electrician, 276, West Market-st., York, Pa.
Favor, Sidney S., electrical contractor & supply dealer, Gloucester, Mass.
Fawcett, C. E., electrical engineer & contractor, dealer in apparatus & supplies, Cedar Rapids, Iowa.
Fay, J. T., electrical engineer & contractor, Louisville, Ky.
Fay, J. A., & Egan Co., builders of improved wood working machinery for all kinds of work, Cincinnati, Ohio. (Telegrams: "Egan, Cincinnati.")
Federal Electric Co., electric signs, Lake & Desplaines-sts., Chicago, Ill.
Federal Electric Co., makers of electrical supplies, 141–145, Broadway, New York. (Telegrams: "Federalmo, New York." Teleph. Nos. 1881 & 1882, Cort.)
Federal Electric Co., manufacturers of generators & motors, North Girard, Pa.
Feger Electric Co., electrical supplies, Peoria, Ill.

Felch, E. P., electrical engineer, Madison, N.J.
Felkin, A. C. & M. L., Co., installation contractors, 4, India-sq., Boston, Mass.
Fergus Electric Co., dealers in electrical supplies, Zanesville, Ohio.
Fergus, W. L., & Co., consulting electrical engineers, Fisher-bldg., Chicago, Ill.
Ferguson, L. A., M.AM.I.E.E., Chicago Edison & Commonwealth Electric Co., 139, Adams-st., Chicago, Ill.
Ferguson, Samuel, A.AM.I.E.E., engineer, General Electric Co., Schenectady, N.Y.
Fernandina City Electric Light Plant, Fernandina, Fla.
Ferracute Machine Co., manufacturers of Presses, Dies & other sheet metal tools, Bridgeton, N.J. (Telegs.: "Ferracute, Bridgeton." Long Distance Teleph. No. 234.) Lieber's Code used.
Ferrin, A. W., A.AM.I.E.E., chief electrician, American Locomotive Co., Schenectady, N.Y.
Ferris, R. M., jun., M.AM.I.E.E., Engineering Department, New York & New Jersey Telephone Co., Brooklyn, N.Y.
Ferris & Salisbury, electricians, 54, North Main-st., Providence, R.I.
Fessenden, Reginald A., M.AM.I.E.E., Norfolk, Va.
Fidelity Electric Co., dynamo & motor makers, Lancaster, Pa.
Field, A. B., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Field, C. J., electrical engineer & contractor, 78, Wall-st., New York.
Field, Henry George, M.AM.I.E.E., consulting electrical engineer, Washington Arcade, Detroit, Mich.
Field, S. D., M.I.E.E., M.AM.I.E.E., electrical engineer, Stockbridge, Mass.
Field Electric Light Co., Morris, Ill.
Field, Hinchman & Smith, consulting electricians, Washington Arcade-bldg., Detroit, Mich.
Fielding, Frank E., A.AM.I.E.E., electrician, chemist & assayer, Virginia City, Nev.
Filer & Stowell Co., engines for electric work, Milwaukee, Wisconsin.
Finch, Geo. W., electrical contractor, Escanaba, Mich.
Finch, H. I., M.AM.I.E.E., superintendent, Emerson Electric Manufacturing Co., St. Louis, Mo. (Telegs.: "Emelec, St. Louis." Teleph. No. 250, Bomont.)
Finch & Hahn, electrical supplies, 504, State-st., Schenectady, N.Y.
Findlay, Robert, Manufacturing Co., electrolier manufacturers & fitters, 349, Adams-st., Brooklyn, N.Y.
Finkelstein, M. F., electrical contractor, 153, Canal-st., New York. (Telephone No. 1760, Franklin.)
Finn, John J., electrician, 326, Broadway, New York.
Finsen Light Institute of America, Washington-boul. & Hamlin-ave., Chicago, Ill.
Firth, Wm. Edg., A.AM.I.E.E., chief engineer, Midvale Steel Co., Nicetown, Philadelphia, Pa.
Fischer Special Manufacturing Co., jump spark coils & plugs, Cincinnati, Ohio.
Fish, F. A., A.AM.I.E.E., consulting electrical engineer, associate professor in electrical engineering, Ames, Iowa.
Fish, Frederick P., A.AM.I.E.E., president American Telephone & Telegraph Co., 125, Milk-st., Boston, Mass.
Fish, W. C., M.AM.I.E.E., A.I.E.E., c/o General Electric Co., Lynn, Mass.
Fish & Horton Co., electrical engineers & contractors, 123, Mill-st., Rochester, N.Y. (Teleph. No. 951.)
Fisher, Henry W., M.AM.I.E.E., supt. & electrical engineer, Standard Underground Cable Co., Pittsburg, Pa. (Telephone No. 2115, Grant.)
Fisher Electric Co., installation contractors, Toledo, Ohio.
Fisher Electrical Works, dynamos & motors, 183, West Larned-st., Detroit, Mich.
Fisher, John A., & Sons, electrical contractors, 1046, Madison-ave., Covington, Ky.
Fisher's Island Electric Light, Heat & Power Co., Fisher's Island, N.Y.
Fishkill Electric Railway Co., Fishkill, N.Y.
Fishkill Landing Machine Co., builders of improved Fishkill-Corliss steam engines, Fishkill-on-Hudson, N.Y. (Telephone No. 16 L.)
Fitchburg Gas & Electric Light Co., Fitchburg, Mass.
Fitchburg & Leominster Street Railway Co., Fitchburg, Mass.
Fitchburg Steam Engine Co., manufacturers of high & low speed engines, Fitchburg, Mass.
Fitts, Frank E., Manufacturing & Supply Co., dealers in electrical supplies & sundries, 88, Purchase-st., Boston, Mass. (Telegrams: "Fitts, Boston." Telephone No. 721, Main.)
Fitzhugh, Wm. H., A.M.AM.I.E.E., superintendent Bay City Electric Plant, Bay City, Mich.
Fitzpatrick, P. C., dealers in electrical supplies, 137, Bridge-st., Springfield, Mass.
Flack, J. Day, M.AM.I.E.E, engineer, Crooker Wheeler Hunt Co., West New Brighton, N.Y.
Flagg, Stanley G., & Co., manufacturers of electrical insulators, Philadelphia, Pa. (Telegrams: "Fittings, Philadelphia.")
Flatbush Electric Co., installation contractors, 722, Coney Island-ave., Brooklyn, N.Y.
Flather, John J., A.AM.I.E.E., professor of mechanical engineering, University of Minnesota, Minneapolis, Minn.
Fleck, M. F., electrical engineer, 101, Beekman-st., New York.
Fleming, Henry S., consulting electrical engineer, 1, Broadway, New York.
Fleming, Richard, A.AM.I.E.E., engineer, General Electric Co., Lynn, Mass.
Fleming Electric Co., installation contractors, 408, North Greene-st., Baltimore, Md.

Fleming Slate Co., slate manufacturers, Poultney, Vt.
Flemington Electric Light, Heat & Power Co., Flemington, N.J.
Flemming, Otto, manufacturer of electro-medical instruments, 1025, Arch-st., Philadelphia, Pa.
Fleron, C. A., installation contractor, 95, Van Houten-st., Paterson, N.J.
Fleron, M. M., & Son, installation contractors, Taylor Opera House-bldg., Trenton, N.J.
Fletcher, G. W., A.AM.I.E.E., assistant engineer, Hadaway Engineering Co., 107, Liberty-st., New York.
Fletcher Manufacturing Co., manufacturers of J. R. Fletcher's electrical specialties, Dayton, Ohio. (Telegs.: "Fletcher, Dayton, Ohio.")
Fletcher, P. M., Co., dealers in electrical supplies, 32, Frankfort-st., New York.
Fliess, R. A., M.AM.I.E.E., electrical engineer, 44, Chestnut-st., East Orange, N.J.
Flint-Lomax Electric & Manufacturing Co., manufacturers of electrical supplies, 1400–1412, Delgany-st., Denver, Col. (Telegrams: "Flintlo, Denver, Colo." Western Union Code. Telephone No. 519, Main.)
Flitner, S. E., superintendent Cooper-Hewitt Electric Co., 220, West 29th-st., New York.
Flock & Co., installation contractors, 64, St. Francis-st., Mobile, Ala.
Flood, J. F., electrician, superintendent, Steubenville Traction & Light Co., Steubenville, Ohio. (Telephone Bell No. 466 R.)
Florence Imperiale & Manufacturing Co., Florence, S.C.
Florida Electric Co., electrical supplies & construction, Jacksonville, Fla. (J. L. Roe, president.) (Local Telephone No. 674; Long Distance Telephone No. 674.)
Floy, Henry, A.AM.I.E.E., installation contractor, 220, Broadway, New York.
Flucker & Keedwell, installation contractors, 503, 5th-ave., New York, N.Y.
Flushing Electric Light & Water Works, Flushing, Mich.
Fobes Supply Co., dealers in electrical supplies, Seattle, Wash.
Fog, Carl F., A.AM.I.E.E., electrician, General Electric Co., Lynn, Mass.
Fonda, Johnstown & Gloversville Rail Road Co., Gloversville, N.Y.
Foos Gas Engine Co., makers of gas & gasoline engines, Springfield, Ohio.
Foote, Pierson & Co., manufacturers of telegraph, electrical & scientific apparatus, 82, Fulton-st., New York. (Telegrams: "Footpirson, New York." Telephone No. 576, John, New York.)
Forbes, Howard C., consulting electrical engineer, 4, State-st., Boston, Mass.
Forbes, W. D., & Co., electric light engine builders, 1300, Hudson-st., Hoboken, N.J. (Telegrams: "Forbesgun, Hoboken.")
Force Contracting Co., installation contractors, 107, 10th-st., Hoboken, N.J. (Teleph. No. 230w, Hoboken.)
Ford, A. H., E.E., M.AM.I.E.E., professor of electrical engineering, University of Iowa, Iowa City, Iowa.
Ford, Edward S., installation contractor, 48, Wade-bldg., Cleveland, Ohio.
Ford, Owen, consulting & supervising engineer, 710, Security-bldg., St. Louis, Mo. (Bell Telephone Nos.: 119, Main; & 1745, Forest.)
Ford, Wm. S., A.AM.I.E.E., American Telephone & Telegraph Co., 4, Howard-st., Boston, Mass.
Ford, Bacon & Davis, consulting electrical engineers, 24, Broad-st., New York.
Ford Gas Regulator & Electric Co., electrolier manufacturers & fitters, 334, 17th-st., Denver, Col.
Ford Oliver Electric & Manufacturing Co., manufacturing electricians, Compton-ave. & Papin-st., St. Louis, Mo.
Foreman Bros., installation contractors, Paducah, Ky.
Forest City Electric Co., manufacturers of commutator bars & rail bonds, 111, Windsor-ave., Cleveland, Ohio. (Telegrams: "Rolldrop, Cleveland.")
Forest City Electric Light & Power Co., Forest City, Iowa.
Forsyth, J. C., M.AM.I.E.E., chief inspector, Electrical Department, 32, Nassau-st., New York.
Fort Atkinson Water & Light Commission, Fort Atkinson, Wis.
Fort Dodge Electric Light & Power Co., Fort Dodge, Iowa.
Fort Madison Electric Light Co., Fort Madison, Iowa.
Fort Madison Street Railway Co., Fort Madison, Iowa.
Fort Plain Gas & Electric Light, Heat & Power Co., Fort Plain, N.Y.
Fort Scott Gas & Electric Co., Fort Scott, Kan.
Fort Smith Light & Traction Co., Fort Smith, Ark.
Fort Wayne Electric Works, manufacturers of Wood arc & alternating lighting apparatus; also power generators, motors & general electric supplies, &c., Fort Wayne, Ind. (Telegrams: "Woodarc, Fort Wayne.") Branches: Philadelphia & Pittsburg, Pa.; Chicago, Ill.; Boston, Mass.; Syracuse, N.Y.; Cincinnati, Ohio; St. Louis, Mo.; New York, N.Y., &c.
Fort Wayne & Wabash Valley Traction Co., Fort Wayne, Ind.
Fort Worth City Electric Light Works, Fort Worth, Tex.
Fort Worth Light & Power Co., Fort Worth, Tex.
Fortenbaugh, S. B., M.AM.I.E.E., electrical engineer, Railway Engineering Dept., General Electric Co., Schenectady, N.Y.
Fortescue, C. Le G., M.AM.I.E.E., electrical designer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.

Forve-Pettibone Co., electrolier manufacturers & fitters, 515, South Broadway, Los Angeles, Cal.
Foster, Horatio A., M.AM.I.E.E., consulting engineer, 650, Bullitt-bldg., Philadelphia, Pa.
Foster, S. L., M.AM.I.E.E., chief electrician, United Railroads of San Francisco, San Francisco, Cal. (Telephone No. 612, Private.)
Foster, M. B., Electric Co., installation contractors, Fuller-bldg., New York (Teleph. No. 6117, Gramercy); & 54, Batterymarch-st., Boston, Mass. (Teleph. No. 926, Main.)
Foster Engineering Co., manufacturers of steam specialities, 107–113, Monroe-st., Newark, N.J.
Fostoria Incandescent Lamp Co., incandescent lamp makers, Fostoria, Ohio.
Foulkes, Thomas, installation contractor, Braly-bldg., Los Angeles, Cal.
Fowler, Fred. C., instrument maker to the department of physics, Cornell University, Ithaca, N.Y.
Fowler, Geo. L., consulting engineer, 53, Broadway, New York, N.Y.
Fowler, George W., electric power expert, 136, Liberty-st., New York.
Fowler, H. R., electrical engineer, Toledo, Ohio.
Fox, A. W., focusing arc lamps, 83, Schermerhorn-st., Brooklyn, N.Y.
Fox, John M., & Co., electrical engineers & supply house, 66, Union-st., Portland, Maine.
Fox River Valley Gas & Electric Co., Appleton, Wis.
Fox-Callahan Phone Alarm & Electrical Supply Co., 538, National-ave., Milwaukee, Wis.
Francis Bros. & Jellett, Incorporated, contracting & consulting electrical engineers, Broad & Wallace-sts., Philadelphia, Pa.; & New York.
Francis & Dewey Electric Co., installation contractors, Yonkers, N.Y.
Francisco, M. J., A.AM.I.E.E., A.A.A.S., president Rutland Electric Light Co., 49, Broadway, Rutland, Vt.
Frank, Geo. W., jun., A.AM.I.E.E., M.AM.S.C.E., M.AM.S.M.E., engineer-in-charge, Yadkin River Hydraulic Development, New London, N.C.
Frankel, Arthur M., installation contractor, Rockaway Beach, N.Y.
Frankfort City Light & Power Plant, Frankfort, Ind.
Franklin, W. S., M.AM.I.E.E., professor of physics, Lehigh University, South Bethlehem, Pa.
Franklin Electric Co., Franklin, Pa.
Franklin Electric Co., installation contractors, 224, South Clinton-st., Chicago, Ill.
Franklin Electric Construction Co., installation contractors, 81, Fulton-st., New York, N.Y.
Franklin Electric Light Co., Franklin, Ohio.
Franklin Electric Manufacturing Co., incandescent lamp makers, Hartford, Conn.
Franklin Electric Supply & Repair Co., installation contractors, Chambersburg, Pa.
Franklin Institute of the State of Pennsylvania for the Promotion of Mechanical Arts; T. Spencer, president of Electrical Section; R. L. Binder, secretary, 15, South 7th-st., Philadelphia, Pa.
Franklin Light & Power Co., Franklin, N.H.
Franklin Portable Crane & Hoist Co., manufacturers of portable cranes, Franklin, Pa.
Franklin Water, Light & Power Co., Franklin, Ind.
Franks, A. L., & Co., electrical supplies, 1196, Elm-st., Manchester, N.H.
Frantzen, Arthur, Co., electrical contractors & manufacturers, 92, West Van Buren-st., Chicago, Ill. (Telephone No. 333, Harrison.)
Fraser, W. J., superintendent Direct U.S. Cable Co., Ltd., Devonshire-bldg., 27, Devonshire-st., Boston, Mass.
Frederick & Middletown Railway Co., Frederick, Md.
Fredonia Electric Light Plant, Fredonia, N.Y.
Freedman, William H., C.E., E.E., M.AM.I.E.E., professor of electrical engineering, University of Vt., Burlington, Vt.
Freeman, C. E., professor of electrical engineering, Armour Institute of Technology, Chicago, Ill.
Freeman, Dr. Frank L., M.I.E.E., M.AM.I.E.E., A.AM.S.C.E., patent attorney & electrical expert, 1756, N.-st., Washington, D.C. (Telegrams: "Retsof, Washington.")
Freeman, E. H., Electric Co., electrical fittings makers, 100, Hamilton-ave., Trenton, N.J.
Freeman-Sweet Co., electrical contractors, 356, Dearborn-st., Chicago, Ill. (Teleph. No. 4191, Harrison.)
Freeport Railway, Light & Power Co., Stephenson-bldg., Freeport, Ill.
Freitag, Weinhardt & Co., electrical contractors, 646, Wabash-ave., Terre Haute, Ind.
Frels Electric Co., installation contractors, 114, East 8th-st., Kansas City, Mo.
Fremont, City of, electric light contractors, Fremont, Neb.
Fremont Gas, Electric Light & Power Co., Fremont, Ohio.
Fremont Yaryan Co., electric light contractors, Fremont, Ohio.
French, Prof. Thomas, jun., PH.D., A.AM.I.E.E., Amherst College, Amherst, Mass.
French, Hollis, & Allen Hubbard, consulting engineers, Albany-bldg., Boston, Mass. (Telegrams: "Frenchub, Boston.")
French Telegraph Cable Co., 44, Broad-st. (Telephone Nos. 451 & 452, Broad); 1, Mercer-st. (Telephone No. 1236, Spring); Pulitzer-bldg., Park-row (Telephone No. 2069, John); 1, Worth-st. (Telephone No. 394, Franklin); 581, Broadway (Telephone No. 1238, Spring); 65, 5th-ave. (Telephone No. 1004, Gramercy); & 281, 5th-ave., New York. (Telephone No. 397, Mad.-sq.)
Fresno Electrical Works, electrical contractors, Fresno, Cal.

Freudenberger, W. K., A.AM.I.E.E., electrical engineer, Alliance, Ohio.
Frey, F. A., installation contractor, 106, Fulton-st., New York.
Frey, John C., electrician & contractor, 134, South Highland-ave., Pittsburg, Pa.
Frick Co., builders of Corliss steam engines, Waynesboro, Pa.
Frick, Fred., Clock Co., manufacturers of electric program self-winding & secondary clocks, Waynesboro, Pa.
Friedlaender, Eugene, A.AM.I.E.E., Carnegie Steel Co., Braddock, Pa.
Friedlander Co., manufacturers of X-ray tubes & appliances, 41, State-st., Chicago, Ill. (Telegs.: "Freelectra, Chicago." Teleph. Nos.: 2957, Central; & 5278, Auto.)
Frierson, Norton, electrical contractor & dealer, 131, Broughton-st. E., Savannah, Ga. (Telephone Nos.: 486, Ga.; & 400, Bell.)
Fries, William H., electrical contractor, 213, Lackawanna-ave., Scranton, Pa.
Fries Manufacturing & Power Co., light, power & traction, Winston-Salem, North Carolina.
Friez, Julien P., manufacturer of meteorological instruments, Belfort Meteorological Observatory, East Baltimore-st. & Central-ave., Baltimore, Md.
Frink, I. P., reflectors for electric light, 551, Pearl-street, New York. (Telegs.: "Frink, New York." Teleph. Nos. 82 & 83, Worth.)
Frischkorn, Hunter B., dealer in electric railway supplies, Richmond, Va.
Frizzell, Mars H., installation contractor, 314, West Lexington, Baltimore, Md.
Fromholz, A. J., A.AM.I.E.E., electrician in charge, United States Navy Yard, Brooklyn, N.Y.
Frorup, L. E., electric light carbons & electrical appliances, 232, Greenwich-st., New York, N.Y. (Telegs.: "Arcarbon, New York." Teleph. No. 4803, Cort.)
Frost & Sheldon, electrical engineers & contractors, 47, Hudson-ave., Albany, N.Y. (Telephone Nos.: 2050, Main; & 441, Home.)
Frost Veneer Seating Co., manufacturers of steam & street railroad car seats, backs, & ceilings, 208, Canal-street, New York, N.Y.
Frostburg Illuminating Manufacturing Co., Frostburg, Md.
Fruin-Bambrick Construction Co., builders of railroads, 905, Chemical-bldgs., St. Louis, Mo. (Telephone No. 1900, Main.)
Fry, Donald H., A.AM.I.E.E., consulting electrician, 608, Safe Deposit-bldg., San Francisco, Cal.
Fuller, V. B., installation contractor, Indianapolis, Ind.
Fuller Co., The, manufacturers of electrical & ventilating apparatus, cor. Russell-st. & Grand Boulevard, Detroit, Mich. (Telephone North 151.)
Fuller, Geo. A., Construction Co., installation contractors, 949, Broadway, New York.
Fuller, Seth W., Co., manufacturers of electrical apparatus, 185, Devonshire-st., Boston, Mass.
Fuller Sprague Electric Co., installation contractors, 80, South Front-st., Columbus, Ohio.
Fulton County Gas & Electric Co., Gloversville, N.Y.
Fulton Electric Light & Power Co., Fulton, Ky.
Fulton Electric Light & Power Co., Fulton, Ill.
Fulton Light, Heat & Power Co., Fulton, N.Y.
Funk, Wm., electrical contractor, 4415, Dexter-st., Philadelphia, Pa.

G. & E. Electric Co., electric machines, Binghampton, N.Y.
Gagebic Electric Light Co., Bessemer, Mich.
Gail-Webb Manufacturing Co., electrical fittings makers, Buffalo, N.Y.
Gainesville Electric Railway & Light Co., Gainesville, Tex.
Gainesville Gas & Electric Power Co., Gainesville, Fla.
Gaites, Peace & Co., electrolier manufacturers & fitters, 665, Manhattan-ave., Brooklyn, N.Y. (Teleph. No. 137, Greenpoint.)
Gale, Horace B., M.AM.I.E.E., consulting mechanical & electrical engineer, Natick, Mass.; & 88, Broad-st., Boston. (Teleph. No. 4796, Main.)
Gale, W. W., & Co., Inc., electrical contractors & supplies, Bridgeport, Conn.
Galena Light & Power Co., Galena, Kan. (Local Teleph. Nos. 6 & 36.)
Galesburg Electric Motor & Power Co., Galesburg, Ill.
Galesburg, Monmouth & Rock Island Railway Co., Galesburg, Ill.
Galesburg Railway & Light Co., Galesburg, Ill.
Gallatan Light, Power & Railway Co., Bozeman, Montana.
Galloway, John R., electrical engineer, 529, 10th-st. N.W., Washington, D.C.
Gallup Electric Light Co., Gallup, N. Mex.
Galveston City Railway Co., Galveston, Tex.
Galveston Electric Co., Galveston, Tex.
Gamewell Auxiliary Fire Alarm Co., makers of electric fire alarm apparatus, 178, Devonshire-st., Boston, Mass.

Gamewell Fire Alarm Telegraph Co., manufacturers of fire & police telegraphs, 19, Barclay-street, New York, N.Y.
Gannett Electrical Co., dealers in electrical supplies, 90, Weybosset-st., Providence, R.I.
Gans Bros., installation contractors, 155, North Main-st., Los Angeles, Cal.
Gant Electric Co., installation contractors, Greenfield, Ind.
Ganz, A. F., M.AM.I.E.E., professor of electrical engineering, Stevens Institute of Technology, Hoboken, N.J. (Telephone No. 484, Hoboken.)
Gardam, William, & Son, expert machinists, model makers, drilling machines, electrical apparatus, 45, 47, 49 & 51, Rose-st., New York. (Cable addresses: "Gardam, New York.")
Garden City Chandelier Co., dealers in electric fixtures, 162 & 164, South Clinton-st., Chicago, Ill.
Garden City Electric Co., installation contractors, 125, South Clark-st., Chicago, Ill.
Garden City Electrical Co., installation contractors, San Jose, Cal.
Gardner Electric Light Co., Gardner, Mass.
Gardner Plumbing & Heating Co., dealers in electrical fixtures, 419, Hampshire-st., Quincy, Ill.
Gardner, Westminster & Fitchburg Street Railway Co. (C. A. Jefts, superintendent), Gardner, Mass.
Garhart Dental Manufacturing Co., electro dental appliances, Indianapolis, Ind.
Garl Electric Co., manufacturers of electrical annunciators, portable & stationary railroad telephones, Akron, Ohio.
Garlock Packing Co., manufacturers of fibrous & metal steam packing for all purposes, Palmyra, N.Y.
Garratt, Allan V., M.AM.I.E.E., chief engineer & sales agent, Lombard Governor Co., Ashland, Mass. (Telegrams: "Lomgov, Boston." Long Dist. Telephone No. 149, South Framingham.)
Garrett, Miller, & Co., manufacturers of & dealers in electrical supplies; construction work, S.E. cor. 4th & Orange-sts., Wilmington, Del. (Telephone No. 805.)
Garton, W. R., Co., dealers in electric railway & mine supplies, 118–132, West Jackson-boul., Chicago, Ill.
Garvin Machine Co., manufacturers of machinists' tools, Spring & Varick-sts., New York, N.Y. (Telegrams: "Needful, New York.")
Gas City Municipal Electric Light Plant, Gas City, Ind.
Gas & Electric Co. of Bergen County, Hackensack, N.J.
Gas, Electric Light & Power Co., Van Wert, Ohio.
Gastonia Electric & Water Works, Gastonia, N.C.
Gates, J. Holt, & Co., installation contractors, Monadnock-blk., Chicago, Ill.
Gaumer, John L., Co., electric light fixtures, 22nd & Wood-sts., Philadelphia, Pa.
Gaylord, T. P., A.AM.I.E.E., manager, Chicago Office, Westinghouse Electric & Manufacturing Co., 171, La Salle-st., Chicago, Ill.
Gaylord, Blick & Vore, installation contractors, Pasadena, Cal.
Gaytes, Herbert, A.AM.I.E.E., M.S., electrical engineer, Oakland, Cal.
Geary St. Park & Ocean Railroad Co., Crocker-bldg., San Francisco, Cal.
Gee, Edwin, Co., electrical contractors, 2, Wall-st., New York. (Telephone No. 2035, Cort.)
Gee Electric Construction Co., electrical engineers, contractors & supply dealers, Wheeling, W. Va.
General Electric Co. General office: Schenectady, N.Y. New York office: 44, Broad-st. (Cable address: "Genetric." A1, A.B.C., Lieber's & Private Codes.) London office: 83, Cannon-st., E.C. (Cable address: "Hypsometer.") Sales offices: Chicago, Philadelphia, Boston, San Francisco, &c.
General Electric Construction Co., installation contractors, Rochester, N.Y.
General Electric Maintenance Co., installation contractors, 422, West 49th-st., New York.
General Electric Repair Works, electrical contractors, 36, Neil-st., Champaign, Ill.
General Electric Wiring Co., installation contractors, 32, 6th-ave., New York.
General Electrical Inspection Co., electrical consulting engineers, 114, Liberty-st., New York.
General Engineering Co., electrical engineers, 135, Adams-st., Chicago, Ill. (Teleph. No. 6835, Central.)
General Incandescent Lamp Co., makers of incandescent lamps, Cleveland, Ohio.
General Manufacturing & Supply Co., electrical fitting makers, 15, Perrine-ave., Trenton, N.J.
General Railway Signal Co., makers of electric railway signalling & interlocking apparatus, 1738–1756, Elmwood-ave., Buffalo, N.Y. (Telegrams: "Taysig, Buffalo." Western Union Code.)
General Railway Supply Co., electric tramway supplies dealers, Pittsburg, Pa.
General Storage Battery Co., makers of Bijur "High Duty" accumulators, 42, Broadway, New York.
General Watchmen's Time Detector Co., electrical time detector makers, 49, Dey-st., New York.
Geneseo Electric Light Co., Geneseo, Ill.
Geneva, City of, Electric Light & Water Works, Geneva, Ill.
Geneva Power & Light Co., Geneva, N.Y.
Geneva, Waterloo Falls & Cayuga Lake Traction Co., Seneca Falls., N.Y.
Gentel, Albert, electrical contractor & engineer, 1503, Columbia-ave., Philadelphia, Pa.
George Washington University, Washington, D.C.
Georgetown Electric Co., Georgetown, S.C.
Georgetown, Rowley & Iswich Railway Co., Byfield, Mass.
Georgetown Water, Gas, Electric & Power Co., Georgetown, Ky.

Georgetown Water, Light & Power Co., Georgetown, Tex.
Georgia, C. A., dealer in electrical supplies, 117, Baldwin-pl., Elmira, N.Y.
Georgia Railway & Electric Co., Atlanta, Ga.
Germania Electric Lamp Co., makers of incandescent lamps, Essex-st., Harrison, N.J.
Germantown Electric Construction & Supply Co., 4340, Germantown-ave., Philadelphia, Pa.
Germantown Electric Works, Germantown, Ohio.
Gerry, M. H., jun., M.AM.I.E.E., M.AM.S.C.E., chief engineer & general manager Missouri River Power Co. & Helena Power Transmission Co., Helena, Montana.
Gest, G. M., contractor for underground conduits, 277, Broadway, New York.
Geyer, Prof. W. E., M.AM.I.E.E., professor of physics & applied electricity, Stevens Institute of Technology, Hoboken, N.J.
Gherardi, B., M.AM.I.E.E., assistant chief engineer, New York Telephone Co., & New York & New Jersey Telephone Co., 15, Dey-st., New York, N.Y.
Gherky, William D., M.AM.I.E.E., electrical engineer & contractor, Heed-bldg., Philadelphia, Pa.
Gibboney, W. K., A.AM.I.E.E., electrical superintendent, Pittsburg Reduction Co., Niagara Falls, N.Y.
Gibson, Arthur H., A.M.I.E.E., Ingersoll Sergeant Drill Co., Easton, Pa.
Gibson, G. H., B.S., A.AM.I.E.E., G. H. Gibson Co., Park Row-bldg., New York.
Gibson, Hugo, A.M.I.E.E., c/o R. Beardsworth, 194, Broadway, New York.
Gibson, J. J., manager Westinghouse Electric & Mfg. Co., 708, Land Title-bldg., Philadelphia, Pa.
Gibson Electrical Co., electrical engineers, 59, Main-st., Buffalo, N.Y.
Gibson Gas Fixture Works, manufacturers of electric fixtures, 1426, Callowhill-st., Philadelphia, Pa. (Telegrams: "Gibson, Philadelphia." Lieber, Western Union & A.B.C. 4th ed. Codes.)
Giegerich, A. P., installation contractor, 2108, Center-ave., Pittsburg, Pa.
Gifford, C. E., M.AM.I.E.E., General Electric Co., Buffalo, N.Y.
Gifford & Henry, electrical engineers, contractors & supply dealers, 15, South 3rd-st., Philadelphia, Pa.
Gilchrist Jar Co., battery jars, 524, Drexel-bldg., Philadelphia, Pa.
Giles, A. F., agent for the General Electric Co., Empire-bldg., Atlanta, Ga. (Telephone No. 1242.)
Gill-Alexander Electric Manufacturing Co., mfrs. of elec. signals, 213, East 15th-street, Kansas, Mo.
Gillen Electric Co., installation contractors, 1195, Euclid-ave., Cleveland, Ohio. (Teleph. Nos.: 1372, Bell East; & 460, Cuyhoga Cent.)
Gillespie, Leonard W., & Co., electrical engineers & contractors, 415, South Washington-st., Marion, Ind.
Gillespie, W. W., Co., electrical contractors & supplies, San Francisco, Cal.
Gilliland, E. T., M.I.E.E., A.AM.I.E.E., Pelham Manor, N.Y.
Gillinder & Sons, Inc., glass for lighting purposes, 135, Oxford-st., Philadelphia, Pa.
Gilman, H. L., & Co., electricians, Waterville, Maine.
Gilmore Electric Co., manufacturers of series, multiple & miniature incandescent lamps, rosettes & receptacles, 625, East 1st-st., Boston, Mass.
Gilpin, Richard, consulting engineer, Bank-bldg., Philadelphia, Pa.
Gilpin's Falls Electric Co., Elkton, Md.
Gilson, Hatch & Wood, electrical supplies, 146, Munroe-st., Lynn, Mass. (Telephone No. 1035-3.)
Girard Gas & Electric Light Co., Girard, Kansas.
Gladson, Wm. N., M.S.E.E., PH.D., M.AM.I.E.E., professor of electrical engineering & physics, University of Arkansas, Fayetteville, Ark.
Glaister, Jas. W., Co., electrical engineers, Montclair, N.J.
Glasgow, C. L., M.AM.I.E.E., engineer, W. C. K. & Co., 8, Bridge-st., New York.
Glass, Louis, A.AM.I.E.E., vice-president & general manager Pacific States Telephone & Telegraph Co., Telephone-bldg., San Francisco, Cal.
Gleason, John L., electrical fittings maker, 290, South-st., Jamaica Plain, Mass.
Gleason, E. P., Manufacturing Co., manufacturers & dealers in electric light supplies, glassware, &c., 37, Murray-st., New York, N.Y.
Glenn, F. H., & Co., electrical contractors, Ridge-ave. & Hamilton-st., Philadelphia, Pa.
Glens Falls Gas & Electric Light Co., Glens Falls, N.Y.
Glenwood Electric Light & Power Co., Glenwood, Iowa.
Glenwood Light & Water Co., Glenwood Springs, Col.
Gliddon, Burton, installation contractor, 168, East 94th-st., New York.
Globe Automatic Telephone Co., telephone makers, 59, Dearborn-st., Chicago, Ill.
Globe Brass Co., manufacturers of torches, &c., for electricians, 13 & 15, Macomb-st., Detroit, Mich.
Globe Electric Co., installation contractors, 419, West 42nd-st., New York.
Globe Electric Co., installation contractors, 6340, Stony Island-ave., Chicago, Ill.
Gloucester Electric Co., Gloucester, Mass.
Goddard, C. M., M.AM.I.E.E., electrician, New England Insurance-exchange, 55, Kilby-st., Boston, Mass.
Goddard, S. H., A.AM.I.E.E., secretary & manager, *Electrical Review*, 13, Park-row, New York.
Godfrey Electric Construction Co., electrical construction, 76, Summer-st., Boston, Mass.
Goepel & Goepel, patent solicitors & experts, 290, Broadway, New York.
Goettmann, O. J., electrical supplies, 817, Ohio-st. East, Allegheny, Pa.

Goetz Manufacturing Co., electric light fixtures, 247, 3rd-ave., New York.
Gold Belt Consolidated Electric Co., Cripple Creek, Col.
Gold Car Heating & Lighting Co., makers of electric car heaters, Whitehall-bldg., 17, Battery-pl., New York.
Gold & Stock Telegraph Co. (A. R. Brewer, secretary), 195, Broadway, New York, N.Y.
Golden Illuminating Co., Golden, Col.
Goldmark, Charles J., A.AM.I.E.E., consulting electrical engineer, 7, West 38th-st., New York.
Goldmark & Wallace, direct current oscillating & rigid fan motors, "Hurricane," 83, Warren-st., New York. (Telephone No. 1780, Cortlandt.)
Goldsboro Electric Light & Power Co., Goldsboro, N.C.
Goldsborough, Winder E., M.AM.I.E.E., M.I.E.E., business manager, Engineering Department, J. G. White & Co., 43–49, Exchange-pl., New York.
Goltz, Wm., M.AM.I.E.E., consulting electrical engineer, Goltz Engineering Co., 127, Fulton-st., Chicago, Ill.
Gong Bell Manufacturing Co., manufacturers of unmounted gongs for electrical purposes, East Hampton, Conn.
Gonzales Electric Light & Power Plant, Gonzales, Tex.
Gonzenbach, Ernest, M.AM.I.E.E., M.W.S.E., general manager, Sheboygan Light, Power & Railway Co., Sheboygan, Wis.
Goodhue Co., Wells, specialties in alternating transformers & meters, 1564, Monadnock-bldg., Chicago, Ill.
Goodman Manufacturing Co., manufacturers of electric mining machinery, Chicago, Ill.
Goodrich, Chas. E., installation contractor, 1509, West Lafayette-ave., Baltimore, Md.
Goodrich, B. F., Co., indiarubber & gutta-percha manufacturers, 1625, Broadway, New York. (Telephone No. 2339, Franklin.)
Goodrich Falls Electric Co., Intervale, N.H.
Gordon, G. B., M.AM.I.E.E., wire chief, Chesapeake & Potomac Telephone Co., Washington, D.C.
Gordon, Minthorne T., installation contractor, Stapleton, N.Y.
Gordon Battery Co., manufacturers of primary batteries, 439–445, East 144th-st., New York, N.Y. (Telegrams: "Batteries, New York." Telephone Connection.)
Gorke, H. J., electrical supply store, 216, West Washington-st., Syracuse, N.Y. (Teleph. Nos.: Old, 5046; New, 1028.)
Gorman Electric Co., electrical contractors, 313–315, Minnesota-st., St. Paul, Minn.
Gorton, Charles, A.AM.I.E.E., civil engineer, Belmont, N.Y.
Gorton, W. S., electrical engineer & general manager, Standard Welding Co., Cleveland, Ohio.
Gossler, Philip Green, M.AM.I.E.E., electrical engineer, J. G. White & Co., 43, Exchange-pl., New York.
Gotham, Ward P., electrical contractor & supplies, 84, West Chippewa-st., Buffalo, N.Y. (Teleph. No. 6981, Seneca.)
Gothberg, H. & E., Mfg. Co., manufacturers of electric light fittings, 139–143, Cator-ave., Jersey City, N.J.
Gotshall, Wm. C., M.AM.I.E.E., consulting engineer, 76, William-st., New York.
Goubert Manufacturing Co., manufacturers of feed-water heaters & steam separators, 85, Liberty-st., New York, N.Y. (Telegrams: "Goubert, New York." Telephone No. 4728, Cortlandt.)
Goudey-McLean Co., dealers in electrical supplies, 120, Liberty-st., New York.
Gough, Harry Eugene, A.AM.I.E.E., Penn. R.R. Co., Altoona, Pa.
Gough, W. H., dynamo brush manufacturer, 438, South Salina-st., Syracuse, N.Y.
Goughnour Electric Manufacturing Co., makers of dynamos & motors, Denver & Klover-aves., Canton, Ohio.
Gould Bros., installation contractors, 183, Freeport-st., Boston, Mass.
Gould Coupler Co., electrical contractors, 1, West 34th-st., New York.
Gould & Eberhardt, automatic machine tools, 95 & 113, New Jersey Railroad-ave., Newark, N.J.
Gould Packing Co., steam & water packing, East Cambridge, Mass.
Gould Storage Battery Co., makers of storage batteries, 1, West 34th-st., New York.
Gould's Manufacturing Co., manufacturers of electric pumps, 16, Murray-st., New York. Works: Seneca Falls, N.Y.
Grafton Electric Co., Grafton, Mass.
Grafton Gas & Electric Co., Grafton, W. Va.
Grah, Emil, dealer in electrical supplies, 1310, Adams-st., Toledo, Ohio.
Graham, George W., consulting & contracting electrical engineer, 1733, Monadnock-bldg., Chicago, Ill. (Teleph. Nos.: 2428, Harrison; 3928, Automatic.)
Graham, William P., PH.D. (Berlin), A.AM.I.E.E., professor of electrical engineering, Syracuse University, 504, University-pl., Syracuse, N.Y.
Graham Bros. Co., electrical repairs, 660–664, Hudson-st., New York, N.Y. (Telephone Nos. 17 & 18, Chelsea.)
Grand Electric Co., installation contractors, 795, Woodward-ave., Detroit, Mich.
Grand Electric Co., installation contractors, Omaha, Neb.
Grand Forks City Electric Light Plant, Grand Forks, N.D.

Grand Forks Gas & Electric Co., Grand Forks, North Dakota.
Grand Island Electric Co., Grand Island, Neb.
Grand Rapids, Belding & Ionia Railway Co., Grand Rapids, Mich.
Grand Rapids City Electric Light Plant, Grand Rapids, Mich.
Grand Rapids Edison Co., Grand Rapids, Mich.
Grand Rapids Electric Co., electrical supply dealers, Grand Rapids, Mich.
Grand Rapids, Grand Haven & Muskegon Railway Co., Grand Rapids, Mich.
Grand Rapids, Holland & Chicago Railway, Holland, Mich.
Grand Rapids & Ionia Railway Co., Grand Rapids, Mich.
Grand Rapids & Kalamazoo Valley Traction Co., Kalamazoo, Mich.
Grand Rapids Railway Co., Grand Rapids, Mich.
Grand Rapids Village Electric Light Plant, Grand Rapids, Minn.
Grande Ronde Electric Co., La Grande, Ore.
Granger, A. D., Co., contracting electrical & mechanical engineers, 95, Liberty-st., New York. (Telephone No. 277, Cortlandt.)
Grant Gear Works, gear wheel & gear cutting, 6, Portland-st., Boston, Mass.
Granville Electric Light & Gas Co., Granville, N.Y.
Graphite Lubricating Co., manufacturers of graphite & bronze self-lubricating bearings, Bound Brook, N.J.
Grassler & Gezelschoap, electric light fixtures, 214, Grand-ave., Milwaukee, Wis. (Teleph. No. 932, Grand.)
Graton & Knight Manufacturing Co., manufacturers of leather belts, Worcester, Mass. (Telegrams: "Spaulding, Worcester.")
Grauch, John F., electrical contractors, 1105, Walnut-st., Philadelphia, Pa.
Gray, A. A., M.AM.I.E.E., managing editor, *Electrical Review*, 13, Park Row, New York.
Gray, W. N., electrical engineer, 505, Elm-st., Cincinnati, Ohio.
Gray Bras Electric Co., installation contractors, 160, Cass-ave., Detroit, Mich.
Gray Electric Co., makers of telautographs, 75, Fulton-st., New York. (Telephone No. 2301, John.)
Gray, G. R., & Co., electrical contractors, 39, Vesey-st., New York.
Gray, W. I., & Co., contracting engineers, 804–5 & 6, Sykes-blk., Minneapolis, Minn. (N.W. Telephone No. 900–2; T.C. Telephone No. 802.)
Gray's Harbor Electric Co., electric light & power contractors, Aberdeen, Wash.
Graybill, John E., & Co., electrical contractors & dealers in electrical supplies, York, Pa.
Great Barrington Electric Light Co., Great Barrington, Mass.
Greeley Power & Light Co., Greeley, Col.
Green, Charles Maxwell, electrical engineer, General Electric Co., Lynn, Mass.
Green, George A., telegraph engineer, Anglo-American Telegraph Co., Duxbury, Mass.
Green & Bauer, makers of X-ray tubes, 33, Wells-st., Hartford, Conn.
Green Bay Gas & Electric Co., Green Bay, Wis.
Green Fuel Economizer Co., fuel economizers, Matteawan, N.Y. (Telegs.: "Economizer, Matteawan, N.Y.")
Greencastle Electric Light Co., Greencastle, Ind.
Greenfield Electric Light & Power Co., Greenfield, Mass.
Greenfield Water & Electric Light Plant, Greenfield, Ohio.
Greenlaw Electric Co., electrical engineers & contractors, Beverly, Mass.
Greenleaf, Lewis S., A.AM.I.E.E., general manager Hudson River Telephone Co., Albany, N.Y. (Teleph. No. 5400, Main.)
Greenport Electric Light & Power Co., Greenport, N.Y.
Greensboro Electric Co., Greensboro, N.C.
Greensboro Water & Light Co., Greensboro, Ala.
Greensburg Gas & Electric Co., Greensburg, Ind.
Greenville Electric Light Plant, contractors, Greenville, Tex.
Greenville Electric Light & Power Co., Greenville, Ohio.
Greenville Gas & Electric Light & Power Co., Greenville, S.C.
Greenville Traction Co., Greenville, S.C.
Greenwood Electric Light & Water Plant, Greenwood, Miss.
Greenwood Water & Electric Light Plant, Greenwood, S.C.
Greer Electric Co., telephone specialties, 1421, Michigan-ave., Chicago, Ill.
Gregg, M. M., general electrical work, 1034, Stella-st., Philadelphia, Pa.
Gregg, T. H., M.AM.I.E.E., superintendent construction, U.S. Light House Board, Tompkinsville, N.Y. (Telephone No. 53.)
Gregory Electric Co., second-hand electrical machinery, 16th- & Lincoln-sts., Chicago, Ill. (Cable address: "Gregco, Chicago." Teleph. Main 156.)
Greiner, Emil, Co., manufacturers & importers of electrical apparatus & technical instruments, 45, Cliff-st., New York.
Griffen, John D., A.AM.I.E.E., inventor, electric conduit & electric signalling apparatus, 82, Wall-st., New York.

Griffes, V. Eugene, A.AM.I.E.E., general manager, Oceanside Electric & Gas Co., Oceanside, Cal.
Griffin, Gen. Eugene, M.I.C.E., M.AM.I.E.E., vice-pres. General Electric Co., 44, Broad-st., New York, N.Y.
Griffin & Co., installation contractors, 150, Nassau-st., New York.
Griggs Manufacturing Co., makers of telephone specialties, 81, 5th-ave., Chicago, Ill.
Grinnell Electric & Heating Co., Grinnell, Iowa.
Grissinger, Elwood, A.AM.I.E.E., general agent, Niagara Falls Power Co., & Canadian Niagara Power Co., Niagara Falls, N.Y. (Teleph. No. 2832, Seneca.)
Gross, Alpha, electrical supplies, Springfield, Ohio.
Groswith Electric Co., installation contractors, 52nd & Lancaster-ave., Philadelphia, Pa.
Grove, G. F., installation contractor, Dayton, Ohio.
Grower, G. G., A.AM.I.E.E., electrician, Coe Brass Manufacturing Co., Ansonia, Conn.
Guarantee Electric Co., electrical supplies, 169, South Clinton-st., Chicago, Ill.
Guarantee Electric Co., installation contractors, 1630, Park-ave., New York.
Guarantee Electric Co., telephone apparatus makers, 71, West Jackson-boul., Chicago, Ill.
Gugler Electric Manufacturing Co., machinery supplies & construction, 223–225, 5th-st. S., Minneapolis, Minn.
Guinan, P., & Co., installation contractors, 329, Cumberland-st., Brooklyn, N.Y.
Gunnison Gas & Water Co., Gunnison, Col.
Gunther, R. G., electrical contractor, 505, Hampshire-st., Quincy, Ill.
Gunton, Richard E., installation contractor, 122, Water-st., Cleveland, Ohio.
Gurley, W. & L. E., manufacturers of optical instruments, Troy, N.Y.
Gurney, H. F., M.AM.I.E.E., general superintendent Otis Elevator Co., 71, Broadway, New York.
Guthe, K. E., PH.D., professor of physics, State University of Iowa, Iowa City, Iowa.
Guthrie, Edwin, patents solicited, 97, Corcoran-bldg., Washington, D.C.
Guthrie Light & Power Co., Guthrie, Oklahoma.
Gutmann, Ludwig, M.AM.I.E.E., electrical engineer, 5230, Kensington-ave., St. Louis, Mo.
Gutta-Percha & Rubber Manufacturing Co., manufacturers of gutta-percha, 98, Lake-st., Chicago, Ill.
Guy, George Heli, A.I.E.E., electrical & industrial investments, 114, Liberty-st., New York. (Telegrams: "Lengineer, New York." Telephone No. 7605, Cort.)
Guyton, C., Electric Co., electrical contractors & supplies, 125, East 4th-st., Dayton, Ohio.

H. C. K. Co., electrical fittings makers, 45, Broadway, New York.
Haas, Fred., electrical contractor, 2138, Frederick-ave., Baltimore, Md.
Haas, R., Electric & Manufacturing Co., electrical engineers & contractors, 300, Monroe-st., Springfield, Ill.
Haas & Son, installation contractors, 57, Grand-st., New York.
Habirshaw, W. M., president & general manager India Rubber & Gutta Percha Insulating Co., Yonkers, N.Y.
Hackettstown Electric Light Co., Hackettstown, N.J.
Hadaway, W. S., jun., M.AM.I.E.E., electric heating engineer, 228, West Broadway, New York, N.Y.
Hadaway Electric Heating & Engineering Co., 228, West Broadway, New York.
Haddrell, C. H., A.I.E.E., Barriett Electric Manufacturing Co., Cincinnati, Ohio. (Teleph. Main 2644.)
Hadley, Arthur L., S.B., M.AM.I.E.E., electrical engineer & designer, Fort Wayne Electric Works, 2330, Hoagland-ave., Fort Wayne, Ind. (Home Telephone No. 6688.)
Hadley, F. W., M.AM.I.E.E., electrical engineer, 1327, Empire-bldg., Atlanta, Ga.
Hafer, Geo., jun., M.AM.I.E.E., 8, Live Stock Exchange, East Buffalo, N.Y.
Hagerstown Electric Light Plant, Hagerstown, Md.
Hagerstown Railway Co., Hagerstown, Md.
Hagstedt, Chas., electrical engineer, 382, Park-ave., New York. (Telephone No. 413, Plaza.)
Hague, Charles A., consulting electrical engineer, 52, Broadway, New York.
Hahn & Hahn, installation contractors, Bridgeton, N.J.
Haines, Jones & Cadbury Co., manufacturers of gasoline furnaces for linemen, 1136, Ridge-ave., Philadelphia, Pa. (Telegs.: "Hajoca, Philadelphia." Teleph. Nos.: 2173, Bell-Poplar; & 800 Keystone, Race.)
Hale & Kilburn Manufacturing Co., makers of street car seats, reversible & stationary, 48–50, North 6th-street, Philadelphia, Pa.
Hall, C. M., A.AM.I.E.E., teacher of physics & electricity, Central High School, Springfield, Mass.
Hall, E. J., jun., M.I.E.E., general manager, American Telephone & Telegraph Co., 15, Dey-st., New York.
Hall, John L., M.AM.I.E.E., electrical engineer, district manager Bullock Electric Manufacturing Co., Wagner Electric Manufacturing Co., 1327, Real Estate & Trust-bldg., Philadelphia, Pa.
Hall, Joseph P., electrical contractor, 73, Warren-st., New York.
Hall, Leon M., consulting electrician, 814, Hayward-bldg., San Francisco, Cal.
Hall, W. A., M.AM.I.E.E., designing engineer, General Electric Co., Lynn, Mass.
Hall Signal Co., manufacturers of electric railway signals, 25, Broad-st., New York, N.Y.

Hall, Wm., Electric Co., supplies & construction, Dayton, Ohio.
Hallberg, J. Henry, A.AM.I.E.E., consulting engineer, 45, Broadway, New York.
Haller Machine Co., electric signs, 127, Fulton-st., Chicago, Ill.
Halliday, W. H., installation contractor, 131, Front-st., Hartford, Conn.
Hallock, Wm., M.AM.I.E.E., professor of physics, Columbia University, New York.
Hallowell, Eli B., & Co., manufacturers of yellow pine octagon poles, ties, &c., 910, Harrison-bldg., Philadelphia, Pa.
Halstead, D., consulting engineer, 3233, Frankfort-ave., Philadelphia, Pa.
Ham Manufacturing Co., C. T., manufacturers of motor head-lights, Rochester, N.Y.
Hamburg Railway Co., Buffalo, N.Y.
Hamburger, Felix, electric arc lamp manufacturer, 78, 5th-ave., New York.
Hamilton, George A., M.I.E.E., M.AM.I.E.E., Western Electric Co., 463, West-st., New York.
Hamilton, J., M.AM.S.M.E., A.AM.I.E.E., patent law specialist, 31, Nassau-st., New York City; & Loan & Trust-bldg., Washington, D.C.
Hamilton Electric Light Co., Hamilton, Ohio.
Hamilton Supply Co., electrical supplies, 143, North 3rd-st., Hamilton, Ohio.
Hamilton Water & Light Plant, Hamilton, N.Y.
Hammacher, Schlemmer & Co., dealers in small box catches & agents for Felten & Guilleaume, 133, 4th-ave., New York.
Hammatt, Clarence S., A.AM.I.E.E., vice-president Florida Electric Co., Jacksonville, Fla.
Hammer, Edwin W., M.AM.I.E.E., electrical engineer, 120, Broadway, New York. (Teleph. No. 5289, Cort.)
Hammer, Wm. J., M.AM.I.E.E., consulting electrical engineer, 1406, Havemeyer-bldg., 26, Cortlandt-st., New York, N.Y. (Telegrams: "Remmah, New York.")
Hammond Manufacturing Co., electrical mining engineers, Portland, Ore.
Hampshire & Worcester Street Railway Co., Ware, Mass.
Hampton Electric Light & Power Co., Hampton, Iowa.
Hampton Roads Railway & Electric Co., Newport News, Va.
Hance Electric Co., electrical contractors, 1145, Olive-st., St. Louis, Mo.
Hanchett, Charles G., electrolier manufacturer & fitter, Syracuse, N.Y.
Hanchett, Geo. T., M.AM.I.E.E., electrical & mechanical engineer, 114, Liberty-st., New York. (Telephone No. 8035, Cort.)
Handlan-Buck Manufacturing Co., dealers in street railway supplies, 210, 212 & 214, North 3rd-st., St. Louis, Mo.
Hanford Electric Works, electrical engineers, Hanford, Cal.
Hanks, Marshall Wilfred, A.AM.I.E.E., engineer, 216, Langdon-st., Madison, Wis.
Hanlon & Murphy, installation contractors, 280, Asylum-st., Hartford, Conn.
Hannibal Railway & Electric Co., Hannibal, Mo.
Hanover Light, Heat & Power Co., Hanover, Pa.
Haurette & Bentley, installation contractors, 41, West 24th-st., New York.
Hanscom, Wm. W., A.AM.I.E.E., chief electrical engineer, Union Iron Works, 848, Clayton-st., San Franscisco, Cal.
Hansen, M. W., electrical engineer, Toledo, Ohio.
Hanson Electric Co., installation contractors, Jamestown, N.Y.
Hanson & Van Winkle Co., manufacturers of dynamo-electric machines & supplies, 92, William-st., New York, N.Y.; Newark, N.J.; & Chicago, Ill.
Harbor Springs Village Electric Light Plant, Harbor Springs, Mich.
Hardie & Hartmeyer, installation contractors, Wilkinsburg, Pa.
Harding, Edwin R., electrical engineer & contractor, 397, Dearborn-st., Chicago, Ill.
Harding, H. McL., A.AM.I.E.E., president United Telpherage Co., 20, Broad-st., New York.
Hardwick Village Electric Light Plant, Hardwick, Vt.
Hardy, Carl Earnest, A.AM.I.E.E., master electrician, U.S. Navy Yard, Norfolk, Va.
Harloe Insulator Co., manufacturers of insulators, Hawley, Pa.
Harloff, Paul F., installation contractor & engineer, 301, 303 & 305, State-st., Madison, Wis. (Telephone Nos.: 560, Local; & 1313, Bell.)
Harper Electric Co., installation contractors, Fort Wayne, Ind.
Harrington, Walter E., M.AM.I.E.E., consulting electric railway engineer, 43, Exchange-pl., New York.
Harrington, Edwin, Son & Co., engineers & electric crane builders, 1514, Pennsylvania-ave., Philadelphia, Pa.
Harrington, Ephraim, & Co., consulting & advisory engineers, 60, State-st., Boston, Mass.
Harrington & King Perforating Co., perforated sheet metal for electrical purposes, 224, North Union-st., Chicago, Ill.
Harrington, Robinson & Co., manufacturers of electric railway appliances, 276, Franklin-st., Boston, Mass.
Harris, Grenville A., A.AM.I.E.E., electrical & mechanical engineer, Takata & Co., 60, Wall-st., New York.
Harris, G. H., A.AM.I.E.E., superintendent Birmingham Railway, Light & Power Co., Birmingham, Alabama.
Harris Electric Co., installation contractors, 214, North Calvert-st., Baltimore, Md.

Harris Oil Co., A. W., manufacturers of valve engine & automobile oils, 326 & 328, S. Water-st., Providence, R.I. (Telegrams: "Harrisoil, Providence.")
Harrisburg Foundry & Machine Works, steam engine makers for electrical purposes, Harrisburg, Pa.
Harrisburg Light, Heat & Power Co., Harrisburg, Pa.
Harrisburg Traction Co., 12, South Market-st., Harrisburg, Penn.
Harrison Electric Light & Box Manufacturing Co., Harrison, Idaho.
Harrison Electric Light & Ice Co., Harrison, Ark.
Harrison Electric Manufacturing Co., manufacturing electricians, 169, South-st., New York.
Harrison Light & Water Co., Harrison, Ohio.
Harrison Safety Boiler Works, makers of feed-water heaters, Germantown Junction, Philadelphia, Pa. (Telegrams: "Harrison Boiler Works, Philadelphia." Telephone No. Tiega 2146.)
Hart & Co., Inc., manufacturers of "Red Cross" lubricant for commutators, Monadnock-bldg., Chicago, Ill.
Hart & Hegeman Manufacturing Co., manufacturers of electric switches, 342, Capitol-ave., Hartford, Conn. (Telegrams: "Harthegeman, Hartford." Telephone No. 1765, Main.)
Hart Manufacturing Co., makers of switches, &c., Hartford, Conn.
Harter & Co., electrical contractors, 145, La Salle-st., Chicago, Ill. (Teleph. Nos.: 420, Cen.; & 3420, Auto.)
Hartford Electric Light Co., Hartford, Conn.
Hartford Electrical Supply Co., installation contractors, 212, Asylum-st., Hartford, Conn.
Hartford Engine Works (H. K. Lee, proprietor), automatic cut-off engines & automobile engines, 223, State-st., Hartford, Conn. (Telegs.: "Engine Works, Hartford." Teleph. No. 1402-5. W.U. Code.)
Hartford-Faience Co., makers of electric porcelain, Hartford, Conn.
Hartford Machine Screw Co., manufacturers of binding posts, &c., 476, Capitol-ave., Hartford, Conn.
Hartford, Manchester & Rockville Tramway Co., Hartford, Conn.
Hartford & Springfield Railway Co., Hartford, Conn.
Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
Hartford Time Switch Co., manufacturers of electric switches, 437, Asylum-st., Hartford, Conn.
Harthan, C. E., A.AM.I.E.E., electrical engineer, General Electric Co., Lynn, Mass.
Hartig & Hellier, installation contractors, Century-bldg., Minneapolis, Minn.
Hartman, H. T., M.AM.I.E.E., chief engineer & second vice-president The Electric Co. of America Philadelphia, Pa.
Hartmann, F. M., M.AM.I.E.E., assistant professor of physics & electricity, Cooper Union, New York.
Hartshorn, J. F. A., installation contractor, Walpole, Mass.
Hartshorn Stewart Co., manufacturers of railway & tramway fittings, East Newark, N.J.; & at New York & Chicago, Ill.
Hartwell, A., M.AM.I.E.E., electrical engineer, general manager, Sterling Varnish Co., Pittsburgh, Pa.
Hartwell Electric Co., electrical supplies & construction, 955, 6th-st., San Diego, Cal. (Teleph. Nos.: 318, Sunset; & 1318, Home.)
Hartwig, Wm., Jun., Co., dealers in electrical supplies, 205, Jefferson-ave., Detroit, Mich.
Harvard Electric Co., electrical apparatus manufacturers, 60-62-64-66-68, West Van Buren-st., Chicago, Ill. (Telephone No. 3198, Harrison.)
Harve de Grace Electric Co., Harve-de-Grace, Md.
Harvey, Robert R., A.AM.I.E.E., electrical engineer, 20, S. Franklin-st., Wilkesbarre, Pa.
Harvey, Wm. A., electrical engineer, Scranton, Pa.
Haschke, J. E., electrical engineer, 598, West Monroe-st., Chicago, Ill. (Teleph. No. 5554, Ashland.)
Haschke Compound Storage Battery Co., storage batteries, 87-89, Ashland-boul., Chicago. (Teleph. No. 2442 W.)
Haselden, H. A., A.AM.I.E.E., electrical engineer, Whitin Machinery Works, Whitinsville, Mass.
Haskell, H. F., electrical engineer, Holyoke, Mass.
Haskins, Caryl D., M.AM.I.E.E., M.AM.S.M.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Haskins, William Edgar, A.AM.I.E.E., superintendent Willimantic Gas & Electric Light Co., Willimantic, Conn.
Haskins Glass Co., globes for electric lighting, Martins Ferry, Ohio.
Hasson, W. F. C., M.AM.I.E.E., U.S. Naval Academy, Annapolis, Md.
Hastings City Electric Light Plant, Hastings, Neb. Supt., B. P. Bailey. (Teleph. Nos.: Red, 88; & Auto. 1403.)
Hatch, S. R., electrical contractor, Brockton, Mass.
Hatch Accumulator Co., The, makers of accumulators, 60, State-st., Boston, Mass.
Hatfield Electric Co., electrical contractors, 36, South Meridian-st., Indianapolis, Ind. (Teleph. No. 123.)
Hathaway, Alfred G., & Co., iron & steel & railway supplies, 807, Cuyahoga-bldg., Cleveland, Ohio.
Hattersley, A., & Sons, electrical contractors & supply dealers, 208, East Main-st., Fort Wayne, Ind.
Hattiesburg Electric Light & Power Co., Hattiesburg, Miss.
Hattiesburg Electric Supply Co., installation contractors, Hattiesburg, Miss.
Hatzel, J. C., A.AM.I.E.E., electrical contractor, 571-573, 5th-ave., New York. (Teleph. No. 6317, 38th-st.)

Hatzel & Buehler, electrical engineers & contractors, 571–573, 5th-ave., New York. (Telephone No 6317, 38th-st.)

Haubrich, Alex. Michael, A.AM.I.E.E., electrical engineer, with Stromberg-Carlson Telephone Manufacturing Co., Rochester, N.Y.

Hausburg, E. O., manufacturer of watchmen's electric registers & clocks, 45, Maiden-lane, New York. (Telephone No. 646, John.)

Hauss, D. J., electrical engineer & contractor, Mitchell-bldg., Cincinnati, Ohio.

Havana Electric Railway Co., 52, Broadway, New York.

Havens, Morton H., jun., dealer in electrical supplies, 79, Chapel-st., Albany, N.Y.

Haverhill & Amesbury Street Railway Co., Merrimac, Mass.

Haverhill Electric Co., Haverhill, Mass.

Havill's Electrical Works, installation contractors, 78, Dearborn-st., Chicago, Ill.

Hawes & Gray, electrical engineers & installation contractors, 37 & 39, Dwight-st., Springfield, Mass.

Hawkeye Electric Co., installation contractors, 410, Nebraska-st., Sioux City, Iowa.

Hawks, H. D., A.AM.I.E.E., engineer, with General Electric Co., 44, Broad-st., New York.

Hawks Electric Co., electrical engineers & contractors, 156, Pearl-st., Boston, Mass. (Telephone No. 78.)

Hawley Down Draft Furnace Co., manufacturers of smokeless furnaces & heaters & purifiers; general offices: 714, Monadnock-bldg., Chicago, Ill. (Telegrams: "Downdraft, Chicago." Telephone No. Long Distance, Harrison, 626); works: cor. West Lake-st. & Peoria-st., Chicago; & at New York, Boston, Cincinnati, Pittsburgh, St. Louis, Detroit, Baltimore, Paris & Tokyo.

Hawley Electric Light & Power Co., Hawley, Pa. (Long Distance Teleph. No. 35-2, Bell.)

Hayes, Chas. E., electrical engineer, Springfield, Mass.

Hayes, Hammond V., M.AM.I.E.E., chief engineer, American Telephone & Telegraph Co., 125, Milk-st., Boston, Mass.

Hayes, Harry E., M.AM.I.E.E., assistant electrician, American Telegraph & Telephone Co., 125, Milk-st., Boston, Mass.

Hays, Geo., M.AM.I.E.E., manager Edison Storage Battery Co., Glen Ridge, N.J.

Hays, J. W., electrical contractor, 341, 5th-ave., Pittsburg, Pa.

Hazard Manufacturing Co., manufacturers of steel cables, Wilkes Barre, Pa.; & 87, Liberty-st., New York.

Hazazer, E. W., installation contractor, 8, Dover-st., New York.

Hazelton, H. H., electrical contractor, 103, Court-st., Boston, Mass.

Hazlehurst Electric Light Plant, Hazlehurst, Miss.

Hazleton Machinery & Supply Co., dealers in electrical supplies, West Broad & Vine-sts., Hazleton, Pa.

Healdsburg Electric Light & Water Works, Healdsburg, Cal.

Heath, Harry E., M.AM.I.E.E., electrical engineer, Lynn, Mass.

Heath Electric Co., manufacturers of Ideal automatic annunciators, 336, Grand River-ave., Detroit, Mich.

Heath Electric Co., electrical engineers, contractors & general repairs, 520, Del.-st., Kansas City, Mo.

Heck, Louis, electrical repairs, 35, N.J. Railroad-ave., Newark, N.J.

Hedenberg, Wm. L., A.AM.I.E.E., publisher of electrical books, 136, Liberty-st., New York City.

Hedrick, Chas. J., expert & patent solicitor, 606, F.-st., Washington.

Heimann, Morris A., electric light fixtures, 704, Lucas-ave., St. Louis, Mo.

Heine, William A., maker of electric condensers, Corcoran-bldg., Washington, D.C.

Heinel, Chas., & Co., manufacturers of the Heinel electric motor & electrical appliances, Laurel-st., nr. Delaware-ave., Wilmington, Del.

Heineman, Geo., & Co., switch board & electric knife switch manufacturers, 737, Girard-ave., Philadelphia, Pa.

Heiss, H. L. W., installation contractor, Lancaster, Pa.

Heitmann, Edw., jun., A.AM.I.E.E., electrical engineer, Crocker-Wheeler Co., Ampere, N.J.

Held & Wendell, wiring contractors, Hazelton, Pa.

Helena Gas Co., Helena, Ark.

Helena Light & Railway Co., Helena, Mont.

Helfer, Paul, electrician, 1557, 3rd-ave., New York.

Helios Manufacturing Co., arc lamp manufacturers, storage batteries & knife switches & switchboards, Bridesburg, Philadelphia, Pa.

Hellmund-Collbohm Electric Co., installation contractors, 150, Nassau-st., New York.

Hemingray Glass Co., glass insulators, Covington, Ky. (Telegrams: "Hemingray, Covington.")

Hemmel Electric Co., A. E., electrical construction & repairing, 703, Columbus-ave., New York, N.Y.

Hempel, Frederik, electrical engineer, Dock-st., Yonkers, N.Y.

Henderson, Alex., A.AM.I.E.E., American Circular Loam Co., 39, Cortlandt-st., New York. (Teleph. No. 3224, Cort.)

Henderson City Railway, Henderson, Ky.

Hendrie & Bolthoff Manufacturing & Supply Co., makers of electric hoists, 1621–1639, 17th-st., Denver, Col. (Telegrams: "Hendrie, Denver." Telephone No. 75.)

Hendy, Joshua, Machine Works, mining & electrical machinery, 38–44, Fremont-st., San Francisco, Cal.

Henricks Novelty Co., makers of sparking dynamos for gas engines, 130, Capitol-ave. S., Indianapolis, Ind.
Henry, Geo. J., jun., A.AM.I.E.E., M.AM.S.M.E., chief engineer, Pelton Water Wheel Co., 127, Main-st., San Francisco, Cal.; & 143, Liberty-st., New York.
Henry, J. E., & Co., electrical contractors, 503, North Paca-st., Baltimore, Md.
Henshaw, Frederick V., M.AM.I.E.E., M.AM.S.M.E., consulting electrical & mechanical engineer, 90, Wall-st., New York. (Teleph. No. 4232, John.)
Henzel, G. L., dealer in electrical supplies, 2294, Bush-st., San Francisco, Cal.
Heppner Light & Water Co., Heppner, Ore.
Herbert, Geo. W., & Co., installation contractors, 75, Westminster-st., Providence, R.I.
Herboth Mitchell Co., consulting electricians, Real Estate Trust-bldg., Philadelphia, Pa.
Herbrick & Lawrence, installation contractors, 607, Church-st., Nashville, Tenn.
Herdman, Frank E., M.AM.I.E.E., mechanical & electrical engineer, Otis Elevator Co., Chicago, Ill.
Herdman, W. J., PH.B., M.D., LL.D., professor of electro-therapeutics, Michigan University, Ann Arbor, Mich.
Hering, Carl, Past Pres. AM.I.E.E., President Am. Elec. Chem. Society, consulting electrical engineer, 927, Chestnut-st., Philadelphia, Pa.
Herkimer City Electric Light Plant, Herkimer, N.Y.
Herkimer County Light & Power Co., Dolgeville, N.Y.
Herkimer County Lighting & Power Co., Little Falls, N.Y.
Hermann Electric Construction Co., installation contractors, 411, Ames-st., Saginaw, Mich.
Herne, Robert, A.I.E.E., Commercial Cable Co., Rockport, Mass.
Herrick, Albert B., A.AM.I.E.E., consulting electrical engineer, 120, Liberty-st., New York.
Herrick, C. H., M.AM.I.E.E., sales agent, Edison Electric Illuminating Co. of Boston, 3, Head-pl., Boston, Mass. (Teleph. No. 1150, Oxford.)
Herrmann, H. E., installation contractor, Hamilton, Ohio.
Hersh, E. W., Electric Co., installation contractors, 54, West 28th-st., New York.
Herstein, L. A., & Co., installation contractors, 328, North Eutaw-st., Baltimore, Md.
Hertner Electric Co., manufacturing electricians, 707, Frankfort-ave., Cleveland, Ohio.
Herzog, F. Benedict, PH.D., M.AM.I.E.E., electrician, 51, West 24th-st., New York.
Herzog, Sigmund M. E., patents & trade-mark agent, 26, Cortlandt-st., New York. (Cable address: "Sigherzog, New York." Teleph. No. 3347, Cortlandt.)
Herzog & Dahl, installation contractors, 105, Main-st., San Francisco, Cal.
Herzog Teleseme Co. (F. Benedict Herzog, PH.D., president), makers of annunciators, 51, West 24th-st., New York, N.Y.
Hessenbruch, G. S., A.M.AM.I.E.E., assistant engineer, Laclede Gas Light Co., 716, Locust-st., St. Louis, Mo. (Telegrams: "Ambition, St. Louis." Telephone Nos.: 3490, Main; Station, 46.)
Hetty Bros., electrical contractors & supply dealers, 322–326, Ellis-st., San Francisco, Cal.
Hetzel, W. H., installation contractor, 314, 6th-st., Racine, Wis.
Heuel, Dr. Emil, electrical engineer & medical electrician, 2040, 7th-ave., New York. (Telegrams: "Bovenadura, New York." Telephone Connections.)
Hevener-Mier Co., electrolier manufacturers & fitters, Sacramento, Cal.
Hewitt, Charles B., M.AM.I.E.E., electrical engineer, 671, Bullet-bldg., Philadelphia, Pa.
Hewitt, Peter Cooper, M.AM.I.E.E., 11, Lexington-ave., New York.
Hewitt, W. R., A.AM.I.E.E., electrical engineer, chief of Department of Electricity, City Hall-ct., San Francisco, Cal.
Hewitt, E. A., & Co., manufacturers of electrical specialties, 49, Wood-st., Cleveland, Ohio.
Hewitt & Warden, electrical engineers & contractors, Newburgh, N.Y.
Hewlett, Edward M., M.AM.S.M.E., A.AM.I.E.E., engineer of Switchboard Department, General Electric Co., Schenectady, N.Y.
Hiawatha Electric Light Co., Hiawatha, Kansas.
Hibbard, Angus S., M.AM.I.E.E., 203, Washington-st., Chicago, Ill.
Hibbard, W. H., manufacturer of electrical specialties, 79, Washington-st., Brooklyn, N.Y.
Hickey, W. H., electrical contractor, 389, Dudley-st., Boston, Mass.
Hickey Bros. & Co., installation contractors, 248, West 61st-st., New York.
Hickman Municipal Light & Water Plant, Hickman, Ky.
Hicks, M. A., installation contractor; specialty: water power isolated electric plants, Springfield, Vt.
Hicks, F. M., & Co., electric railway supplies, 279, Dearborn-st., Chicago, Ill.
Hicksville Electric Light Plant, Hicksville, Ohio.
Hide Leather & Belting Co., manufacturers, 227, South Meridian-street, Indianapolis, Ind.
Higbie Griffin Electric Co., installation contractors, 1523, Glenarm-st., Denver, Col.
Higgins, A. M., electrician, 116, Liberty-st., Plainfield, N.J.
Higgins, Edward E., M.AM.I.E.E., treasurer McGraw Marden Co., 32, Waverley-pl., New York, N.Y. (Telegrams: "Higginsee, New York.")
Higgins, P. Kerr, A.M.I.E.E., consulting telephone engineer & expert, Oklahoma City, Okla.
High Point Electric Power Co., High Point, N.C.

High Tension Electrical Specialty Co., manufacturers of electric switches, Newton, Mass.
Highland Electro-Chemical Manufacturing Co., manufacturers of insulating soldering paste, Connellsville, Pa.
Highland Park College, Des Moines, Iowa.
Higley, I. M., installation contractor, Salt Lake City, Utah.
Hild, Gereon L., installation contractor, 969, North 10th-st., Philadelphia, Pa.
Hildreth & Co., consulting & inspecting engineers, 50, Broadway, New York. (Telegrams: "Drethil, New York.")
Hill, A. F., electrical contractor, 6658, Wabash-ave., Chicago, Ill.
Hill, George, M.AM.I.E.E., consulting electrical engineer, 100, Union-sq. West, New York.
Hill, Geo. Henry, E.E., A.M.AM.I.E.E., engineer, General Electric Co., Schenectady, N.Y.
Hill, G. E., electrical supplies & construction, Post Office-bldg., Bethlehem, Pa.
Hill, Geo. O., manufacturer of screw, terminal & small detached accessories, Boston, Mass.
Hill, N. S., jun., consulting electrician, 100, William-st., New York.
Hill, C. K., Electric Co., dealers in electrical machinery supplies, 2315, Penn-ave., Pittsburg, Pa.
Hill Clutch Co., manufacturers of clutch pulleys, Cleveland, Ohio.
Hill Electrical Co., dealers in electrical supplies, 221, 12th-st., Columbus, Ga.
Hill & Holt, electrical contractors, Somerville, Mass.
Hill, Malcolm W., Co., installation contractors, 405, Courtland-st., Baltimore, Md. (Teleph. No. 4714); New York; & Washington, D.C.
Hill, N. N., Brass Co., manufacturers of electric bells, East Hampton, Conn. (Telegrams: "Hill, East Hampton, Conn.")
Hill, W. S., Electric Co., manufacturers of switches & switchboards, New Bedford, Mass.
Hills, Jr., Electric Co., Sam W., installation contractors, 238, East 4th-st., Cincinnati, Ohio.
Hillsboro Electric Light & Power Co., Hillsboro, Ill.
Hillsboro Electric Light & Power Co., Hillsboro, N.H.
Hillsboro Electric Light & Water Works, Hillsboro, Ore.
Hillsboro Gas & Electric Co., Hillsboro, Tex.
Hillsboro Light & Fuel Co., Hillsboro, Ohio.
Hillsdale, City of, electric light contractors, Hillsdale, Mich.
Hinkle, H. C., electrical contractor, 896, West Baltimore-st., Baltimore, Md. (Telephone No. C. P. Gilmor 351 F.)
Hinman Telephone & Electric Jay A. Co., installation contractors, 190, Main-st., Milwaukee, Wis.
Hinsdale City Electric Light Plant, Hinsdale, Ill.
Hinsdale Electric Light & Power Co., Lake City, Col.
Hinton Water, Light & Supply Co., Hinton, W. Va.
Hipkens, F. J., electric light fixtures, 310, East Genesee-st., Syracuse, N.Y.
Hipwell Manufacturing Co., telephone makers, Allegheny, Pa.
Hirlemann, Chas. J., manufacturer of the Hirlemann batteries, 17, Laight-st., New York, N.Y.
Hirtenstein, Louis, electrical engineer, 29, Reid-ave., Brooklyn, N.Y.
Hisey-Wolf Machine Co., manufacturing electricians, Spring Grove-ave., Cincinnati, Ohio.
Hitt & Brown, electrical contractors, Norfolk, Va.
Hitzeroth, L. D., A.AM.I.E.E., engineer, Century Electric Co., 18, Fell-st., San Francisco, Cal. (Telegs.: "Century, San Francisco." Teleph. No. 283, Special.)
Hoag, Geo. M., A.AM.I.E.E., city electrician, 113, City Hall, Cleveland, Ohio.
Hoag, P. L., electrical engineer & contractor, 8, Dover-st., New York, N.Y. (Telegs.: "Cymric, New York." Teleph. No. 4340, John.)
Hobart Electric Manufacturing Co., The, dynamo & electric machine manufacturers, Troy, Ohio.
Hobbie, C. D. U., electrical engineer, 1, North Culver-st., Rochester, New York.
Hobson Electric Co., dealers in electrical supplies, Dallas, Tex.
Hodge, William B., B.S., A.AM.I.E.E., electrical engineer, Philadelphia, Pa.
Hodge Electric & Manufacturing Co., 701, Delaware-st., Kansas City, Mo. (Teleph. No. 113, Main.)
Hodges, G. H., M.AM.I.E.E., electrical engineer, 15, Dey-st., New York.
Hodgson, Cecil, A.I.E.E., electrical engineer, 960, Monadnock-bldg., Chicago, Ill.
Hoeftman, A. O., M.AM.I.E.E., superintendent Electric Cable Works, American Steel & Wire Co., Worcester, Mass.
Hoeschen Manufacturing Co., manufacturers of electrical instruments, 1304, Douglas-st., Omaha, Neb.
Hoff, J. B., electrical engineer, Lakewood, N.J.
Hoffman, Joseph, installation contractor, 127, East 23rd-st., New York.
Hoffmann, Herman, installation contractor, 1636, Western-ave., Cincinnati, Ohio.
Hoit, O. A., electrician & machinist, 1007, K.-st., Sacramento, Cal.
Hoit's Electrical Works, electricians & machinists, 1009, K.-st., Sacramento, Cal.
Holabird-Reynolds Electric Co., installation contractors, 116, East 5th-st., Los Angeles, Cal.
Holberton, Geo. C., A.AM.I.E.E., engineer, Electric Distribution, Pacific Gas & Electric Co., 925, Franklin-st., San Francisco, Cal.

Holbrook, W. S., electrical contractor, South Weymouth, Mass.

Holcomb, D. S., installation contractor, repairing, &c., 60, Centre-st., New York. (Teleph. No. 4296, Cort.)

Holcomb-Lobb Co., oak & cedar railway ties, &c., 746–748, Marquette-bldg., Chicago, Ill. (Long Distance Telephone No. 3328, Central.)

Holcombe & Co., electrical supplies, 42, Vesey-st., New York.

Holder, H. A., electrical contractor, 122, Dudley-st., Boston, Mass. (Telephone No. 411–2, Roxbury.)

Holding, E. G., electrical construction & supplies, P. O. Box 1218, 53, West First South-street, Salt Lake City, Utah. (Both Teleph. Nos. 1664.)

Holland, C. A., installation contractor, 454, 28th-ave., Los Angeles, Cal.

Holland, C. C., electrical contractor, 225, 5th-ave., McKeesport, Pa.

Holland Machine Co., manufacturing electricians, 51, Cliff-st., New York.

Hollings, R., & Co., manufacturers of electrical apparatus, 39, Bedford-st., Boston, Mass.

Hollingsworth, L., jun., electrical engineer, Girard-bldg., Philadelphia, Pa.

Hollis Electric Co., installation contractors, 311, 2nd-ave. South, Minneapolis, Minn.

Hollister Light & Power Co., Hollister, Cal.

Holloway, Bentz & Co., electrical supply dealers, 80, Cortlandt-st., New York.

Holmes, Franklin S., M.AM.I.E.E., electrical engineer, 26, Cortlandt-st., New York.

Holmes, Booth & Haydens Co., manufacturers of insulated wire, 99, John-st., New York, N.Y. Factories: Waterbury, Conn.

Holmes Electric Protective Co., electric protection against burglary, 26, Cortlandt-st., New York; 812, Chestnut-st., Philadelphia, Pa.; 238, Devonshire-st., Boston; 244, 5th-ave., Pittsburg, Pa.; & 9, East Lexington-st., Baltimore, Md.

Holmes Fibre Graphite Manufacturing Co., dynamo brush makers, 5155, Wakefield-st., Germantown, Philadelphia, Pa.

Holmes-Rose Electrical Co., electrical engineers, 306, West Fayette-st., Baltimore, Md.

Holmesburg, Tacony & Frankford Electric Railway Co., Tacony, Pa.

Holophane Glass Co., scientific glass globes for electric lighting, 15, East 32nd-st., New York. (Telegs.: "Holophane, New York." Teleph. Nos. 1444 & 1445, Madison-sq.)

Holson Motor Patents Co., couple-gear motor manufacturers, Grand Rapids, Mich.

Holt, Marmaduke Burrell, A.AM.I.E.E., mining & electrical engineer, Silverton, Col.

Holt Electric Co., manufacturing electricians, 285, Virginia-st., Milwaukee, Wis.

Holt Engineering Co., consulting electrical engineers, New England-bldg., Cleveland, Ohio.

Holt & Schober, consulting & electrical engineers, Provident-bldg., Philadelphia, Pa.

Holton Electric Co., Holton, Kansas.

Holtzer, Chas. W., president, Holtzer-Cabot Electric Co., Brookline, Mass.

Holtzer-Cabot Electric Co., The, manufacturers & dealers in electrical machinery & supplies, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")

Holyoke Gas & Electric Department, Holyoke, Mass.

Holyoke Machine Co., manufacturers of turbine water wheels, Main-street, Holyoke, & 95, Thomas-street, Worcester, Mass.

Holyoke Street Railway Co., Holyoke, Mass.

Home Electric Co., installation contractors, 205, West Market-st., Louisville, Ky.

Home Electric Light & Steam Heat Co., Tyrone, Pa.

Home Electrical Co., electrical contractors, 624, North 4th-st., Burlington, Iowa.

Home Light, Heat & Power Co., The, Pittsburg, Kan.

Home Lighting, Power & Heating Co., Springfield, Ohio.

Homer Commutator Co., makers of commutators, 108, Mason-st., Cleveland, Ohio.

Homesdale Cons. Light, Water & Power Co., Homesdale, Pa.

Hommel, Ludwig, A.AM.I.E.E., 904, Arrott-bldg., Pittsburg, Pa.

Hood River Electric Light, Power & Water Co., Hood River, Ore.

Hoopes, Maurice, M.AM.I.E.E., vice-president Finch, Pruyn & Co., Inc., Glen Falls, N.Y.

Hoopeston Electric Light & Heating Co., Hoopeston, Ill.

Hoosac Valley Street Railway Co., North Adams, Mass.

Hoosick Falls Illuminating Co., Hoosick Falls, N.Y.

Hooven, Owens & Rentschler Co., manufacturers of Hamilton-Corliss engines, Hamilton, Ohio.

Hope City Electric Light Plant, Hope, Ark.

Hope Electric Construction Co., electrical supplies, Ashbury Park, N.J.

Hope-Jones, Robert, M.I.E.E., Uphams Corner, Boston, Mass.

Hopkins, Nevil Monroe, A.AM.I.E.E., electrical engineer, 1730, I.-st., Washington, D.C.

Hoppes Manufacturing Co., manufacturers of the Hoppes live steam feed water purifier & exhaust steam feed water heater, Belmont-avenue & Big 4 RR., Springfield, Ohio.

Horn, M. T., Co., manufacturers of hard rubber specialties, 82, Park-pl., New York.

Horn & Brannen Manufacturing Co., manufacturers of gas & electric light fixtures, 427–433, North Broad-st., Philadelphia, Pa.

Hornellsville Electric Railway Co., Hornellsville, N.Y.
Horry, William Smith, electrician, Union Carbide Co., Niagara Falls, N.Y.
Horton Electric Obtunding Co., electro-therapeutic apparatus, 368, Colonial Arcade, Cleveland, Ohio.
Hosmer, Sidney, M.AM.I.E.E., superintendent of Installation, Edison Electric Illuminating Co., 3, Head-pl., Boston, Mass.
Hot Springs Street Railroad Co., Hot Springs, Ark.
Hot Springs Water, Gas & Electric Light Works, Hot Springs, Ark.
Hot Springs Water, Light & Power Co., Hot Springs, South Dakota.
Hotchkiss, Homer J., professor of physics, Drexel Institute, Philadelphia, Pa.
Hough, H. L., electrical contractor, Phœnix-bldg., Minneapolis, Minn.
Houghton County Electric Light Co., Houghton, Mich.
Houghton County Street Railway Co., Hancock, Mich.
Houillion, Edw., installation contractor, 1021, Marshall-ave., Cincinnati, Ohio.
Housatonic Manufacturing Co., manufacturers of lamp shade holders, New Haven, Conn.
Houser, D. E., installation contractor, 200, Nelson-st., Fort Wayne, Ind.
Houston, Prof. Edwin J., M.AM.I.E.E., consulting electrical engineer & patent expert, late president American Institute of Electrical Engineers, 1809, Spring Garden-st., Philadelphia, Pa.; & 1203, Crozer-bldg., Philadelphia. (Telegs.: "Volta, Philadelphia." Bell Teleph. No. 27–12, Spruce.)
Houston Electric Co., Houston, Tex.
Houston Electric Co., installation contractors, 31, East 3rd-st., Cincinnati, Ohio.
Houston Light & Power Co., Houston, Tex.
How, John K., Co., electrical contractors, 306, St. Paul-st., Baltimore, Md. (Teleph. Nos.: 1664, C. & P.; & 1076, Md.)
Howard, B. F., F.R.P.S., A.M.I.E.E., Box 893, Chief Post Office, Denver, Col.
Howard Electric Novelty Co., Incorp., manufacturers of portable lamps & dry batteries, 244, West 43rd-st., New York. (Teleph. No. 3837, Franklin.)
Howard Miniature Lamp Co., incandescent lamp makers, 58 & 60, Reade-st., New York.
Howard & Morse, manufacturers of valves, 45, Fulton-street, New York, N.Y.
Howe, J. C., A.AM.I.E.E., assistant engineer, American Teleph. & Teleg. Co., 125, Milk-st., Boston, Mass.
Howell, John W., M.AM.I.E.E., engineer, General Electric Co.'s Lamp Works, Harrison, N.J.
Howell, Wilson S., M.AM.I.E.E., secretary & manager Electrical Testing Laboratories, 80th-st. & East End-ave., New York.
Howland, Lewis A., M.AM.I.E.E., Nassau Light & Power Co., Roslyn, N.Y.
Howson, Hubert, A.AM.I.E.E., patent lawyer, 38, Park-row, New York City.
Hoxie, Geo. L., electrical engineer, 45, Broadway, New York.
Hoyt, Dr. A. H., electrician, electrical instrument manufacturer, Penacook, N.H. (Teleph. No. 34–4.)
Hubbard, Albert S., A.AM.I.E.E., chief engineer, Gould Storage Battery Co., Century-bldg., 1, West 34th-st., New York.
Hubbard, Wm. C., A.I.E.E., general agent, Cooper-Hewitt Electric Co., 220, West 29th-st., New York, N.Y. (Teleph. No. 2870, Chelsea.)
Hubbard Brake Co., makers of electric brakes, Chester, Pa.
Hubbard & Henderson, electrical contractors, Flint, Mich.
Huber, Otto, installation contractor, Forth & Main-sts., Cincinnati, Ohio.
Hubley, George Wilbur., M.AM.I.E.E., electrical engineer, superintendent Louisville Electric Light Co., Louisville, Ky. (Telephone No. 503, Main.)
Huckins, P. S., & Co., dealers in electric light poles, 45, Kilby-street, Boston, Mass.
Hudson, Wm., electrical contractor, 831, Elton-ave., New York, N.Y.
Hudson Electric Light & Power Co., Hudson, Mass.
Hudson Municipal Electric Light Plant, Hudson, Mich.
Hudson River Electric Co., Glens Falls, N.Y.
Hudson River Electric Power Co., Mechanicsville, N.Y.
Hudson River Telephone Co., Albany, N.Y.
Hudson Valley Electric Supply Co., installation contractors, 26, Beaver-st., Albany, N.Y.
Hudson Valley Railway Co., Glens Falls, N.Y.
Hueter's Electric Works, installation contractors, 2857, Folsom-st., San Francisco, Cal.
Huff, E. W., electrical contractor, Fillmore, N.Y.
Hufschmidt, L. A., Manufacturing Co., electrolier manufacturers & fitters, 586, McAllister, San Francisco, Cal.
Hughes, Thomas, electric signs, 51, East 9th-st., New York.
Hughes Electric Co., Bismark, N.D.
Hughes, James F., Co., electrical engineers, 28, Elm-st., New York.
Hull Municipal Electric Light Department, Nantasket, Mass.
Hulse, Wm. S., M.I.E.E., 111, Broadway, New York.
Humphrey, Henry H., M.AM.I.E.E., consulting electrical engineer, Suite 1505, Chemical-bldg., St. Louis, Mo.

Hunnicutt & Co., electrolier manufacturers & fitters, Atlanta, Ga.
Hunt, A. M., M.AM.I.E.E., electrical engineer, Hunt, Mirk & Co., 614, Mission-st., San Francisco, Cal.
Hunt, C. W., Co., engineers & contractors, 45, Broadway, New York, N.Y. (Telegrams: "Coalshovel, New York.")
Hunt, Henry C., Co., manufacturers of leather belting, 32, Oliver-st., near cor. Franklin-st., Boston, Mass. (Telephone No. 292, Main.)
Hunt, Rodney, Machine Co., manufacturers of clutches & turbines, Orange, Mass.
Hunt, W. T., & Son, electrical & scientific books, 150, Nassau-st., New York.
Hunter, J. Peyton, dealer in electrical machinery & supplies, 173, Main-st., Dallas, Tex.
Hunter, R. M., M.AM.I.E.E., M.S.I.E., engineer & patent solicitor, 926, Walnut-st., Philadelphia, Pa. (Telegrams: "Venator, Philadelphia." Telephone No. 3-37-08.)
Hunter & Brander, electrical contractors, 139, Border-st., East Boston, Mass. (Teleph. connection.)
Hunter Fan & Motor Co., electric & belt ventilating fans, Fulton, N.Y.
Hunter, James, Machine Co., manufacturers of friction clutches, North Adams, Mass.; & 70, Kilby-st., Boston, Mass.
Hunting, F. S., M.AM.I.E.E., electrical engineer, 1301, Washington-boul., Fort Wayne, Ind.
Huntingdon Electric Light & Water Works, Huntingdon, Tenn.
Huntington, David, M.AM.I.E.E., general manager & chief engineer, Washington Water Power Co., Spokane, Washington.
Huntington Light & Fuel Co., Huntington, Ind.
Huntington Light & Power Co., Huntington, N.Y.
Huntsville Railway, Light & Power Co., Huntsville, Ala.
Hurd & Haggin, consulting electrical engineers, 316, Hudson-st., New York.
Hurlburt-Still Electric Co., installation contractors, Houston, Tex.
Huron Automobile & Electrical Co. (G. E. Yokom, manager), dealers in electrical supplies & construction work, Port Huron, Mich. (Teleph. No. 154.)
Hussey, McCann & Co., peerless grease extractors & steam specialties, 87, Warren-st., New York. (Teleph. No. 5812, Cort.)
Hutchins, C. A., & Co., installation contractors, Watertown, N.Y.
Hutchinson, Dr. Cary T., PH.D., M.AM.I.E.E., &c., consulting electrical engineer, 60, Wall-st., New York.
Hutchinson Street Railway Co., Hutchinson, Kan.
Hutchinson Water, Light & Power Co., Hutchinson, Kan.
Hutchison, W. G., Co, manufacturers of electric & combination fixtures, 597, South Spaing-st., Los Angeles, Cal.
Huth, Wm., installation contractor, 635, Grand-st., Brooklyn, N.Y. (Teleph. No. 4036, Williamsburg.)
Hutmann, Edward, A.M.I.E.E., 128, William-st., East Orange, New Jersey.
Hutton, C. W., M.AM.I.E.E., superintendent Electric Department, Sacramento Electric, Gas & Railway Co., Sacramento, Cal. (Telephone No. Vale 6391.)
Hutton Electrical Co., Inc., 4, Arcade-bldg., Scranton, Pa.
Hutton Engineering Co., installation contractors, Lexington, Va.
Hyam, Philip C., jun., installation contractor, 918, F.-st., N.W., Washington, D.C.
Hyde, J. E. Hindon, A.AM.I.E.E., 120, Broadway, New York.
Hyde, Jerome W., M.AM.I.E.E., electrical engineer, Springfield Steam Power Co., Springfield, Mass.
Hyde Park Electric Light Co., Hyde Park, Mass.
Hyer-Sheehan Electric Motor Co., motor, dynamo & switch manufacturers, Newburg, N.Y.

Ibena Electric Supply Co., electrical contractors, New Ibena, La.
Ideal Construction Co., telephone engineers & contractors, Harper-blk., Lima, Ohio.
Ideal Electric Contracting Co., installation contractors, 1133, Broadway, New York.
Ideal Electric & Manufacturing Co., electrical machinery manufacturers, Mansfield, Ohio.
Ideal Electric Motor Co., installation contractors, 26th-st. & Broadway, New York.
Ideal Electric Works, installation contractors, 15th- & Howards-sts., San Francisco, Cal.
Ideal Gas & Electric Fixture Co., electrolier manufacturers & fitters, 144, Worth-st., New York.
Idell, Frank E., A.AM.I.E.E., Havemeyer-bldg., 26, Cortlandt-st., New York City.
Iden & Co., electric light fixtures, 26, University-pl., New York.
Igniter Appliance Co., ignition apparatus manufacturers, Cleveland, Ohio.
Ihlder, John D., M.AM.I.E.E., electrical engineer, Otis Elevator Co., New York, N.Y.
Ilion Village Electric Light Plant, Ilion, N.Y.
Illinois Electric Co., dealers in electrical supplies, 239, Madison-st., Chicago, Ill.
Illinois Electric Specialty Co., makers of telephone specialties, Tacoma-bldg., Chicago, Ill.
Illinois Electrical Manufacturing Co., electrical machinery & repairs, Peoria, Ill.
Illinois Engineering Co., electrical engineers, Manhattan-bldg., Chicago, Ill.
Illinois Maintenance Co., manufacturing electricians, 1625, Marquette-bldg., Chicago, Ill.
Illinois Valley Railway Co., La Salle, Ill.

Imhauser, E., manufacturer of watchman's clocks, 206, Broadway, New York.
Imlay, L. E., M.AM.I.E.E., superintendent, Niagara Falls Power Co., & Canadian Niagara Power Co., Niagara Falls, N.Y.
Imperial Electric Co., incandescent lamp manufacturers, 1022, Arch-st., Philadelphia, Pa.
Imperial Electrical Repair Co., manufacturing electricians, 1527, Chestnut-st., St. Louis, Mo.
Imperial Porcelain Works, manufacturers of porcelain, corner of Mulberry & Clagg-aves., Trenton, N.J.
Inch, S. R., A.I.E.E., Missoula Light & Water Co., Missoula, Mont.
Independence & Monmouth Water & Electric Light Co., Independence, Ore.
Independent Electric Co., San Antonio, Tex.
Independent Electrical Construction Co., installation contractors, 381, Fulton-st., San Francisco, Cal.
Independent Electrical Supply Co., installation contractors, 302, West Broadway, New York.
Independent Incandescent Lamp Co., makers of incandescent lamps, 2115–2117 & 21119, Locust-st., St. Louis, Mo.
Independent Telephone Association of the United States of America, secretary J. B. Ware, Detroit, Mich.
Independent Telephone Manufacturing Co., telephone manufacturers, 131–141, Francis-st. Office: 323, East Wilson-st., Madison, Wis.
Indiana Central Traction Co., Wabash, Ind.
Indiana Electric Co., Indiana, Pa.
Indiana Rubber & Insulated Wire Co., manufacturers of insulated wire & cables, Jonesboro, Ind.
Indiana Steel Wire Co., telephone & telegraph wire, Muncie, Ind.
Indiana Union Traction Co., Anderson, Ind.
Indianapolis, Columbus & Southern Traction Co., Columbus, Ind.
Indianapolis & Eastern Railway Co., Indianapolis, Ind.
Indianapolis Light & Heat Co., Indianapolis, Ind.
Indianapolis & Martinsville Rapid Transit Co., Indianapolis, Ind.
Indianapolis & Northwestern Traction Co., Indianapolis, Ind.
Indianapolis Traction & Terminal Co., Indianapolis, Ind.
India Rubber & Gutta-Percha Insulating Co., manufacturers of "Habirshaw" wires & cables, Glenwood Works, Yonkers, N.Y.
India Rubber World (monthly; ann. sub., U.S. and Canada, $3; foreign, $3.50), 35, West 21st-st., New York. (Teleph. No. 3669, Grammercy.)
Ingersoll-Sergeant Drill Co., makers of the Crescent battery, for electric blasting, 11, Broadway, New York.
Inglis Electric Co., dealers in electrical supplies, Providence, R.I.
Inglis, Wm., Wire & Iron Works, lamp guards, globe nets, fan-motor guards, 59–61, East Woodbridge-st., Detroit, Mich.
Inland Electric Co., installation contractors, Spokane, Wash.
Institute for Home Study of Engineering, Cleveland, Ohio.
Insull, J., A.AM.I.E.E., general manager General Incandescent Arc Light Co., Pittsfield, Mass.
Insull, Samuel, M.AM.I.E.E., M.I.E.E., electrical engineer, president Chicago Edison Co., 139, Adams-st., Chicago, Ill. (Telegrams: "Insull, Chicago.")
Insurance Engineering (monthly), 120, Liberty-st., New York. (Ann. sub., P.U., $4.)
Interborough Electric Service Corporation, installation contractors, 138, Liberty-st., New York.
Interborough Rapid Transit Co., New York.
Inter-Mountain Electric Co., electrical supplies & construction, 45, E. First South-st., Salt Lake City, Utah (Telegrams: "Fenton, Salt Lake City." Telephone No. 354.)
International Acheson Graphite Co., manufacturers in the electric furnace of Acheson Graphite Electrodes, Plates, Rods, &c., & Acheson Graphite in bulk for all purposes, Niagara Falls, N.Y., U.S.A. (Cablegrams: "Graphite, Niagara Falls." A.B.C. Code, 4th & 5th editions.)
International Brass & Electric Co., Incorporated, manufacturers of spark coils, &c., 76, Beekman-st., New York.
International Correspondence Schools, Scranton, Pa.
International Electric Meter Co., measuring instrument makers, 330, West Randolph-st., Chicago, Ill.
International Instrument Co., electrical instrument makers, Cambridge, Mass. (Telegs.: "Interco, Boston.")
International Railway Co., Buffalo, N.Y.
International Telephone Manufacturing Co., telephone apparatus makers, Harrison & Clinton-sts., Chicago, Ill. (Telegs.: "Telephones, Chicago." Teleph. No. 1235, Harrison.)
International Trolley Controller Co., makers of trolley appliances, Buffalo, N.Y.
Interstate Electric Co., manufacturing electricians, Connellsville, Pa.
Interstate Electric Co., Ltd., electrical supplies & construction, Baronne & Perdido-sts., New Orleans, La. (Telephone Nos. 1525 & 72.)
Interstate Railways Co., 515, Mariner & Merch.-bldg., Philadelphia, Pa.
Interstate Supply Co., dealers in electrical supplies, Sioux City, Iowa.

Interurban Electric Equipment Co., installation contractors, 147, Lawrence-st., Brooklyn, N.Y.
Interurban Railway & Terminal Co., Cincinnati, Ohio.
Invincible Electric Construction Co., installation contractors, 113, East 59th-st., New York.
Iola Electric Railroad Co., Iola, Kan.
Ionia Water Power Electric Co., Ionia, Mich.
Iowa City Electric Light Co. (G. S. Carson, president; F. C. Carson, secretary), Iowa City, Iowa.
Iowa Electric Co., dealers in electrical supplies, 209, Valley-st., Burlington, Iowa. (Telephone No. 301.)
Iowa Electric Co., manufacturing electricians, Davenport, Iowa.
Iowa Gas & Electric Co., Washington, Iowa.
Ireland, R. D., & Co., electric light fixtures, 246, Borylston-st., Boston, Mass.
Irish, W. F., Electric Co., installation contractors, 60, Cortlandt-st., New York.
Iron Age (weekly; ann. sub., $5.00), 14 & 16, Park-pl., New York. (Telegs.: "Age, New York.")
London office: Hastings House, Norfolk-st., Strand.
Iron City Engineering Co., installation contractors, Frick-bldg., Pittsburg, Pa.
Iron Mountain Electric Light & Power Co. (superintendent, Geo. Irving), Iron Mountain, Mich.
Iron Trade Review (weekly; ann. sub., $3.00; P.U., $4), Cleveland, Ohio.
Irvin, Dan W., electrical contractor, electric flashlight signs, 309, South 6th-st., Cedar Rapids, Iowa.
Irvine & Waltersperger, electrolier manufacturers & fitters, 1167, Jefferson-ave., Detroit, Mich.
Israel, J., & Co., installation contractors, 633, East 149th-st., New York.
Ithaca Electric Contracting Co., contractors & dealers, 112, North Aurora-st., Ithaca, N.Y.
Ithaca Electric Light & Power Co., Ithaca, N.Y.
Ithaca Street Railway Co., Ithaca, N.Y.
Ivins, Elwood, Tube Works, makers of seamless metal tubing, 487, Broadway, New York; & (works) Oaklane Station, Philadelphia, Pa.

Jackman, L. H., installation contractor, 1552, West Adams-st., Chicago, Ill.
Jackson, Dugald C., M.AM.I.E.E., consulting engineer, Madison, Wis.
Jackson, F. E., M.AM.I.E.E., incandescent filament manufacturer, 128, Essex-ave., Orange, N.J.
Jackson, G. W., chief engineer, Illinois Telephone Construction Co., Chicago, Ill. (Teleph. Nos.: 749, Main; & 3105, Automatic.)
Jackson, H. R., fine electrical work & electric light fixtures, 818, Prudential-bldg., Newark, N.J. (Teleph. No. 2526 J.)
Jackson, J. P., B.S.M.E., M.AM.I.E.E., consulting engineer & expert & professor of electrical engineering, Penn. State College, State College, Pa.
Jackson, T. F., installation contractor, 592, Columbus-ave., New York.
Jackson, Dugald C. & Wm. B., M.AM.I.E.E., consulting engineers & experts, Madison, Wis.
Jackson & Battle Creek Traction Co., Jackson, Mich.
Jackson Consolidated Traction Co., 118, Main-st., Jackson, Mich.
Jackson & Earle, electrical contractors, Stockton, Cal. (Teleph. No. 400, Main.)
Jackson Electric Light Plant, Jackson, Ohio.
Jackson Electric Railway, Light & Power Co., Jackson, Miss.
Jackson & Suburban Street Railway Co., Jackson, Tenn.
Jacksonville City Electric Light Plant, Jacksonville, Fla. (Teleph. No. 434.)
Jacksonville Electric Light Co., Jacksonville, Fla.
Jacksonville Railway & Light Co., Jacksonville, Ill.
Jacobs, Geo. L., installation contractor, Fairbury, Ill.
Jacobs, J. C., installation contractor, Charleston, W. Va.
Jaeger, Ch. L., A.AM.I.E.E., inventor & electrician, Maywood, N.J.; & laboratory: 132, Mulberry-st., New York. (Telephone Nos.: 74A, Maywood, N.J.; & 998, Spring, N.Y.)
Jaeger Miniature Lamp Manufacturing Co., Bible House, New York City. (Cable address: "Decorative, New York.")
Jakobson, M., installation contractor, 1125, Lexington-ave., New York, N.Y.
Jamaica Plain Electric Co., electrical contractors & supply dealers, 290, South-st., Jamaica Plain, Mass.
Jamestown Electric Co., installation contractors, Jamestown, N.Y.
Jamestown Lighting & Power Co., Jamestown, N.Y.
Jamestown Municipal Electric Light Plant, Jamestown, N.Y. (Bell & Home Telephone Nos. 218.)
Jamestown Street Railway Co., Jamestown, N.Y.
Jandous Electric Equipment Co., installation contractors, 510, 6th-ave., New York.
Jandus Electric Co., makers of arc lamps, electric fans & motors, Cleveland, Ohio.
Janesville Contracting Co., electric construction & supplies, Janesville, Wis.
Janesville Electric Co., Janesville, Wis.
Janney, Thos. Gordon, C.E., consulting engineer, 1140-43, Real Estate Trust-bldg., Philadelphia, Pa. (Bell Teleph. No. 308, Walnut.)

Jannus Frankland, M.AM.I.E.E., solicitor of patents, 141, Broadway, New York. (Tel. No. 6273, Cort.)
Jansky, C. M., professor of electrical engineering, University of Oklahoma, Norman, Okla.
Jantz & Leist Electric Co., 808–810, Elm-st., Cincinnati, Ohio. (Telegs.: "Jalectric, Cincinnati." Long Dist. Teleph. No. 1877, Canal.)
Jarecki Chemical Co., manufacturing chemists, Sandusky, Ohio.
Jarecki Manufacturing Co., Ltd., manufacturers of engineers' tools, Erie, Pa.
Jarvis Engineering Co., contractors for steam plants, 61, Oliver-street, Boston, Mass.
Jasper Water, Light & Power Co., Jasper, Ala.
Jefferson Brass Foundry, commutator bars, pure copper castings, 209, King-st., Brooklyn, N.Y.
Jefferson City Light, Heat & Power Co., Jefferson City, Mo.
Jefferson Electric Co., dealers in electrical supplies, 176, Jefferson-ave., Detroit, Mich. (Teleph. Main No. 1854.)
Jefferson Light, Heat, Power & Water Co., Jefferson, Iowa.
Jeffrey Manufacturing Co., manufacturers of the Jeffrey electric coal mining machines, electric drills, pumps & locomotives, 172, East 1st-ave., Columbus, Ohio.
Jeffries Electric Co., installation contractors, 1071, Dennison-ave., Columbus, Ohio.
Jenkins Bros., valve & packing manufacturers, 71, John-st., New York (Telegrams: "Pipkin, N.Y."); & 62, Watling-st., Queen Victoria-st., London, E.C.
Jenkintown Light Co., Jenkintown, Pa.
Jenks, W. H., electrical contractor, 617, East Main-st., Richmond, Va. (Telephone No. 338.)
Jenks, W. J., M.AM.I.E.E., secretary Board of Patent Control, 120, Broadway, New York. (Telephone No. 5289, Cort.)
Jenney Electric Manufacturing Co., high-grade direct current dynamos & motors, Indianapolis, Ind.
Jennings, W. H., installation contractor, 509, North Water-st., Decatur, Ill.
Jermyn Electric Light, Heat & Power Co., Jermyn, Pa.
Jersey Central Traction Co., Keyport, N.J.
Jersey City Electric Co., installation contractors, 263, Fairmount-ave., Jersey City, N.J.
Jersey City, Hoboken & Paterson Street Railway Co., Hoboken, N.J.
Jersey Shore Electric Street Co., Jersey Shore, Pa.
Jerseyville Light, Heat & Power Co., Jerseyville, Ill.
Jessop, Wm., & Sons, steel manufacturers, converters & refiners, 91, John-st., New York.
Jewell Belting Co., manufacturers of machine belting, belt dressing & belt cement, 15, Trumbull-st., Hartford, Conn.
Jewell Electrical Instrument Co., voltmeters & ammeters, 61–63, Union Park-court, Chicago, Ill. (Telephone No. 929, Monroe.)
Jewett Car Co., electric tramcar builders, Newark, Ohio.
Joachim, Jacob, electrical engineer & contractor, 405, Baronne-st., New Orleans, La.
Johannesen, S. E., M.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Johns Hopkins University, Baltimore, Md.
Johns-Manville, H. W., Co., manufacturers of asbestos, electric insulating materials, &c., 100, William-st., New York, N.Y. (Telegrams: "Wardjohns, New York"); & 171-173, Randolph-st., Chicago, Ill.
Johnson, Christian, installation contractor, 134, Van Buren-st., Chicago, Ill.
Johnson, F. H., electrical contractor, 32, Central-sq., Lynn, Mass. (Teleph. No. 523-5); & 86, Washington-st., Marblehead. (Teleph. No. 112-2.)
JOHNSON, WALLACE C., M.A.B.S., M.A.S.C.E., M.A.S.M.E., consulting engineer, Water Power Development & Power Transmission, Niagara Falls, N.Y. (Telegrams: "Wallace, Niagara"); & 43–49, Exchange-pl., New York City.
Johnson, Warren S., A.AM.I.E.E., Johnson Service Co., Milwaukee, Wis.
Johnson Electric Co., installation contractors, 421, St. Paul-st., Baltimore, Md.
Johnson & Morton, manufacturers of distributing boards & knife switches, Utica, N.Y. (Telephone No. 338.)
Johnson-Robinson Machinery Co., mfrs. of & jobbers in machinery, 715–717, N. 2nd-st., St. Louis, Mo.
Johnson Temperature Controlling Co., manufacturers of automatic, pneumatic & electric heat regulators, 152, Lake-st., Chicago, Ill.
Johnston, Thomas J., lawyer & electrical engineer, 11, Pine-st., New York. (Telegrams: "Teejay, Newyork.")
Johnstown Passenger Railway Co., Johnstown, Pa.
Jones, Albert E., electrical engineer, East 5th-st., Cincinnati, Ohio.
Jones, B. N., M.AM.I.E.E., electrician, Marine Engine & Machine Co., Harrison, N.J.
Jones, Ernest S., consulting electrical engineer, Muncie, Ind. (Teleph. No. 444.)
Jones, Fred. Atwood, M.AM.I.E.E., consulting electrical, mechanical & hydraulic engineer, 210–212, Main-st., Houston, Tex. (Teleph. No. 2289, S.W.)
Jones, F. W., M.I.E.E., M.AM.I.E.E., electrical engineer, Postal Telegraph Cable Co., 253, Broadway, New York.
Jones, George, installation contractor, Vineland, N.J.

Jones, G. M., manufacturing electrician, 321, Dix-court, Scranton, Pa.
Jones, Harold K., electrical contractor, 180, Front-st., & 22, Burling Slip, New York. (Telephone No. 1668, John.)
Jones, Prof. Forrest R., A.AM.I.E.E., M.A.S.M.E., electrical & mechanical engineer, professor of machine design, Sibley College, Cornell University, Ithaca, N.Y.
Jones, R. R., manufacturing agent, Harrisburg, Pa.
Jones Electric Co., installation contractors, County Bank-bldg., Buffalo, N.Y.
Jones Electric Co., installation contractors, 1625, West 25th-st., Cleveland, Ohio.
Jones Electrical Co., makers of fan motors, 62, Vesey-st., New York.
Jones, F. P., & Co., electrical contractors, 126, Erie County Bank-bldg., Buffalo, N.Y.
Jones, J., & Son, manufacturers of & dealers in electrical supplies, 62, Vesey-st., New York. (Telegrams: "Sonjones, New York." Telephone No. 844, Cortlandt.)
Jones, W. C., Electrical Supply Co., electrical contractors & jobbers, Geneva, N.Y. (Telegs.: "Jesco, Geneva." Teleph. No. 200.)
Jones & Winter, telephone engineers, 1259, Monadnock-bldg., Chicago, Ill.
Jonesboro Water & Light Co., Jonesboro, Ark.
Jordan, August, installation contractor, 109, West 29th-st., New York.
Jordan Automatic Signal Co., Inc., 74, Beekman-st., New York.
Jordan Bros., electricians, 74, Beekman-st., New York. (Teleph. No. 4915, Beekman.)
Jordan Electric Light & Power Co., Jordan, N.Y.
Jourdan, F. M., A.AM.I.E.E., supply agent, General Electric Co., Boston, Mass.
JOURNAL OF ELECTRICITY, POWER & GAS (weekly), devoted to the conversion, transmission & distribution of energy, official organ of the Pacific Coast Electric Transmission Association, The Technical Publishing Co., succrs. to Journal of Electricity Publishing Co., 119 & 121, New Montgomery-st., San Francisco, Cal.
Journal of the Franklin Institute (monthly; ann. sub., $5), 15, South 7th-st., Philadelphia, Pa.
Journal of the Telegraph (monthly; ann. sub., $1), 195, Broadway, New York.
Journal of the Western Society of Engineers (6 times a year. Ann. sub., $3.00. Free to members), 1737, Monadnock-blk., Chicago, Ill.
Joy, Edward, dealer in electrical supplies, Syracuse, N.Y. (Both Telephones.)
Joyce & Adams, installation contractors, New Orleans, La.
Joyner, A. H., A.I.E.E., Stone & Webster, 84, State-st., Boston, Mass.
Judd Electric Co., manufacturers of electric bells, medical batteries & electrical specialties, Detroit, Mich.
Judson, Wm. Pierson, M.AM.S.C.E., M.I.C.E., A.M.AM.I.E.E., civil & electrical consulting engineer, Deputy State engineer of N.Y., Albany, N.Y. (Telegrams: "Albany, New York." Telephone No. 2102.)

K. R. Electric Construction Co., installation contractors, 110, 6th-ave., New York.
Kabat, H. H., installation contractor, 302, West Broadway, New York.
Kalbach Bros., electrical contractors, Wildwood, N.J.
Kalbfleisch, Franklin H., Co., manufacturers of acids & chemicals, Broadway & 16th-st., New York.
Kalispell Water & Electric Co., Kalispell, Mont. (F. B. Roblin, general manager.)
Kaltenbach & Griess, consulting electrical engineers, Chamber of Commerce-bldg., Cleveland, Ohio.
Kanawha Valley Traction Co., Charleston, W. Va. A. H. Hampton, manager.
Kane, John D., electrical supplies, Fort Worth, Tex.
Kankakee Electric Light Co., Kankakee, Ill.
Kankakee Electric Railway Co., Kankakee, Ill.
Kankanna Electric Light Co., Kankanna, Wis.
Kansas City Electric Light Co., Kansas City, Mo.
Kansas City Electrical Construction Co., electrical contractors, 930, Wyandotte-st., Kansas City, Mo.
Kansas City Electrical & Telephone Supply Co., 919, Grand-ave., Kansas City, Mo.
Kansas City Railway & Light Co., Kansas City, Mo.
Kansas City & St. Joseph Electric Railway Co., Kansas City, Mo.
Kansas City-Western Railway Co., Leavenworth, Kan.
Kansas Long-Distance Telephone & Telegraph Co., Topeka, Kan.
Karas Electic Co., installation contractors, 218, La Salle-st., Chicago, Ill.
Karstaedt, H., installation contractor, 40, South Main-st., Dayton, Ohio. (Teleph. No. 3832, Home.)
Kartavert Manufacturing Co., manfrs. of hard & flexible fibre for electrical purposes, Wilmington, Del.
Kastner, G. Kurt., electrical contractor, 42, Union-sq., New York.
Kates, L. S., electrical engineer & contractor, 1314, Arch-st., Philadelphia, Pa.
Katte, E. B., M.AM.I.E.E., Electrical N.Y.C. & H.R.R.R. Co., Grand Central Station, New York. (Teleph. No. 6344–38th-st.)
Katzenbach & Co., F. S., dealers in electrical supplies, 35, East State-st., Trenton, N.J.
Kaufman, C. B., Railway Supply Co., street railway supplies, San Francisco, Cal.
Kearney Electric Co., installation contractors, 30, Miami-st., Detroit, Mich.

Keasbey, Robt. A., agent for Keasbey & Mattison Co., 100, North Moore-st., New York.
Keasbey & Mattison Co., fire proof magnesia, Ambler, Pa.
Keeler, E., Co., manufacturers of steam boilers, Williamsport, Pa.
Keelyn Electric Co., installation contractors, 133, Sycamore-st., Milwaukee, Wis.
Keene Electric Railway Co., Keene, N.H.
Keene Gas & Electric Co., Keene, N.H.
Keese, W. I., installation contractor, Los Angeles, Cal.
Keeseville Electric Co., electrical contractors, Keeseville, N.Y.
Kehoe, John E., electrical contractor, 2257, 3rd-ave., New York.
Keily, Wm. E., A.AM.I.E.E., managing editor, *Western Electrician*, 507, Marquette-bldg., Chicago, Ill.
Keiser-Van Leer Co., electrical contractors, Bloomington, Ill.
Keith, Dr. Nathaniel S., M.AM.I.E.E., mining & metallurgical engineer, 95, Liberty-st., New York.
Keith Electric Co., Beaumont, Tex.
Keller, E. E., M.AM.I.E.E., M.A.S.M.E., vice-pres. & general manager, Westinghouse Machine Co., Pittsburg, Pa.
Keller, J., dealer in electrical supplies, 1216, West 5th-st., Canton, Ohio.
Keller, Pike & Co., mechanical & electrical engineers, 1213, Race-st., Philadelphia, Pa.
Kelley Electric Co., installation contractors, 409, Elm-st., Cincinnati, Ohio.
Kellogg, Dr. J. H., electro-therapeutist, Battle Creek, Mich.
Kellogg, James W., M.E., A.AM.I.E.E., manager marine sales, General Electric Co., Schenectady, New York.
Kellogg, E. H., & Co., "Anti-Corrosive" cylinder oil & dynamo & general machinery oil, 244, South-st., New York.
Kellogg, M. W., & Co., electrical engineers, 143, Liberty-st., New York.
Kellogg Switchboard & Supply Co., manufacturers of telephones & telephone switchboards, Green & Congress-sts., Chicago, Ill.
Kelly, John, electrical engineer, Schenectady, N.Y.
Kelly, John F., PH.D., M.I.E.E., M.AM.I.E.E., consulting engineer, Pittsfield, Mass.
Kelly, T. T., & Co., electrical contractors, 2, Columbia-st., Boston, Mass.
Kelsey, James C., Purdue University, Lafayette, Ind.
Kelting Engineering & Supply Co., 119, Pearl-st., New York, N.Y.
Kenan, Wm. R., jun., M.AM.I.E.E., chemist & electrical engineer, Lockport, N.Y.
Kendall, Edward, & Sons, makers of high-pressure boilers for electric light plants, Cambridgeport, Mass.
Kendall, M. K., & Co., electric railway contractors, 32, Oliver-st., Boston, Mass.
Keniston Engineering Co., electrical contractors, 52, Washington-st., Boston, Mass.
Kennebec Light & Heat Co., Augusta, Maine.
Kennebunk Electric Light Co., Kennebunk, Maine.
Kennedy, Jeremiah J., M.AM.I.E.E., consulting engineer, 52, Broadway, New York.
Kennedy, Thomas, electrical contractor, Rochester, Minn.
Kennelly, A. E., M.A., D.SC., M.I.E.E., M.AM.I.E.E., professor of electrical engineering, Harvard University, Cambridge, Mass.
Kenney, W. E., installation contractor, Watertown, N.Y.
Kenny, Paul T., electrical engineer & contractor, 140, Nassau-st., New York. (Telegs.: "Kemaco, New York." Teleph. Nos. 4740 & 4741, Beekman.)
Kenny Electrical Manufacturing Co., electric lifts, Nassau-Beekman-bldg., 140, Nassau-st., New York. (Telegs.: "Kemaco, New York." Teleph. Nos. 4740 & 4741, Beekman.)
Kenosha Gas & Electric Co., Kenosha, Wis.
Kensington Engine Works, Ltd., builders of feed-water heaters, 704, Arch-street, Philadelphia, Pa.
Kent, J. Martin, A.AM.I.E.E., instructor in steam & electricity, Kansas City, Mo. (Telephone No. 2125, Cherry.)
Kent Water, Light & Power Co., Kent, Ohio.
Kenton Gas & Electric Co., Kenton, Ohio.
Kentucky Electric Co., electric light contractors, Ludlow, Ky.
Kentucky Electrical Co., incandescent lamp manufacturers, Owensboro, Ky.
Kentucky & Indiana Bridge & R. R. Co., Louisville, Ky.
Keokuk Electric Railway & Power Co., Keokuk, Iowa.
Keough Bros. & Co., installation contractors, 79, North-st., Boston, Mass.
Ker, W. Wallace, A.AM.I.E.E., instructor in Electrical Hebrew Technical Institute, 36, Stuyvesant-st., New York.
Kern, W. J., electrical supplies & construction, 107, St. Ann-st., Owensboro, Ky. (Home Telephone No. 540.)
Kerr Turbine Co., makers of turbo electric generators, Wellsville, N.Y.
Kershner, Jefferson E., A.AM.I.E.E., consulting engineer, Lancaster County R. & L. Co., 445, West Chestnut-st., Lancaster, Pa.
Kester Electric Co., manufacturers of dynamos & motors, 1106, South 14th-st., Terre Haute, Ind.
Kettenberg, Geo. W., installation contractor, 1206, Penn-ave., Pittsburg, Pa.

Kettler Electric Construction Co., installation, 7, North 9th-st., St. Louis, Mo.
Kewanee Light & Power Co., Kewanee, Ill.
Key West Electric Co., Key West, Fla. (O. C. G. Urban, manager.)
Keyser Electric Light Co., Keyser, W. Va.
Keystone Electric Co., makers of electro-therapeutic apparatus, 135, South 10th-st., Philadelphia, Pa.
Keystone Electric & Manufacturing Co., arc lamp manufacturers, Allegheny, Pa.
Keystone Electric Telephone Co., telephone instrument makers, 822, 5th-ave., Pittsburgh, Pa.
Keystone Electrical Engineering & Supply Co., 127, Duane-st., New York.
Keystone Electrical Exchange, electrical engineers, 128, South Clifton-st., Philadelphia, Pa.
Keystone Electrical Instrument Co., manufacturers of voltmeters & amperemeters, 9th-st. & Montgomery-ave., Philadelphia, Pa. (Telegrams: "Kerelinco, Philadelphia." Bell & Keystone Long Distance Telephones.)
Keystone Engineering Co., contracting electrical engineers, 1207–1208, Farmers Bank-bldg., Pittsburg, Pa.
Kidd, F. L., electrical contractor, Lawrence, Mass.
Kidder, Jerome, Manufacturing Co., manufacturers of electro-medical apparatus & complete supplies for physicians, Bible House-bldg., New York, N.Y.
Kilbourne & Clark Co., dealers of electrical machinery & supplies, Seattle, Wash.
Killion, W. F., & Co., electrical contractors, 1213, Filbert-st., Philadelphia, Pa.
Kimball, Fred. M., electrical engineer, manager Small Motor Department, General Electric Co., India-bldg., State-st., Boston, Mass.
Kimball Electrical Construction Co., installation contractors, 42, East 23rd-st., New York.
Kimbark, D. Avery, consulting electrical engineer, Suite 1503, Fort Dearborn-bldg., Chicago, Ill. (Telephone No. 219, Central.)
Kimble Electric Co., installation contractors, 72, West Lake-st., Chicago, Ill.
Kinetic Electric Co., installation contractors, 16, South Schell-st., Philadelphia, Pa.
King, Harry R., A.AM.I.E.E., chief engineer, Power Apparatus, Western Electric Co., Hawthorn. Ill.
King, Warren D., electrical supplies, Peabody, Mass. (Telephone No. 52–3.)
King Electric Co., electrical engineers & contractors, Bay City, Mich. (Telegrams: "King, Bay City.")
King Electric Co., St. Louis, Mo.
King Electric Works, electrical contractors, 1385, Broadway, Oakland, Cal. (Teleph. No. 2675, Oakland.)
King Electrical & Machine Works, manufacturing electricians, Osgood, Ind.
Kingfisher City Electric Light Plant, Kingfisher, Okla.
Kingsbury-Samuel Electric Co., electrical contractors, 411, Courtland-st., Baltimore, Md. (Telephone Nos.: 2324, Courtland; & Long Distance 3221, Mt. Vernon.)
Kingston Consolidated R.R. Co., Kingston, N.Y.
Kingston Gas & Electric Co., Kingston, N.Y.
Kinsley, Carl, A.M., M.E., assistant professor of physics, University of Chicago, Chicago, Ill.
Kinsman, Frank E., M.AM.I.E.E., electrical engineer, 55, Dey-st., New York. (Telegs.: "Relation, New York.")
Kinsman Electric & Railway Supply Co., 55, Dey-st., New York. (Teleph. No. 2912, Cort.)
Kintner, Chas. J., electrical expert & engineer, 45, Broadway, New York, N.Y. (Telegrams: "Kintner, New York." Telephone No. 2030, Broad.)
Kintner, Samuel Montgomery, M.AM.I.E.E., Westinghouse Electric Co., Pittsburg, Pa.
Kirkpatrick, C. C., electrolier manufacturer, 1200, South Main-st., Los Angeles, Cal. (Teleph. Nos.: 7275, Main; & 5558, Home.)
Kirkpatrick & Johnson, electrical engineers, corner State & Pearl-sts., Jackson, Miss. (Telephone No. 1070.)
Kirksville Electric Co., Kirksville, Mo.
Kirlin Gray Electric Co., Watertown, S.D.
Kitfield, E. H., civil & electrical engineer, 53, State-street, Boston, Mass.
Kitredge, C. H., electrical supplies, Ann Arbor, Mich.
Kittanning & Leechburg Railway Co., Kittanning, Pa.
Kittanning Electric Co., Kittanning, Pa.
Kittanning & Leechburg Railways Co., Kittanning, Pa.
Kittredge, Fred. A., electric light & power construction, 365, Broadway, Everett, Mass. (Telephone No. 207–8, Everett.)
Klauder, Rudolph H., A.AM.I.E.E., production manager, General Storage Battery Co., Boonton, N.J.
Klein, H. C., installation contractor, Janesville, Wis.
Klein, Nathan, installation contractor, 218, Grand-st., New York.
Klein, R. M., A.AM.I.E.E., electrical expert, Bureau of Equipment, Navy Yard, Washington, D.C.
Klein, John M., Electrical Works, manufacturers of electrical supplies, 105-107, Battery-st., San Francisco, Cal.
Klein, Mathias, & Sons, makers of linesmen's tools, &c., 87 & 89, West Van Buren-st., Chicago, Ill. (Long Distance Telephone No. 2047, Harrison.)

Kleinschmidt, Edward, electrical instruments, 231–235, Greenwich-st., New York. (Teleph. No. 6356, Cort.)

Klemm & Co., shades & reflectors for electric lights, N.W. cor. Fifth & Cherry-sts., Philadelphia, Pa.

Klie Plumbing, Heating & Electrical Co., installation contractors, 61, East Long-st., Columbus, Ohio.

Klinck, J. Henry, A.AM.I.E.E., commercial engineer, Industrial & Power Department, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.

Kline, J. J., M.AM.I.E.E., engineer, Stanley Electric Manufacturing Co., 29, Broadway, New York.

Klipstein, A., & Co., sal ammoniac for electrical purposes, 122, Pearl-st., New York.

Kloman, T. W., M.AM.I.E.E., electrical engineer, 149, Broadway, New York.

Kluckhuhn, Chas. P., Bro., electrical contractors, 1509, P-st., N.W., Washington, D.C.

Knapp Electric & Novelty Co., manufacturers of battery fan motors, specialities & electric toys, 511–513, West 51st-st., New York.

Knickerbocker Construction Co., electric speciality makers, 15, Cortlandt-st., New York.

Knickerbocker Electric Co., general electrical contractors, 79, Cortlandt-st., New York, N.Y.

Knight, A. M., & Co., manufacturers of electric fans, Lunenberg-st., Fitchburg, Mass.

Knight Bros., patent solicitors & experts, 20, Broad-st., New York. (Telegrams: "Cantata, New York.")

Knoblock, Fred., electrical contractor, 146, Warren-st., Boston, Mass.

Knott, L. E., Apparatus Co., manufacturers of physical, chemical, & electrical apparatus for schools & laboratories, 15–17, Harcourt-st., Boston, Mass. (Telegs.: "Harcourt, Boston.")

Knowles, C. S., insulating & electrical materials, 7, Arch-st., Boston, Mass. (Telegrams: "Sevenarch, Boston." Telephone Nos. 947–948.)

Knowles, Edward R., M.AM.I.E.E., consulting electrical engineer, 101, World-bldg., New York City.

Knowles & Broadnax, consulting electrical engineers, World-bldg., New York.

Knowles' Steam Pump Works, electric engineers & pump makers, 114, Liberty-st., New York.

Knox, C. E., M.AM.I.E.E., consulting electrical engineer, 76, William-st., New York.

Knox, Chas. N., manufacturers' agent for electrical apparatus, 210, Pearl-st., Hartford, Conn. (Telephone No. 1361.)

Knox, Francis H., A.AM.I.E.E., Spartanburg, S.C.

Knox & Murphy, electrical contractors, Salem, Ore.

Knoxville Electric Co., Knoxville, Iowa.

Knoxville Railway & Light Co., Knoxville, Tenn.

Knudson, A. A., M.AM.I.E.E., electrical engineer, 32, Nassau-st., New York.

Kny-Scheerer Co., manufacturers of X-ray apparatus, 225–33, 4th-ave., New York.

Koch, Robt., Electrical Contracting Co., 406, North 10th-st., St. Louis, Mo.

Kohlbusch, Herman, Sr., manufacturer of dynamometers, &c., 194, Broadway, New York, N.Y.

Kohler Bros., contracting electrical engineers, 1804–1812, Fisher-bldg., Chicago, Ill. (Teleph. No. 322, Har.); 10089, Metropolitan Life-bldg., New York; & 56, Ludgate Hill, London, E.C.

Kokomo, Marion & Western Traction Co., Kokomo, Ind.

Kokomo Telephone & Electric Mfg. Co., makers of telephones, switchboards, &c., Kokomo, Ind.

Korff, Fred. W., electrical engineer, Lockport, N.Y.

Krabbe, Christian, electrical supplies, 166 & 168, Broadway, Brooklyn, N.Y. (Teleph. No. 1959, J. Williamsburg.)

Kramer, O. H. E., installation contractor, 620, North Taylor-ave., St. Louis, Mo.

Krantz, H., Manufacturing Co., manufacturers of electrical supplies, 160–166, 7th-st., Brooklyn, N.Y. (Telegrams: "Krantz, Brooklyn." Telephone Nos. 278 & 279, South.)

Kratz Bros., electric light & power contractors, Evansville, Ind.

Kraushaar Brass Manufacturing Co., electrolier manufacturers & fitters, 2507–2509–2511, North Broadway, St. Louis, Mo.

Krauss, Leonard, Co., installation contractors, Ocean City, N.J.

Kreidler, W. A., A.AM.I.E.E., editor & publisher of the *Western Electrician*, Suite 507, Marquette-bldg., Chicago, Ill.

Kries, Peter, electrical contractor, 525, North Eutaw-st., Baltimore, Md.

Kruesi, August H., A.AM.I.E.E., designing engineer, General Electric Co., Schenectady, N.Y.

Kruger, John L., installation contractor, 953, Myrtle-ave., Brooklyn, N.Y.

Kuehn Electric Co., electrical contractors, Canton, Ohio.

Kuhlman Electric Co., makers of the Kuhlman transformer, Elkhart, Ind. (Cable address: "Kuhlectric, Elkart." Long Dist. Teleph. No. 107, local 467.)

Kunz, J. J., & Bro., installation contractors, 5095, Minerva-ave., St. Louis, Mo.

Kunzig, Henry I., installation contractor, 1372, Beach-st., Philadelphia, Pa.

Kurz & Root, installation contractors, Lake-st., Appleton, Wis.

Kusel, D. A., Telephone & Electrical Manufacturing Co., makers of telephones, 1119, Pine-st., St. Louis, Mo.

Kutsch, L. W., electrical contractor, 310, Dearborn-st., Chicago, Ill.

L. & H. Electrical Co., installation contractors, 814, Fred-ave., St. Joseph, Mo.
Lackawanna Light Co., Scranton, Pa.
Lackawanna Valley Electric Light & Power Supply Co., Carbondale, Pa.
Lackawanna & Wyoming Valley Rapid Transit Co., Scranton, Pa.
Laclede Car Co., manufacturers of cars & trucks, 4500–4600, North 2nd-st., St. Louis, Mo.
Laclede Gas Light Co., 716, Locust-st., St. Louis, Mo.
Laclede Power Co., St. Louis, Mo.
Lacombe Electric Co., Denver, Col.
Laconia Car Co., manufacturers of electric cars and car trucks, Laconia, N.H.
Laconia Electric Lighting Co., 523, Main-st., Laconia, N.H.
Laconia Street Railway Co., Laconia, N.H.
La Crosse City Railway Co., La Crosse, Wis.
La Crosse Gas & Electric Co., 222, Main-st., La Crosse, Wis.
Ladew, Edward R., manufacturer of & dealer in leather belting, 200, William-st., New York, N.Y. (Telegrams: "Flintstone, New York.")
Lafayette College, Easton, Pa.
Lafayette Electrical Manufacturing Co., makers of transformers, Lafayette, Ind.
Lafayette Gas Co., Lafayette, Ind.
Lafayette Street Railway Co., Lafayette, Ind.
Lageroquist, Gustave, electric light fixtures, 516, 3rd-ave., North, Minneapolis, Minn.
La Grange Light & Water Works Co., La Grange, Ill.
Laidlaw Dunn-Gordon Co., manufacturers of steam pumps, air compressors, &c., Cincinnati, Ohio.
La Junta Electric Co., electric light contractors, La Junta, Col.
Lake, Edward N., electrical contractor, 528, La Salle-st., Chicago, Ill.
Lake Charles Ice, Light & Water Co., Lake Charles, La.
Lake City Electric Co., electric light contractors, Lake City, Iowa.
Lake City Electric & Water Co., Lake City, Fla.
Lake Erie, Bowling Green & Napoleon Railway Co., Bowling Green, Ohio.
Lake Shore Electric Railway Co., Cleveland, Ohio.
Lakewood Electric Light Plant, Lakewood, Ohio.
Lamar Light & Water Co., Lamar, Mo.
Lamarche's Sons, H., dealers in battery zincs, spelter, &c., 81, John-st., New York, N.Y.
Lamb, Francis Joseph, A.AM.I.E.E., electrical engineer, Grand Rapids, Mich.
Lamb, Richard, M.AM.I.M.E., A.AM.I.E.E., civil engineer, 136, Liberty-st., New York.
Lamb Electric Co., makers of electric motors & X-ray apparatus, &c., Grand Rapids, Mich.
Lamb & Foster, electrical engineers, 28, Broadway, Taunton, Mass. (Telephone No. 238-6.)
Lambert Bros., electrical supplies, 916–918, Camp-st., New Orleans, La.
Lambertville Heat, Light & Power Co., Lambertville, N.J.
Laminar Fibre Co., manufacturers of hard & flexible fibre, Cambridge, Mass. (Cable address: "Laminar, Boston." Lieber's & W. U. Codes.)
Lamme, B. G., M.AM.I.E.E., assistant chief engineer, Westinghouse Electric & Mfg. Co., Pittsburg, Pa.
Lancaster County Railway & Light Co., Lancaster, Pa.
Lancaster Electric Light Co., Lancaster, Ohio.
Lancaster Electric Light, Heat & Power Co., Lancaster, Pa.
Lancaster Electric Supply & Construction Co., installation contractors, Lancaster & Columbia, Pa.
Lancaster Traction Co., Lancaster, Ohio.
Land, Frank, M.E., A.AM.I.E.E., M.AM.S.MECH.E., 617, South Linden-ave., Pittsburgh, Pa.
Landis Electric Co., contractors & dealers in electrical supplies, 1228, North Market-st., Wichita, Kan. (Telephone No. 567.)
Landon, F. W., & Co., electrical supplies, 8, Pleasant-st., Concord, N.H.
Lane, J. N. V., electrical supply dealer, 5, State-st., Bangor, Maine.
Lane & Bodley Co., manufacturers of engines, elevators, pulleys, &c., Cincinnati, Ohio. (Telegrams: "Lanebodley, Cincinnati." Lieber's Code. Long Dist. Teleph. No. 1484, Main.)
Lane County Electric Co., Eugene, Ore.
Lang, E. M., Co., manufacturers of solder, 71, Kennebec-st., Portland, Maine.
Lang, J., Electric Co., makers of switchboards, 178, East Indiana-st., Chicago, Ill.
Lange, Adolph, electrical engineer, 274, Flatbush-ave., Brooklyn, N.Y.
Lange, Philip A., M.AM.I.E.E., works manager Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.
Langsdorf, A. S., M.AM.I.E.E., professor of electrical engineering, Washington University, St. Louis, Mo.
Langstad & Meyer, electrical engineers & contractors, Appleton, Wis.
Langton, J., M.AM.I.E.E., M.AM.SOC.C.E., consulting engineer, 99, John-st., New York.
Langworthy, L. O., electrical contractor, 5, Harris-pl., Bradford, Pa.
Lanigan & Rosemont Electric Co., installation contractors, 6, West 3rd-st., New York.
Lanou, J. E., contractor & dealer in electrical supplies, 166, North-st., Burlington, Vt.
Lanphear, B. S., A.AM.I.E.E., associate professor of electrical engineering, Iowa State College, Ames, Iowa.

Lansdowne Electric Co., Lansdowne, Pa.
Lansing Boiler & Engine Works, builders of steam engines, Lansing, Mich.
Lansing & Suburban Traction Co., Lansing, Mich. T. M. Keeley, chief engineer & superintendent.
Lansingh, Van Rensselaer, M.AM.I.E.E., M.I.E.S., illuminating & electrical engineer, 227, Fulton-st., New York. (Teleph. No. 6925, Cort.)
La Porte Public Utility Co., La Porte City, Iowa.
Laporte Electric Co., Laporte, Ind. (Teleph. No. 222, Bell.) J. H. Harding, treasurer & manager.
Laramie Light & Power Co., Laramie, Wyo.
Lardner, Henry A., M.AM.I.E.E., M.AM.S.M.E., J. G. White & Co., 43, Exchange-pl., New York.
Laredo Electric Railway Co., Laredo, Tex. (Teleph. No. 126.)
Larimer Light & Power Co., Fort Collins, Col.
La Roche, F. A., Co., manufacturing electricians, 652, Hudson-st., New York, N.Y. (Telegrams: "Falarco, New York." A.B.C., 5th edit., & W.U. Codes.)
Las Animas Electric Co., electric light contractors, Las Animas, Col.
Las Vegas Railway & Power Co., Las Vegas, New Mexico.
Latham, Crane & Co., dealers in electrical supplies, Willimantic, Conn.
Latham, E. B., & Co., electrical supply dealers, 4, Murray-st., New York.
Latrobe Electric Co., electric light contractors, Latrobe, Pa.
Lau, Willy H., electrolier manufacturer, 12, East Adams-st., Chicago, Ill.
Law & Hauxhurst, manufacturing electricians, Providence, R.I.
Lawrence, J. D., electrician, 3809, 3rd-ave., New York.
Lawrence Electric Light Co., Lawrence, Kan.
Lawrence Electrical Supply & Construction Co., electrical engineers, Lawrence, Mass.
Lawrence, F. D., Electrical Co., dealers in electrical supplies, 219, West 4th-st., Cincinnati, Ohio.
Lawrence Gas Co., Lawrence, Mass.
Lawrence Gas Fixture Manufacturing Co., electric light fixtures, 129, North 12th-st., Philadelphia, Pa.
Lawrenceville Water & Light Co., Lawrenceville, Ill. (Teleph. Nos. 47 & 98.)
Lawton, Wm., electrical contractor, 611, Market-st., Wilmington, Del.
Lawton Electric Co., electrical contractors, 319, West 4th-st., Cincinnati, Ohio.
Layman, W. A., M.I.E.E., M.AM.I.E.E., electrical engineer, Wagner Electrical Manufacturing Co., 2017, Locust-st., St. Louis, Mo.
Leadville Gas & Electric Co., Leadville, Col.
Leadville Novelty, Plumbing & Electric Co., installation contractors, 312, Harrison-ave., Leadville, Col.
Leary, J. J., M.AM.I.E.E., electrical engineer, Marconi Wireless Telegraph Co., 27, William-st., New York.
Leavenworth Novelty Works, electrical contractors, 218, Delaware-st., Leavenworth, Kan.
Leavett-Bartholomew Co., electrolier manufacturers & fitters, 620, South Spring-st., Los Angeles, Cal.
Lebanon Citizen Electric Light & Ice Co., Lebanon, Ind.
Lebanon City Electric Light Plant, Lebanon, Ohio.
Lebanon, City of, Light & Water Department, Lebanon, Mo.
Lebanon Electric Co., Ltd., manufacturing electricians, Lebanon, Pa.
Lebanon Electric Light & Power Co., Lebanon, N.H.
Lebanon Electric Light & Water Co., Lebanon, Ore.
Lebanon Light, Ice & Power Co., Lebanon, Ky.
Lebanon Valley Street Railway Co., Lebanon, Pa.
Leclair Bros., installation contractors, Green Bay, Wis.
Leclanché Battery Co., manufacturers of electric batteries, 111–117, East 131st-st., New York, N.Y.
Le Clear, Gifford, A.AM.I.E.E., electrical & mechanical engineer, Densmore & Le Clear, 15, Exchange-st., Boston, Mass. (Telephone No. 2857, Main.)
Lederer, William, consulting electrical engineer, 1113, Lincoln-ave., Chicago, Ill.
Ledig, R. G., electric light fixtures, 821, Cherry-st., Philadelphia, Pa.
Lee, Francis Valentine T., B.A., M.AM.I.E.E., A.M.I.E.E., electrical engineer, Pacific Gas & Electric Co., 925, Franklin-st., San Francisco, Cal. (Teleph. No. 140, Emergency.)
Lee, John C., A.AM.I.E.E., chemist & electrician, American Telegraph & Telephone Co., Boston, Mass.
Lee, J. D., electrical contractor & supply dealer, Niagara Falls, N.Y.
Lee Co., J. Ellwood, manufacturers & exporters of medical batteries, Conshohocken, Pa., U.S.A. (Telegrams: "Lee, Conshohocken." A.B.C. Code.)
Lee County Lighting Co., Dixon, Ill.
Lee Electric Co., Lee, Mass.
Lee Electric Light Co., Inc., Clarinda, Iowa.
Lee & Porter, electrical contractors, Dowagiac, Mich.
Lee, W. S., & Co., electrical contractors, 241, Essex-st., Salem, Mass.
Leeds & Northrup Co., electrical instrument makers & dealers, Wayne Junction, Philadelphia, Pa.
Leetonia Electric Light & Power Co., Leetonia, Ohio.
Lefebre, Charles E., consulting electrical engineer, Bissell-blk., Pittsburg, Pa.
Legrand, Chas., M.AM.I.E.E., Copper Queen Consolidated Mining Co., 99, John-st., New York.

Lehigh Electric Co., installation contractors, Allentown, Pa.
Lehigh Traction Co., Hazleton, Pa.
Lehigh Valley Transit Co., Allentown, Pa.
Le Mars City Water & Light Co., Le Mars, Iowa.
Lemmey, Robert, electrical contractor, Ossining, N.Y.
Lemoore Electric Light & Water Works, Lemoore, Cal.
Lemp, Hermann, jun., M.AM.I.E.E., General Electric Co., Lynn, Mass.
Leominster Electric Light & Power Co., Leominster, Mass.
Leonard, H. Ward, M.AM.I.E.E., M.I.E.E., Ward Leonard Electric Co., Bronxville, N.Y.
Leonhardt, F. W., installation contractor, 502, 12th-st. N.W., Washington, D.C.
Le Roy Hydraulic Electric Co., electric light & power contractors, Le Roy, N.Y.
Lessner, J. S., electrical supply dealer & contractor, Springfield, Ohio.
Letchfield Electric Light & Power Co., Letchfield, Conn.
Le Valley Vitae Carbon Brush Co., manufacturers of carbon brushes & "Gold Medal" commutator compound, 683, Tremont-ave., New York. (Telegs.: "Vitaebrush, New York.")
Leve, Robert E., installation contractor, 305, Mercer-st., New York.
Lever, C. H., Manufacturing Co., makers of electrical wood mouldings, cleats, &c., 92nd & Homan-ave., Evergreen Park, Chicago, Ill.
Leveridge, Chas. W., dealer in electrical supplies, 183, Greenwich-st., New York. (Telegs.: "Loweridge, New York.")
Levi, Morris, & Co., electrical engineers, 920, 3rd-ave., New York. (Telephone No. 1509, Plaza.)
Levine, H. S., electrical contractor, 5, Maverick-sq., East Boston, Mass.
Levine Electric Equipment Co., 310, Bedford-ave., Brooklyn, N.Y.
Levis, Minford, M.AM.I.E.E., consulting electrical engineer, 8, South 4th-st., Philadelphia, Pa.
Levy, Max, installation contractor, 2320, Market-st., Galveston, Tex.
Levy Electric Co., 1005, Post-st., San Francisco, Cal.
Lewis, Edwin C., electrical engineer; construction work, 121, Federal-st., Boston, Mass. (Telephone No. 3566, Boston.)
Lewis, Frank E., electrical contractor & supplies, Wilkes-Barre, Pa.
Lewis, H. A., installation contractor, 920, J.-st., Sacramento, Cal.
Lewis, John J., installation contractor, 123, Liberty-st., New York.
Lewis, Warren B., M.AM.I.E.E., electrical engineer, Providence, R.I. (Teleph. No. 2113, Union.)
Lewis, W. Y., M.AM.S.M.E., A.M.I.M.E., A.M.I.E.E., c/o S. Pearson & Son, Ltd., Tunnel Works, Long Island City, N.Y.
Lewisburg Milling & Electric Co., Lewisburg, W. Va.
Lewisohn Bros., refiners of & dealers in metals, 11, Broadway, New York, N.Y. (Telegrams: "Lohengrin, New York.")
Lewiston & Auburn Electric Light Co., Auburn, Maine.
Lewiston-Clarkston Co., Lewiston, Idaho.
Lewistown Electric Light, Heat & Power Co., Lewistown, Pa.
Lewistown & Reedsville Electric Railway Co., Lewistown, Pa.
Lewman & Co., installation contractors, Louisville, Ky.
Lexington Gas & Electric Co., power contractors, Lexington, Mo.
Lexington Light & Power Co., Lexington, Va.
Lexington Mill & Elevator Co., electric light contractors, Lexington Neb.
Lexington Railway Co., Lexington, Ky. (Telephone No. 19.)
Ley, Fred. T., & Co., underground conduits & culverts, Springfield, Mass.
Leyden, H. R., M.AM.I.E.E., 30, Broad-st., New York.
Libbey, M. F., electrical contractor, Whitefield, N.H.
Liberty Electric Co., installation contractors, 6013, Center-ave., Pittsburg, Pa.
Liberty Electric Light Co., Liberty, Mo.
Liberty Light & Power Co., Liberty, N.Y.
Library of the American Association for the Advancement of Science, c/o University of Cincinnati, Ohio.
Lichter & Jens, electrical engineers, Chemical-bldg., St. Louis, Mo.
Licking Light & Power Co., Newark, Ohio.
Lieb, J. W., jun., M.AM.S.C.E., M.AM.S.M.E., M.AM.I.E.E., associate general manager, New York Edison Co., 55–57, Duane-st., New York.
Light, Heat & Power Corporation, 131, State-st., Boston, Mass. (Telephone No. 3089, Main.)
Lighthipe, J. A., M.AM.I.E.E., engineer, General Electric Co., Union Trust-bldg., San Francisco, Cal.
Ligon, W. D., M.AM.I.E.E., electrical engineer, Ohio Brass Co., Mansfield, Ohio.
Lilley, L. G., A.AM.I.E.E., electrical inspector, Underwriters Association of Cincinnati, Cincinnati, Ohio.
Lillibridge, R. D., A.AM.I.E.E., electrical engineer, 170, Broadway, New York. (Telegs.: "Technical, New York." Teleph. No. 5, Cort.)
Lima Insulator Co., manufacturers of electrical insulators, Lima, N.Y.
Lima & Toledo Traction Co., Lima, Ohio.

Lincoln, Geo. W., electrical contractor, Hillsboro Bridge, N.H.
Lincoln, Paul M., M.AM.I.E.E., electrical engineer, Westinghouse Electric & Mfg. Co., Pittsburg, Pa.
Lincoln Electric Co., dynamos & motors, 49, Wood-st., Cleveland, Ohio.
Lincoln Gas & Electric Co., Lincoln, Neb.
Lincoln, Hammett Co., electrical engineers, 32, Mill-st., Newport, R.I.
Lincoln Traction Co., Lincoln, Neb.
Lincoln Water, Light & Power Co., Lincoln, Ill.
Lindsay, W. W., & Co., electrical engineers & contractors, Harrison-bldg., Philadelphia, Pa.
Lindsley & Allen Electric Co., Incorp., electrical engineering & contracting, 257–259, Eddy-st., Providence, R.I.
Lindsley Bros. Co., manufacturers of cedar poles, &c., Menominee, Mich.
Link-Belt Co., manufacturers of elevating, conveying & power transmission machinery, Philadelphia; Chicago; New York; Pittsburg; & Indianapolis, (Telegs.: "Chainbelt.")
Linton City Electric Light Plant, Linton, Ind.
Linze Electric Supply Co., electrical supplies, 1141, Olive-st., St. Louis, Mo.
Lion Electric Co., installation contractors, 123, East 4th-st., Los Angeles, Cal.
Lipscomb Electrical Co., electrical engineers, 375, Main-st., Dallas, Tex.
Lisbon Light & Power Co., Lisbon, N.H.
Litchfield Electric Light & Power Co., Litchfield, Conn.
Litchfield Gas & Electric Co., electric light contractors, Litchfield, Ill.
Little, F. B., & Co., agents for electrical machinery, 119, North 11th-st., St. Louis, Mo.
Little, F. P., Elec. Cons. & Supply Co., arc lamp manufacturers, 200, Main-st., Buffalo, N.Y.
Little Rock Railway & Electric Co., Little Rock, Ark.
Littlefield, H. A., & Co., electrical repair work, dynamos & motors, 16, Avon-st., Lynn, Mass.
Littleton Water & Electric Light Co., Littleton, N.H.
Livermore Falls Light & Power Co., Livermore, Maine.
Livermore, J. P. & H. J., solicitors of patents & patent experts, 110, State-st., Boston, Mass. (Telegrams: "Eromvil, Boston." Telephone No. 2554, Main.)
Livingston, Johnston, jun., & Co., electric light & power contractors, 113, East 22nd-st., New York.
Livingstone Water Power & Light Co., Livingstone, Mont.
Livsey, J. H., A.AM.I.E.E., manager, General Electric Co., 1002–3–4, Majestic-bldg., Detroit, Mich. (Long Distance Telephone No. 1824.)
Lloyd, Edward William, A.AM.I.E.E., general contract agent, Chicago Edison Co., 139, Adams-st., Chicago, Ill. (Teleph. No. 1280, Main.)
Lloyd, Herbert, M.AM.I.E.E., president & general manager Electric Storage Battery Co., Allegheny-ave. & 19th-st., Philadelphia, Pa.
Lloyd, Robert M., M.I.E.E., M.AM.I.E.E., Vehicle Equipment Co., Long Island City, N.Y.
Lloyd & Smith, electrical contractors, 429, River-st., Manistee, Mich.
Lock Haven Electric Light & Power Co., Lock Haven, Pa.
Locke Engineering Co., installation contractors, 1800, Vermont-ave., Los Angeles, Cal.
Locke Insulator Manufacturing Co., manufacturers of high potential insulators in porcelain & glass & indestructible insulator pins, Victor, N.Y. (Telegrams: "Locke, Victor, N.Y.")
Lockport Gas & Electric Light Co., Lockport, N.Y.
Lockwood, T. D., M.I.E.E., M.AM.I.E.E., expert & manager of Patent Department, American Telephone & Telegraph Co., Boston, Mass. (Teleph. Nos.: 5060, Main; & 20, Melrose.)
Lodge & Shipley Machine Tool Co., manufacturers of tools for electrical purposes, Cincinnati, Ohio.
Loeffler, L. J., electrical contractor, 20, Fulton-st., New York.
Loewenthal, Max, E.E., A.AM.I.E.E., consulting electric heating engineer, 150, Nassau-st., New York.
Logan Light Co., electric light contractors, Logan, Iowa.
Logansport Electric Light Plant, Logansport, Ind.
Logansport, Rochester & Northern Traction Co., Logansport, Ind.
Lohman, R. W., A.AM.I.E.E., assistant engineer, Electric Traction Department, New York C. & H. R. R., 335, Madison-ave., New York.
Lombard Governor Co., makers of the Lombard water-wheel governor, Ashland, Mass. (Telegrams: "Lomgov, Boston, Mass." Long Dist. Telephone No. 149, S. Framingham.)
Lonergan, J. E., & Co., manufacturers of patent automatic oilers & safety steam appliances, 211, Race-st, Philadelphia, Pa.
Long, B. J., installation contractor, 900, 12th-st., N.W., Washington, D.C.
Long Arm System Co., electrical apparatus manufacturers, Cleveland, Ohio.
Long Island Electric Railway Co., Long Island City, N.Y.
Long Island Electrical Supply House, Jamaica, N.Y.
Longden, John N., consulting electrical engineer, 1300, Broadway, New York, N.Y.
Longmont Electric Light & Power Co., Longmont, Col.
Longstreth Electric Co., installation contractors, 221, Stimson-blk., Los Angeles, Cal.
Loomis, Chas., installation contractor, 109, Viaduct-st., Akron, Ohio.

Loomis, Osborn P., M.AM.I.E.E., electrician, Shipbuilding & Dry Dock Co., Newport News, Va.
Lorain Electrical Construction Co., installation contractors, Lorain, Ohio.
Lorain Street Railway Co., Lorain, Ohio.
Lord Electric Co., wiring, construction & equipment, 112, Water-st., Boston, Mass.
Los Angeles Gas & Electric Co., Los Angeles, Cal.
Los Angeles Gas & Electric Fixture Manufacturing Co., Los Angeles, Cal.
Los Angeles Pacific Railroad Co., Los Angeles, Cal.
Los Angeles Railway Co., Los Angeles, Cal.
Los Angeles & Redondo Railway Co., Los Angeles, Cal.
Loud's, H. M., Sons Co., electric light & telephone poles, Au Sable, Mich.
Loughlin, Philip H., electrical contractor, Gardner, Mass.
Louis, C. E., electrical contractor, Ogdensburg, N.Y.
Louis, O. T., A.AM.I.E.E., electrical engineer, O. T. Louis Co., 59, 5th-ave., New York.
Louisiana Gas & Electric Light Co., Louisiana, Mo.
Louisville & Eastern R.R. Co., 511, West Green-st., Louisville, Ky.
Louisville Lighting Co., Louisville, Ky.
Louisville Electric Supply Co., dealers in electrical supplies, 412, 2nd-st., Louisville, Ky.
Louisville & Southern Indiana Traction Co., New Albany, Ind.
Lounsbery, Eaton & Co., installation contractors, 225, East Washington-st., Chicago, Ill.
Loveday, Claude, installation contractor, 732½, State-st., Santa Barbara, Cal. (Telephone Nos. 549, Home & Sunset.)
Lovejoy, D. R., B.SC., E.E., A AM.I.E.E., electrical engineer, superintendent Atmospheric Products Co., Niagara Falls, N.Y. (Telegrams: "Atmos, Niagara Falls." Telephone No. 188.)
Lovejoy, J. R., M.AM.I.E.E., electrical engineer, general manager Supply Department, & manager Lighting & Railway Departments, General Electric Co., Schenectady, N.Y.
Loveland Citizens' Electric Co., Loveland, Ohio.
Lovell, F. H., & Co., manufacturers of electric railroad supplies, &c., 11, Pine-st., New York. (Telegrams: "Levfolco, New York." Telephone No. 3205, John.)
Loveridge, H. B., electrical contractor & dealer in supplies, Portland Electrical Works, 351st-st., Portland, Ore.
Low, Geo. P., editor of *The Journal of Electricity, Power & Gas*, 532, Rialto-bldg., San Francisco, Cal. (Telephone No. 1264, Main.)
Lowell & Boston Street Railway Co., Lowell, Mass.
Lowell Electric Light Corporation, Lowell, Mass.
Lowson, David, A.AM.I.E.E., electrical inspector, Department of Education, 59th-st. & Park ave., New York.
Lozier, R. T. E., M.AM.I.E.E., National Electric Co., Milwaukee, Wis.
Lozier Light & Power Co., Plattsburg, N.Y.
Lucas, J. C. M., installation contractor, 1307, Continental-bldg., Baltimore, Md.
Lucas, J. H., electrical engineer & contractor, 4217, Delmar-boul., St. Louis, Mo. (Teleph. Nos.: 943, Kinloch, Delmar; & 3486, Bell Lindell.)
Lucas, F. A., & Co., installation contractors, Jamestown, N.Y.
Luckett, Fred, electrolier manufacturer & fitter, 266, State-st., Brooklyn, N.Y.
Ludlow City Electric Light Plant, Ludlow, Vt.
Ludlow Valve Manufacturing Co., Troy, N.Y.
Ludwig & Co., consulting electrical engineers, Atlanta, Ga.
Luetke Iron & Brass Works, electric light fixtures, 227, West 29th-st., New York.
Lukes, George Holt, A.AM.I.E.E., general superintendent, North Shore Electric Co., 134, Washington-st., Chicago, Ill.
Lund & Miller, installation contractors & engineers, 52, Water-st., New York.
Lundell, Robert, A.AM.I.E.E., electrical engineer, 527, West 34th-st., New York.
Lundie, John, A.AM.I.E.E., consulting engineer, 52, Broadway, New York.
Lundin Electric & Machine Co., electrolier manufacturers & fitters, 176, Federal-st., Boston, Mass.
Lundy, A. D., M.AM.I.E.E., Sargent & Lundy, 1720, Railway Exchange-bldg., Chicago, Ill.
Lunkenheimer Co., makers of superior brass & iron steam specialties, Cincinnati, Ohio.
Lupke, Paul, electrical engineer, Public Service Corporation of N.J., South Jersey Division, N.J.
Luquer, Thatcher T. P., electrical engineer, 3, West 29th-st., New York.
Lurienne, Louis A., manager Compagnie Française des Cables Télégraphiques, 44, Broad-st., New York.
Lycoming Electric Co., Williamsport, Pa.
Lyman, Chester Wolcott, A.AM.I.E.E., M.A., International Paper Co., 30, Broad-st., New York, N.Y.
Lyman, James, M.M.E., engineer, Chicago office, General Electric Co., Monadnock-bldg., Chicago, Ill.
Lynchburg Traction & Light Co., Lynchburg, Va.
Lyndon, Lamar, A.AM.I.E.E., consulting electrical engineer, 80, William-st., New York. (Telegs.: "Lyndon, New York." Teleph. No. 5444, John.)

Lyndonville Village Electric Light Plant, Lyndonville, Vt.
Lynn Incandescent Lamp Co., new & renewed incandescent lamps, Lynn, Mass.
Lyon & Harvey, consulting electrical engineers, Memphis, Tenn.
Lyons, James W., consulting electrical engineer, Fisher-bldg., Chicago, Ill.

Macallen, W. T. C., Co., manufacturers of solid mica insulators, 338, Congress-st., Boston, Mass. (Telegs.: "Macallen, Boston.")
McAllister, Addams Stratton, E.E., M.M.E., PH.D., A.AM.I.E.E., associate editor, *Electrical World*, 114, Liberty-st., New York. (Teleph. No. 7605, Cort.)
McBerty, Frank R., A.AM.I.E.E., telephone engineer, Western Electric Co., Chicago, Ill.
McBride Electrical Co., contractors & builders of complete electric lighting plants & telephone exchanges, 346 & 348, Minnesota-st., St. Paul, Minn.
MacCalla, C. S., A.AM.I.E.E., assistant general manager & electrical engineer, Washington Water Power Co., Spokane, Wash. (Teleph. No. 17, Private Exchange.)
McCandless, H. W., & Co., manufacturers of miniature & decorative incandescent lamps, &c., 67–69, Park-pl., New York. (Telephone No. 1555, Cort.)
McCarthy Bros. & Ford, manufacturers of & dealers in electrical apparatus, 41, East Eagle-st., Buffalo, N.Y.
McCay, H. Kent, M.AM.I.E.E., electrical engineer & contractor, 107, East German-st., Baltimore, Md.
McCay Engineering Co., electrical engineers & contractors, 9, East Lexington-st., Baltimore, Md. (Telephone No. 3018, Bell.)
McClay Electric Co., installation contractors, 3908, 5th-ave., Pittsburg, Pa.
McCleary Electric Co., electrical contractors & general supplies, 213, Jefferson-ave., Detroit, Mich.
McCollin, Thos. H., & Co., makers of blue print paper, South-West cor. 9th & Arch-sts., Philadelphia, Pa. (Telegrams: "Talbot, Philadelphia." Telephone No. 41–97A, Filbert.)
McCollough, Geo., electrical contractor, Richmond, Ind.
McCook Electric Light Co., McCook, Neb.
McCormick, D. A., installation contractor, 142, Grand River-ave., Detroit, Mich.
Maccoun, A. Ellicott, M.AM.I.E.E., supt. electric department, the Carnegie Steel Co., Braddock, Pa.
MacCoy, J. B., & Son, electric light fixtures, 124, West 33rd-st., New York.
McCrea, James, & Co., electric boring machine makers, 67, West Washington-st., Chicago, Ill.
McCreary, A. A., & Co., manufacturers of portable shades & reflectors, 136, Liberty-st., New York.
McCullough-Dalzell Crucible Co., crucible manufacturers, Pittsburgh, Pa. (Telegrams: "Plumbago, Pittsburgh.")
McDargh, Harry J., consulting electrical engineer, Conover-bldg., Dayton, Ohio.
McDonald, Wm., A.I.E.E., c/o A. L. Drum & Co., 624, American Trust-bldg., Monroe & Clarke-st., Chicago
MacDonell & Dumond Co., installation contractors, 32 & 34, East-ave., Rochester, N.Y. (Telephone No. 1161.)
McDonough, Louis R., jun. installation contractor, New Haven, Conn.
McElroy, J. F., A.AM.I.E.E., mechanical supt., Consolidated Car Heating Co., 131, Lake-ave., Albany, N.Y.
McEvoy, C. H., telephone cords, Lowell, Mass.
McFaddin, H. G., & Co., manufacturers of glass globes for electric lighting, 38, Warren-st., New York.
McFell Dennis Co., installation contractors, 303, Dearborn-st., Chicago, Ill.
MacGahan, Paul, M.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
MacGeorge & Son, consulting electrical engineers, Caxton-bldg., Cleveland, Ohio.
McGoey, Thos. J., electrical contractor, 10, South 3rd-st., Grand Forks, N.D. (Teleph. No. 525, N.W.)
McGowan & Collines, electrolier manufacturers & fitters, 62, South 2nd-st., Memphis, Tenn.
McGowan, John H., Co., manfrs. of steam power & hand pumps, 58, Central-ave., Cincinnati, Ohio.
MacGrath, G. D., electrical contractor, Chambersburg, Pa.
McGraw, J. H., A.AM.I.E.E., president McGraw Publishing Co., 114, Liberty-st., New York.
McGraw Publishing Co., publishers of electrical & scientific books, 114, Liberty-st., New York.
Macgregor, W. H., M.E., A.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., 11, Pine-st., New York.
McGuire Cummings Manufacturing Co., tramway trucks, &c., 122, North Sangamon-st., Chicago, Ill.
McGunnigle & Son, electricians, 882, 6th-ave., New York. (Telephone No. 1245, Plaza.)
Machado & Roller, electrical engineers & manufacturers' agents, 203, Broadway, New York. (Telegrams: "Wecco, New York." Lieber & A1 Code. Telephone No. 3580, Cort.)
Machinery, (monthly, four editions; ann. sub. U.S., $1.00, $2.00; foreign edition, $3.00; Railway Machinery edition, $2.00 in U.S.) 66–70, West Broadway, New York.
Machinery & Electrical Co., dealers in electrical supplies, 351–353, North Main-st., Los Angeles, Cal.
MacHugh, John D., electrical contractor, Wolfboro, N.H.
McIntire, G. A., & Co., manufacturers of novelties, tools, &c., Greenwich, Conn.
McIntire, C., Co., makers of connectors & terminals, 13–15, Franklin-street, Newark, N.J.
McIntire, Walter C., & Co., electrical contractors & mfrs. agents, 506, Commerce-st., Philadelphia, Pa.

McIntosh Battery & Optical Co., manufacturers of the McIntosh combined galvanic & Faradic battery, 39-41, West Randolph-st., Chicago, Ill. (Telephone No. 800, Main.)
MacIntosh Electric Co., installation contractors, 114½, East 5th-st., Los Angeles, Cal.
McIntosh, Seymour & Co., manufacturers of steam engines for electrical purposes, Auburn, N.Y.
McIntyre, H. C., installation contractor, Mount Vernon, N.Y.
McIntyre, H. W., electrical & mechanical engineer, Randolph, Vt.
McIntyre, W. H., installation contractor, Auburn, Ind.
McKay Electric Co., installation contractors, Asheville, N.C.
McKeague, J. B., electrical engineer, 504, Wabash-ave., Chicago, Ill.
Mackellar, Herbert, electrical contractor, 2099, North 63rd-st., Philadelphia, Pa.
McKenney, C. H., & Co., manufacturers of electric light fixtures, 16, Summer-st., Boston, Mass.
McKenney & Waterbury Co., manufacturers & retailers of electric fixtures & supplies, 181, Franklin, cor. Congress-st., Boston, Mass.
Mackenzie, C. C., installation contractor, 1614, S. Salina, Syracuse, N.Y.
Mackenzie, Quarrier & Ferguson, electrical engineers, 114, Liberty-st., New York.
McKibbin, G. N., Manufacturing Co., electrical apparatus manufacturers, Day-st., South Norwalk, Conn.
McKinney Electric Light & Motor Power Co., McKinney, Tex.
McKinstry J. P., electrical engineer, cor. Seneca & Champlain-sts., Cleveland, O. (Telegrams: "Lake, Cleveland." Telephone No. 533.)
MacLaren, Malcolm, M.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
McLaughlin, J., & Co., installation contractors, 20, 3rd-ave., Duluth, Minn.
McLauthlin, Geo. T., Co., manufacturers of elevators & engines, 120, Fulton-st., Boston, Mass. (Telegrams: "Lauthlin, Boston." Telephone Nos. 163 & 164, Richmond.)
McLeer & Co., manufacturing electricians, 169, South-st., New York.
MacLennan, K., & Co., lubricant manufacturers, 909, Washington-st., Chicago, Ill.
McLeod, Ward & Co., electrical & mechanical engineers, 27, Thames-st., New York, N.Y.
McLimont, A. W., electrical engineer, Federal Electric Co., 141, Broadway, New York.
McManamy & Rodman, electrolier manufacturers & fitters, Binghamton, N.Y.
MacMasters & Fletcher, installation contractors, 338, East State-st., Columbus, Ohio.
McMeans & Tripp, consulting electrical engineers, State Life-bldg., Indianapolis, Ind.
McMeen & Miller, consulting engineers & patent experts, 1442 & 1443, Monadnock-blk., Chicago, Ill. (Local & Long Distance Telephone Nos. 1386, Harrison & Automatic.)
Macmillan, John, electrical engineer, Charleston, S.C.
MacMillan, R. S., electrical machinery & supplies, 40, Dearborn-st., Chicago, Ill. (Telephone No. 3659, Central.)
McMillin, Emerson & Co., examiners of gas, electric, water & street railway properties, 40, Wall-st., New York, N.Y. (Telegrams: "Emacmil, New York." Telephone No. 3781, John.)
McMinnville City Water & Electric Light Plant, McMinnville, Tenn.
McMurtry, Jas. E., & Co., manufacturers of phosphor-bronze gauze dynamo brushes, 749, North Park-ave., Chicago, Ill.
MacNamara, E. J., electric light fixtures, 46, East Long-st., Columbus, Ohio.
McNamara Bros., slate & marble for switchboards, Fair Haven, Vt.
McNerney Electric Co., installation contractors, 372-373, Colonial Arcade, Cleveland, Ohio. (Teleph. Nos.: 722, Main; & 1878, Central.)
Macomb Electric Light & Gas Co., Macomb, Ill.
Macomber, G. S., M.AM.I.E.E., assistant professor of electrical engineering, Cornell University, Ithaca, N.Y.
Macomber, I. J., A.AM.I.E.E., engineer, Westinghouse, Church, Kerr & Co., 10, Bridge-st., New York.
Macomber & Whyte Co., manufacturers of telephone wire, 19, South Canal-st., Chicago, Ill.
Macon Electric Light & Water Works, Macon, Mo.
Macon-Evans Varnish Co., insulating varnish, Pittsburgh, Pa.
Macon Railway & Light Co., Macon, Ga.
McPherson & Trickey, electrical engineers, Hannibal, Mo.
MacRae, Hector, portable storage batteries, 316, St. Paul-ave., Baltimore, Md.
McRae Sherman Electric Co., installation contractors, Tacoma, Wash.
McRoy Conduits, underground conduits & culverts, Rookery, Chicago, Ill.
McShane Bell Foundry Co., mfrs. of bells, gongs & brass specialties, 421, North-st., Baltimore, Md.
McWhirter Electric Co., electrical contractors, San Francisco, Cal.
McWilliams & Co., installation contractors, Louisville, Ky.
Maddock, John, & Sons, battery jar manufacturers, Coalport Pottery, Trenton, N.J.
Maddocks, W. S., electrical construction, 96, South Washington-ave., Scranton, Pa. (Teleph. No. 1505.)
Maderia Electric Light Co., Maderia, Cal.
Madison City Electric Light Plant, Madison, S.D.
Madison County Light & Power Co., Edwardsville, Ill.
Madison Gas & Electric Co., Madison, Wis.
Madison Light & Railway Co., Madison, Ind.

Madisonville, City of, electric light contractors, Madisonville, Ohio.
Magee, Louis J., electrical engineer, 25, Broad-st., New York.
Magie, Wm. F., professor of physics, Princeton University, Princeton, N.J.
Magill & Meckison, electric light fixtures, Napoleon, Ohio.
Magnet Wire Co., makers of covered wire, 17, Battery-pl., New York. (Teleph. No. 1324, Broad.)
Magnolia Light, Heat & Power Co., Warrensburg, Mo.
Magnus Metal Co., manufacturers of trolley wheels, &c., 111, Broadway, New York.
Mahanoy City Light, Heat & Power Co., Mahanoy City, Pa.
Mahoney, John, electrical engineer, Jamestown, N.Y.
Mahony, J. J., M.AM.I.E.E., electrical engineer, 44, Broad-st., New York.
Mailloux, C. O., M.AM.I.E.E., M.I.E.E., consulting electrical engineer, 76, William-st., New York. (Telegrams: "Mailloux, New York." Telephone No. 5790, John.)
Main Belting Co., manufacturers of Leviathan belting, 1219–1235, Carpenter-st., Philadelphia, Pa.; 55, Market-st., Chicago, Ill.; Boston, Mass.; & Buffalo, N.Y.
Maine Electric Co., manufacturing electrical engineers, 23 & 25, Commercial-st., Portland, Maine.
Maintenance Co., electrical contractors, 54, Franklin-st., New York.
Malane, D. J., electrolier fitter, 88, State-st., Binghampton, N.Y.
Malcolm, P. S., elec. engineer & contractor, 214, Failing-bldg., Portland, Ore. (Teleph. No.1918, Main.)
Malden Electric Co., Malden, Mass.
Malone Electric Light & Power Co., Malone, N.Y.
Maloney Electric Works, manufacturing electricians, 7th & Hickory-sts., St. Louis, Mo.
Malpass, Henry, installation contractor, 1932, Callowhill-st., Philadelphia, Pa.
Mammoth Spring Electric Light Co., Mammoth Spring, Ark.
Manchester Light & Power Co., Manchester, Conn.
Manchester Traction, Light & Power Co., 46, Hanover-st., Manchester, N.H.
Manhattan Electrical Supply Co., manufacturers of electrical supplies, 17, Park-pl., New York (Telegs.: "Mesco, New York"); & 188, 5th-ave., Chicago, Ill.
Manhattan Light, Heat & Power Co., St. Paul, Minn.
Manistee Gas & Electric Co., Manistee, Mich.
Manistique Light & Power Co., Manistique, Mich.
Manitou Electric Co., electric light contractors, Manitou, Col.
Manitowoc & Northern Traction Co., Manitowoc, Wis.
Mankato Gas & Electric Light Co., Mankato, Minn.
Manning, Maxwell & Moore, dealers in railway & machine tools & supplies, 85, Liberty-st., New York.
Manquis, R., & Sons, installation contractors, 189, Atlantic-ave., Brooklyn, N.Y.
Manross, F. N., manufacturer of non-magnetic hair springs, Forestville, Conn. (Telegrams: "Manross, Forestville." Commercial Cable Co. Code. Telephone No. 65–4.)
Mansfield, A. N., M.AM.I.E.E., 125, Milk-st., Boston, Mass.
Mansfield Electric Light & Power Co., Mansfield, Ohio.
Mansfield Railway, Light & Power Co., Mansfield, Ohio.
Mansfield Tempered Copper Co., makers of commutator bars, Mansfield, Ohio.
Mansfield Town Electric Light Plant, Mansfield, Mass. (Teleph. No. 45–2.) G. H. Wood, supt.
Manton, A. W., B.SC., M.I.E.E., c/o S. Pearson & Son, Incorporated, East River Tunnels, Long Island City, New York.
Manufacturers' & Inventors' Electric Co., electrical apparatus, 82 & 84, Nassau-st., New York. Factory: 29–31, Gold-st., New York City. (Telegrams: "Mandieco, New York.")
Maphet & Dressel, consulting & electrical engineers, Commercial Tribune-bldg., Cincinnati, Ohio.
Marburg, Louis C., A.AM.I.E.E., electrical engineer, Allis-Chalmers Co., Milwaukee, Wis.
Marconi Wireless Telegraph Co. of America, 27, William-st., New York. (Telegs.: "Inogram, New York.")
Marcuson, Elias, A.I.E.E., 1867, 7th-ave., New York.
Marengo City Electric Light & Water Works, Marengo, Ill.
Marengo Electric Light & Power Co., Marengo, Iowa.
Marietta Municipal Electric Light Plant, Marietta, Ohio. T. Hancock, superintendent.
Marine Electric Co., installation contractors, 36, East-st., San Francisco, Cal.
Marinette Gas Engine Co., makers of gas engines, Chicago Heights, Ill.
Marion-Bucyrus Railway & Light Co., Bucyrus, Ohio.
Marion Electric Light & Street Railway Co., Marion, Ill.
Marion Light & Heating Co., Marion, Ind.
Marion Light & Power Co., Marion, Ala.
Marion Railway, Light & Power Co., Marion, Ohio.
Maris Bros., manufacturers of electric cranes & lifts, South 56th-st., Philadelphia, Pa.
Markle, A. R., installation contractor, Terra Haute, Ind.
Marks, Louis B., M.M.E., M.AM.I.E.E., electrical engineer, 220, Broadway, New York.
Marks, Prof. W. D., PH.B., C.E., M.AM.I.E.E., electrical engineer, president American City Heat & Light Co., Fostoria, Ohio.

Marks, Hiram, Electric Co., electrical engineers & contractors, 155, Jefferson-ave., Detroit, Mich.
Marlboro Electric Co., Marlboro, Mass. (Telephone No. 29–2.)
Marlboro Electric Machine & Lamp Co., incandescent lamp manufacturers, Marlboro, Mass.
Marlboro & Westboro Street Railway Co., Westboro, Mass.
Marquette City Electric Light Plant, Marquette, Mich.
Marquette City & Presque Isle Railway Co., Marquette, Mich.
Marrs Tanner Electric Co., installation contractors, Danville, Ill.
Marsh, Chas. J., A.AM.I.E.E., general manager, Eastern & North-Eastern Sales Departments, Standard Underground Cable Co., 56, Liberty-st., New York.
Marsh, L. J., electrical contractor, 1941, Market-st., Philadelphia, Pa.
Marshall, J. T., M.AM.I.E.E., assistant engineer, General Electric Co.'s Lamp Works, Harrison, N.J.
Marshall, Wm., electric condensers, 709, Lexington-ave., New York, N.Y.
Marshall City Electric Light Plant, Marshall, Minn.
Marshall Electric Light & Power Co., Marshall, Mo.
Marshall Electric Manufacturing Co., manufacturers of electrical fittings & specialties, 301, Congress-st., Boston, Mass.
Marshalltown Light, Power & Railway Co., Marshalltown, Iowa.
Marsily, F. A., & Co., manufacturers' agents for arc light carbons, 22, Produce Exchange, New York.
Marsten, C. L., & Co., electrical supplies, 84, Exchange, Portland, Maine.
Martin, F., A.AM.I.E.E., electrician, 22, West 16th-st., New York.
Martin, Julius, M.I.E.E., M.AM.I.E.E., master electrician, Navy Yard, Brooklyn, N.Y.
Martin, T. Commerford, M.I.E.E., editor & vice-president of the *Electrical World & Engineer*, 114, Liberty-st., New York. (Telegrams: "Electrical, New York." Telephone No. 7605, Cortlandt.)
Martin City Electric Light Plant, Martin, Tenn.
Martin Electric Co., electric marine work, 90, Verona-st., Brooklyn, N.Y. (Teleph. No. 936, Hamilton.)
Martin Telephone Co., E. H., telephone exchanges, toll & telegraph lines, Webster City, Iowa.
Martin's Ferry Municipal Electric Light Plant, Martin's Ferry, Ohio.
Martinsburg Electric Co., Martinsburg, W. Va.
Martinsville Light, Heat, Power & Water Co., Martinsville, Ind. (Local Telephone No. 88.)
Martland Electric Co., installation contractors, 12th-st., nr. Mission-st., San Francisco, Cal.
Marvin, Harry N., M.AM.I.E.E., Times-bldg., New York.
Marvin & Caslar Co., manufacturers of special machinery, Canastota, N.Y.
Marvin Electric Drill Co., manufacturing electricians, Binghampton, N.Y.
Maryland Electrical Supply Co., dealers in electrical supplies, 328, Eutaw-st., Baltimore, Md.
Marysville Gas & Electric Co., Marysville, Cal.
Maryville Electric Light & Power Co., Maryville, Mo.
Mascoma Electric Light & Gas Co., White River Junction, Vt.
Mason City & Clear Lake Railway Co., Mason City, Iowa.
Mason City Electric Light Plant, Mason City, Ill.
Mason Regulator Co., makers of heat regulators, 158, Sumner-st., Boston, Mass.
Massa, Louis F., consulting electrical engineer, Fort Lee, N.J. (Telegs.: "Adirosi, New York.")
Massachusetts Chemical Co., manufacturers of insulating materials, 170, Sumner-st., Boston, Mass. (Telegs.: "Maschemco, Boston.")
Massachusetts Electric Cos., electric light, traction & power, 84, State-st., Boston, Mass.
Massachusetts Institute of Technology (H. W. Tyler, secretary; Prof. H. E. Clifford, professor of electrical engineering), Boston, Mass. (Telephone No. 2180, Back Bay.)
Masset, Anthony, electric fixtures, 111, East 10th-st., New York.
Massey, Dr. G. Betton, electro-therapeutist, 1831, Chestnut-st., Philadelphia, Pa.
Massillon Light, Heat & Power Co., Massillon, Ohio. (Telegs.: "Massillon, Ohio." Teleph. Nos.: 5, Bell; & 105, Massillon.)
Masson, J., electrical contractor, 2941, Easton-ave., St. Louis, Mo.
Masson, R. S., A.AM.I.E.E., consulting electrical engineer, 824, West Lake-ave., Los Angeles, Cal. (Teleph. No. 66, Main); & 232, Crocker-bldg., San Francisco, Cal. (Teleph. No. 481, Bush.)
Mather, Eugene Holmes, A.M.AM.I.E.E., manager Portland Lighting & Power Co., Portland, Maine.
Mather, L. R., installation, light, power & telephone contractor, Utica, N.Y.
Mathews-Scott Electric Co., installation contractors, 225, Bryant-bldg., Kansas City, Mo.
Mathieson Alkali Works, Providence, R.I.
Mathieu Electric Co., electrical contractors, 6010, Center-ave., Pittsburg, Pa. (Long Distance Telephone No. 172, Highland.)
Matson, I. L., electrical engineer & contractor, 147, Summer-st., Boston, Mass.
Mattfeld, John A., installation contractor, 418, Tompkins-ave., Brooklyn, N.Y.
Matthews, Charles P., M.E., PH.D., M.AM.I.E.E., professor of electrical engineering, Purdue University, Lafayette, Ind.
Matthews Electric Co., installation contractors, Shukert-bldg., Kansas City, Mo.
Matthews, W. N., & Bro., electrical specialties, St. Louis, Mo.

Mattice, A. M., consulting engineer, 60, Wall-st., New York. (Telegs.: "Kafmatwar, New York." Teleph. No. 6149, John.)
Mattoon Heat, Light & Power Co., Mattoon, Ill.
Mauck Chunk Heat, Power & Electric Light Co., Mauck Chunk, Pa.
Maumee Valley Railway & Light Co., Toledo, Ohio.
Maus, H. H., & Co., trolley ties and poles, 420, Walnut-st., Philadelphia, Pa.
Maver, Wm., jun., M.AM.I.E.E., electrical expert & consulting electrical engineer, 136, Liberty-st., New York.
Maxim, Hiram Percy, engineer, Vehicle Motor Department, Westinghouse Electric & Manufacturing Co., Hartford, Conn.
May, S., electrical installation contractor, 636, 6th-ave., New York, N.Y. (Teleph. No. 724-725-3384-38.)
May & Co., installation contractors, Lowell, Mass.
Mayer, Geo. M., M.AM.I.E.E., electrical apparatus & special machinery, 1131, Monadnock-bldg., Chicago. (Telephone No. 2087, Harrison.)
Mayer, Maxwell M., A.AM.I.E.E., dynamo & motor manufacturer, 98, Liberty-st., New York.
Mayer, C. H., & Co., electric railway supplies, Norfolk, Va.
Mayer Engineering Co., electrical specialities makers, Monadnock-blk., Chicago, Ill.
Mayfield Water & Light Co., Mayfield, Ky.
Mayhew, F. A., installation contractor, 3127, Reading-rd., Cincinnati, Ohio.
Maynard, G. C., M.I.E.E., M.AM.I.E.E., consulting & supervising electrical engineer, Smithsonian Institution, Washington, D.C.
Maysville Street R.R. & Transfer Co., Maysville, Ky.
Maywood & Proviso Electric Light & Power Co., Maywood, Ill.
Mead, Morris W., superintendent, Bureau of Electricity, Department of Public Safety-bldg., 6th-ave., Pittsburgh, Pa. (Telephone Nos. 1137 & 1500, Private Office Telephone No. 1141.)
Mead-Morrison Manufacturing Co., electric conveying machinery, 11, Broadway, New York.
Mechanic Falls Water & Electric Light & Power Co., Mechanic Falls, Maine.
Mechanical Appliance Co., motor & dynamo manufacturers, 138, Stewart-st., Milwaukee, Wis. (Telegs.: "Watco, Milwaukee." Teleph. No. 205, South.)
Mechanical Electrical Construction Co., electrical contractors, 1609, Camac-bldg., Philadelphia, Pa.
Mechanical & Electrical Construction Co., Hobart-blk., Passaic, N.J.
Mechanical & Electrical Engineering Society, University of Illinois, Champaign, Ill.
Mechanical Rubber Co., insulating washers, Chicago, Ill.
Medfield Electric Light & Power Co., Walpole, Mass.
Media Electric Light, Heat & Power Co., Media, Pa.
Media, Middletown, Aston & Chester Electric Railway Co., Folsom, Pa.
Mees, C. L., A.AM.I.E.E., president & professor of physics, Rose Polytechnic Institute, Terre Haute, Ind.
Meigs, Geo. E., electrical engineer, contractor & electric supplies, 306, Massena-st., Syracuse, N.Y. (Bell Teleph. No. 2718-I.)
Meikel, Chas. W., Co., electrolier manufacturers & fitters, Indianapolis, Ind.
Melhorne & Co., manufacturing electricians, Allegheny, Pa.
Memphis Consolidated Gas & Electric Co., Memphis, Tenn.
Memphis Street Railway Co., Memphis, Tenn.
Menasha Wood Split Pulley Co., manufacturers of pulleys for power transmission, Menasha, Wis. (Telegrams: "Lawson, Menasha." Telephone No. 96.)
Mendota Light & Heating Co., Mendota, Ill.
Meneely, Geo. R., & Son, manufacturers of car bearings, Watervliet, N.Y.
Menominee & Marinette Light & Traction Co., Menominee, Mich.
Menominee Electric Manufacturing Co., manufacturers of electrical apparatus, Menominee, Mich.
Menomonie Electric Light & Power Co., Menomonie, Wis.
Merced Falls Gas & Electric Co., Merced, Cal.
Merchant & Co., manufacturers of the star ventilator, 517, Arch-st., Philadelphia, Pa.
Merchants' Electric Co., installation contractors, 182, State-st., Chicago, Ill.
Merchants' Electric Light Association, Lafayette, Ind.
Merchants' Heat & Light Co., Indianapolis, Ind.
Meredith, Wynn, M.AM.I.E.E., consulting engineer, Union Trust-bldg., San Francisco, Cal.
Meriden Electric Light Co., Meriden, Conn.
Meriden, Southington & Compounce Tramway Co., Meriden, Conn. (Telephone No. 39-2, Southington.)
Meridian Light & Railway Co., Meridian, Miss.
Merle Co., electrolier manufacturers & fitters, 517, Mission-st., San Francisco, Cal.
Merrill, J. F., A.AM.I.E.E., professor of physics & electrical engineering, director of School of Mines, University of Utah, Salt Lake City, Utah.
Merrill Railway & Lighting Co., Merrill, Wis.
Merrill, T. L., Co., dealers in electrical supplies, 228, Middle-st., Portland, Maine.
Merrin, W. L., consulting electrical engineer, Fredericktown, Ohio.

Mershon, Ralph D., M.AM.I.E.E., M.AM.S.M.E., consulting engineer, 60, Wall-st., New York; & Street Railway-chbrs., Montreal. (Telegs.: "Radamer, New York.")
Meserve, F. W., electrical contractor, South Framingham, Mass.
Messer, C. H., expert electrician, c/o Electrical World, 114, Liberty-st., New York.
Messmer, Fred., Manufacturing Co., manufacturers of phosphor bronze pinions & bearings, 10, S. Broadway, St. Louis, Mo.
Messner, Chas. W., electrical contractor, 3704, North Broad-st., Philadelphia, Pa. (Both Telephones.)
Meter Electrical Construction Co., installation contractors, Oshkosh, Wis.
Metropolis City Electric Light Plant, Metropolis City, Ill.
Metropolitan Electric Protective Co., 19, East 8th-st., New York.
Metropolitan Electrical Supply Co., dealers in electrical supplies, 184, Lake-st., Chicago, Ill.
Metropolitan Electrical Works, installation contractors, 2922, California-st., San Francisco, Cal. (Teleph. No. 367, Davis.)
Metropolitan Engineering Co., electric signs, Brooklyn, N.Y.
Metropolitan Street Railway Co., New York, N.Y.
Metropolitan Switchboard Co., manufacturers of switchboards & panel boards, 532, West 22nd-st., New York.
Metropolitan West Side Elevated Railway Co., Chicago, Ill.
Metzel, R. F., Co., electrical contractors, 910, E.-st., N.W., Washington, D.C. (Teleph. No. 1316, Main.)
Mexsen, R. H., M.AM.I.E.E., electrical engineer, 8, Battery-pl., New York,
Meyer, Julius, Pruss. Gov. C.E., A.AM.I.E.E., consulting engineer & negotiator, 19, Liberty-st., New York. (Telegrams: "Julimey, New York." Telephone No. 3433, John.)
Meyer Electric Co., installation contractors, Butte, Mont.
Meyer, L. A., & Co., installation contractors, 450, East Water-st., Milwaukee, Wis.
Meyrowitz, E. B., electro-medical appliance & X-ray apparatus manufacturer, 104, E. 23rd-st., New York.
Mezger & Co., electrical contractors, 12, Clinton-st., Brooklyn, N.Y.
Miami Artesian Water & Light Co., Miami, Ind. Ter.
Miami & Erie Canal Transportation Co., Cincinnati, Ohio.
Miami Light, Heat & Power Co., Pigua, Ohio.
Miamisburg Electric Co., manufacturers of electrical apparatus, Miamisburg, Ohio.
Mianus Electric Co., makers of electrical supplies, Mianus, Conn.
Mianus Motor Works, gasoline engines, Mianus, Conn.
Mica Insulator Co., micanite manufacturers, 218, Water-st., New York.
Mica Manufacturing Co., mica for electrical purposes, 307 & 309, West Broadway, New York.
Michaelson, O. H., installation contractor, 9 & 10, Arcade, Charleston, W. Va.
Michigan City Electric Co., Michigan City, Ind.
Michigan College of Mines, Houghton, Mich. For professors, &c., *see* SCHOOLS.
Michigan Inspection Bureau (E. F. Chapman, manager; J. H. Montgomery, electrician), 34 & 36, Congress-st., Detroit, Mich. (Teleph. No. 700.)
Michigan Lubricator Co., manufacturers of dynamo & motor sight-feed oilers and oil gauges, 661-669, Beaubien-st., Detroit, Mich.
Michigan Storage Battery Co., accumulators, Detroit, Mich.
Michigan Traction Co., Kalamazoo, Mich.
Middleboro Gas & Electric Plant, Middleboro, Mass.
Middlebury Electric Co., Middlebury, Vt.
Middlesborough Electric Light, Heat & Power Co., Middlesborough, Ky.
Middlesex & Monmouth Electric Light, Heat & Power Co., Keyport, N.J.
Middleton, O. N., electrical construction, 14, Harvey-st., Philadelphia, Pa. (Telephone No. 402, D.)
Middletown Car Works, tramcar makers, Middletown, Pa.
Middletown Electric Light Co., Middletown, Conn.
Middletown Electric Lighting & Power Co., Middletown, Ohio.
Midland Electric Co., general electrical contractors, Des Moines, Iowa. (Telephone No. 490.)
Midland Metal Co., Inc., manufacturers of brass goods, car trimmings, &c., 1427-33, Catharine-st., Philadelphia, Pa.
Mietz, A., makers of gas engines, 87, Elizabeth-st., New York.
Mildrum, W. W., jewels for electrical instruments, East Berlin, Conn. (Telephone No. 339-6.)
Miles & Piper, Z. C., Co., electrical engineers, contractors & supply dealers, 313, 1st-ave. S., Seattle, Wash.
Milford, Attleboro & Woonsocket Street Railway Co., Milford, Mass.
Milford Electric Light Co., Milford, N.H.
Milford Electric Light & Power Co., Milford, Mass.
Milford & Uxbridge Street Railway Co., Milford, Mass.
Milks Electric Co., installation contractors, Binghamton, N.Y.
Mill River Electric Light Co., Williamsburg, Mass.
Milledgeville Electric Light Co., Milledgeville, Ga.
Miller, Charles E., dealer in supplies for electric vehicles, 97, Reade-st., New York.

Miller, F. A., electrical contractor, 108, West 2nd-st., Portsmouth, Ohio.
Miller, John, electrician, 145, East 23rd-st., New York. (Teleph. No. 3474, Grammercy.)
Miller, John A., installation contractor and machinist, 804, East-st. N.W., Washington, D.C.
Miller, John H., installation contractor, 56, North 7th-st., Philadelphia, Pa.
Miller, K. B., A.AM.I.E.E., 1442–1443, Monadnock-blk., Chicago, Ill.
Miller, L. E., electrical engineer, 1210, Congress-ave., Houston, Tex.
Miller, Louis J., dealer in electrical supplies, Burlington, Iowa.
Miller, W. C., A.AM.I.E.E., electrical engineer, 3, South Hawk-st., Albany, N.Y.
Miller, Wm. Edmund, A.I.E.E., Beech Grove Inn, Pittsfield, Mass.
Miller & Chittim, electrical engineers & contractors, 38, Main-st., Norwalk, Conn.
Miller Co., installation contractors, Blufield, W. Va.
Miller Electric Co., installation contractors, Miller, S. Da.
Miller Electric Co., dealers in electrical platers' & polishers' supplies, 20, William-st., Newark, N.J.
Miller Electric Construction Co., electrical engineers & contractors, 541, Wood-st., Pittsburg, Pa.
Miller & McMeen, consulting electrical engineers, Monadnock-blk., Chicago, Ill.
Miller-Hoppin Electric Co., installation contractors, 1721, Champa-st., Denver, Col.
Miller-Seldon Electric Co., jobbers & contractors, 208, Griswold-st., Detroit, Mich.
Millersburg Electric Light Co., Millersburg, Ohio.
Milligan Hardware & Supply Co., electrical contractors, 134, 5th-st., East Liverpool, Ohio. (Bell & Columbian Telephone No. 67.)
Milliken, Chas. L., electrical contractor, Saco, Maine.
Millville Electric Light Co., Millville, N.J.
Millville Traction Co., Millville, N.J.
Milton Electric Light & Power Co., Milton, Pa.
Milwaukee Electric Launch Co., makers of electric launches, North-ave., Milwaukee, Wis.
Milwaukee Electric Railway & Light Co., Milwaukee, Wis.
Milwaukee Engineering Co., consulting electrical engineers, Hathaway-bldg., Milwaukee, Wis
Miner, Willard M., electrical engineer, Plainfield, N.J.
Mineral Point Zinc Co., Mineral Point, Wis.
Minersville Electric Light Co., Minersville, Pa.
Minerva Electric Co., installation contractors, 365, West 18th-st., New York.
Mining Magazine, 135, William-st., New York.
Mining World, (weekly; ann. sub. U.S. & Canada, $3.00, P.U., $5.00) 1420, Monadnock-blk, Chicago, Ill.; & London.
Minneapolis Electric & Construction Co., electric supplies & construction, 15, South 4th-street, Minneapolis, Minn. (Telephone No. 146–2.)
Minneapolis Electric Motor Co., installation contractors, 240, 1st-ave. North, Minneapolis, Minn.
Minneapolis General Elec. Co., elec. light & power contractors, 15 & 17, South 5th-st., Minneapolis, Minn.
Minneapolis Water Co., Minneapolis, Kan.
Minnesota Electric Co., electrical engineers, 309, 2nd-ave. South, Minneapolis, Minn. (N.W. Telephone Main Nos.: 2339 J.; & 3267, Twin City.)
Minot Light & Telephone Co., Minot, N.D.
Mishawaka City Electric Light Station, Mishawaka, Ind.
Missimer, C. E., electrical engineer, Allentown, Pa.
Mission Fixture Co., manufacturers of electric & combination fixtures, 113, W. 9th-st., Los Angeles, Cal.
Missoula Light & Water Co., Missoula, Mont.
Missouri-American Electric Co., manufacturers of incandescent lamps, St. Louis, Mo.
Missouri Electrical Construction Co., manufacturing electricians, 1215, Pine-st., St. Louis, Mo.
Missouri River Power Co., Helena, Mont.
Missouri Valley Electric Light Co., Missouri Valley, Iowa. (Local Telephone No. 7.)
Missouri Water, Light & Traction Co., Nevada, Mo.
Mitchell, R. R., installation contractor, Augusta, Ga.
Mitchell-Vance Co., The, mfrs. of electroliers, 836, Broadway; 10th-ave., 24th & 25th-sts., New York.
Mix, Samuel, installation contractor, New Orleans, La.
Moberly Gas & Electric Co., Moberly, Mo.
Mobile Electric Co., The, electric signs, 30, Lawrence-st., Newark, N.J.
Mobile Light & Railroad Co., Mobile, Ala.
Model Electric Co., installation contractors, Burlington, Iowa.
Modern Electric Co., telephone & electrical supplies makers & dealers, Burlington, Iowa.
Modern Electric & Engineering Supply Co., installation contractors, 418, Morgan-st., St. Louis, Missouri.
Modern Machinery (monthly), 1306, Security-bldg., Chicago, Ill. (Ann. sub., P.U., $1.50.)
Mohr, John, & Sons, boiler makers, 32–42, Illinois-st., Chicago, Ill. (Telephone No. 305, North); & 96th-st., Calumet River. (Telephone Nos.: 299, Oakland; & 53, So. Chicago.)
Molera, E. J., M.AM.I.E.E., civil & electrical engineer, 2025, Sacramento-st., San Francisco, Cal. (Telegs.: "Molera, San Francisco.")

Moline Elevator Co., electric elevators, Moline, Ill.
Moloney Electric Co., transformer manufacturers, 7th & Hickory-st., St. Louis, Mo.
Monarch Electric & Wire Co., dealers in electrical supplies, 125, South Clinton-st., Chicago, Ill.
Monarch Manufacturing Co., manufacturers of engine stops, 140, Grand-st., Waterbury, Conn. (Telephone No. 120.)
Monarch Telephone Manufacturing Co., telephone makers, 12, South Clinton-st., Chicago, Ill.
Monett Electric Light, Power & Ice Co., Monett, Mo.
Monongahela Electric Light Co., Monongahela City, Pa.
Monongahela Valley Electric Co., Charlerob, Pa.
Monrath, Gustave, consulting & contracting electrical engineer, 5–7, East 42nd-st., New York. (Telephone No. 2772–38th-st.)
Monroe Brass & Wire Co., manufacturers' agents, 801, Traction-bldg., Cincinnati, Ohio.
Monroe City Electric Light Plant, Monroe, Mich.
Monroe Water Works, Light & Traction Co., Monroe, La.
Montagu, Ralph L., A.AM.I.E.E., A.AM.I.M.E., consulting engineer, Oroville, Cal.
Montana Electric Co., electrical engineers & contractors, Butte City, Mont.
Montana Power Transmission Co., Butte, Mont.
Montauk Fire Detecting Wire Co., electric cable & fire alarm makers, 100, William-st., New York.
Montclair Electric Light Co., Montclair, Col.
Monte Vista Electric & Gas Light Co., Monte Vista, Col.
Monterey County Gas & Electric Co., Monterey, Cal.
Monterey & Pacific Grove Railway Co., Monterey, Cal.
Montezuma Manufacturing Co., Montezuma, Ga.
Montgomery & Chester Electric Railway Co., Phœnixville, Pa.
Montgomery & Co., exporters of machinery & tools, 105, Fulton-st., New York, N.Y.
Montgomery Electric Light & Power Co., Canajoharie, N.Y.
Montgomery Light & Water Power Co., Montgomery, Ala.
Montgomery Street Railway Co., Montgomery, Ala.
Montgomery Traction Co., Montgomery, Ala.
Monticello Electric Co., The, Monticello, Iowa.
Montpelier City Electric Light Plant, Montpelier, Ind.
Montpelier Electric Light Co., Montpelier, Idaho.
Montrose Electric Light & Power Co., Montrose, Col.
Moon Manufacturing Co., The, manufacturers of annunciators, cable terminal heads, &c., 49, South Canal-st., Chicago, Ill.
Mooney, T. J., Co., electrical engineers, Nashville, Tenn.
Moore, Alfred F., manufacturer of insulated electric wire, 200–218, North 3rd-st., Philadelphia, Pa.
Moore, D. McFarlan, M.AM.I.E.E., inventor, Moore Electrical Co., 52, Lawrence-st., Newark, N.J.
Moore, James Robert, consulting & supervising electrical, elevator & illuminating engineer, 156, 5th-ave., New York. (Teleph. No. 222, Gramercy.)
Moore, Wilbur G., installation contractor, Lafayette, Ind.
Moore, Wm. E., M.AM.I.E.E., general superintendent & electrician, Pittsburg, McKeesport & Connellsville Railway Co., Connellsville, Pa.
Moore Electrical Co., dealers in vacuum tube lighting apparatus, 52, Lawrence-st., Newark, N.J.
Moore & White Co., manufacturers of friction pulleys, 15th-st. & Lehigh-ave., Philadelphia, Pa.
Moore & Wyman, makers of electric lifts, cranes, &c., corner Granite & Richards-sts., South Boston, Mass.
Moore-Edenfield Electric & Manufacturing Co., manufacturers, electrical contractors, & supplies, Augusta, Ga.
Moormann & Otten, electric light fixtures, 611, Main-st., Cincinnati, Ohio.
Mora, Mariano L., C.E., E.E., A.AM.I.E.E., General Electric Co., 44, Broad-st., New York.
Moran & Hastings Manufacturing Co., electrolier manufacturers & fitters, 63, East Washington-st., Chicago, Ill.
Moran & Van Fossen, electrolier manufacturers, 42, Wabash-ave., Chicago, Ill.
Moravia Electric Light, Heat & Power Co., Moravia, N.Y.
Morgan, Jacque L., A.AM.I.E.E., city electrician, City Hall, Kansas City, Mo.
Morgan, W. J., installation contractor, 289, Centre-st., Boston, Mass.
Morgan, Harry E., & Co., electrical engineers, Camden, N.J.
Morgan & Wright, manufacturers of rubber goods, Chicago, Ill.
Morgan-Gardner Electric Co., electrical mining machinery, 27th-st. & Shields-ave., Chicago, Ill.
Morganfield Electric Light & Power Co., Morganfield, Ky.
Morganstern-Ochiltree Co., installation contractors, 325, 2nd-ave., Pittsburg, Pa. (Teleph. No. Bell 201 J., Cort.)
Morgantown Electric Light & Power Co., Morgantown, W. Va.
Moriarty, J. L., installation contractor, 120, West 61st-st., New York.
Morin, Thos. H., electrical contractor, 23, Taylor-st., Springfield, Mass.

Morreau Gas Fixture Manufacturing Co., electric light fixtures, 347 & 349, Erie-st., Cleveland, Ohio.
Morreson Electric Light, Heat & Power Co., Little Falls, Minn.
Morrin, Thomas, electrical engineer, Mills-bldg., San Francisco, Cal.
Morrin Climax Boiler Co., makers of the Morrin "Climax" steam generators, Smith, Lorraine, Court & Creamer-sts., Brooklyn, N.Y. (Telegrams: "Axclim, Brooklyn." Telephone No. 243, Hamilton.)
Morris, G. H., A.AM.I.E.E., Electric Storage Battery Co., 1400, Association-bldg., Chicago, Ill.
Morris County Traction Co., Morristown, N.J.
Morris Electric Co., manufacturers of fibre, Wilmington, Del.
Morris Electric Co., Inc., general electrical supplies, 315, Shipley-st., Wilmington, Del.
Morris Machine Works, builders of steam engines, Baldwinsville, N.Y.
Morrison, G. F., manager General Electric Co.'s Lamp Works, Harrison, N.J.
Morrison, J. Frank, A.AM.I.E.E., electrical engineer, 317, North Paca-st., Baltimore, Md. (Teleph. Nos.: 2372, St. Paul; & 2912, Cort.)
Morrison, Richard H., electrical engineer, 3rd-ave. & 71st-st., New York.
Morrison Electric Lighting Co., Morrison, Ill.
Morrison Electrical Engineering Co., installation contractors, Amsterdam, N.Y.
Morse Chain Co., gears & pinions, Trumansburg, N.Y.
Morse, Williams & Co. (Department of Otis Elevator Co.), makers of electric freight elevators, 32, South Broad-st., Philadelphia, Pa. (Telegs.: "Tajero, Philadelphia"); 108, Liberty-st., New York; & at Boston, Mass., &c.
Morton, E. C., electrical contractor, Foxboro, Mass.
Moscow Electric Light & Power Co., Moscow, Idaho.
Moses, Percival Robert, M.AM.I.E.E., E.E., consulting engineer, 320, 5th-ave., New York.
Mosler, Arthur R., consulting, mechanical & electrical engineer, 1679, Broadway, New York. (Telephone No. 1820, Columbus.)
Mosley Haigler Electric Co., installation contractors, Montgomery, Ala.
Mosman, C. T., M.AM.I.E.E., electrical engineer, Schenectady, N.Y.
Mosscrop, Wm. A., A.AM.I.E.E., electrical engineer, Brooklyn, N.Y.
Motley, Green & Co., railroad supplies, 68, Broad-st., New York.
Motsinger Device Manufacturing Co., makers of sparking dynamos for gas engines, Pendleton, Ind.
Mott Iron Works, manufacturers of iron poles, 84, Beekman-st., New York.
Moulton, L. E., installation contractor, Sanford, Maine.
Moundsville Electrical Co., Moundsville, West Virginia.
Mount Airy Town Electric Light Plant, Mount Airy, N.C.
Mount Carmel Light & Water Co., Mount Carmel, Ill.
Mount Clemens Electric Co., Mount Clemens, Mich. (Local Telephone No. 32.)
Mount Pleasant Electric Light & Water Works, Mount Pleasant, Iowa.
Mount Sterling Water, Light & Ice Co., Mount Sterling, Ky.
Mount Vernon Electric Light Co., Mount Vernon, Ohio.
Mount Vernon Electric Railway Co., Mount Vernon, Ohio.
Mount Washington Electric Light & Power Co., Mount Washington, Md.
Mount Whitney Power Co., Visalia, Cal.
Mountain Electric Co., engineers, contractors & dealers in general supplies, 1619–1623, Glenarm-st., Denver, Col.
Mountain State Electrical Co., telephone cable terminal manufacturers, &c., Wheeling, W. Va.
Muckle, M. R., jun., & Co., electrical engineers & contractors, 512, Stephen Girard-bldg., 21, South 12th-st., Philadelphia, Pa. (Telegrams: "Muckle, Philadelphia." Long Distance Telephone No. 27–26, Filbert.)
Muddiman, C. A., & Co., electrolier manufacturers & fitters, 616, 12th-st., Washington, D.C.
Muecke & Roren, electrical engineers & contractors, 11, East Houston-st., New York.
Muenzberg, E. G., installation contractor, 682, 31st-st., Milwaukee, Wis.
Muncie Electric Light Co., Muncie, Ind.
Muncie, Hartford & Fort Wayne Railway Co., Muncie, Ind.
Munder Electric Co., electric lamps, Springfield, Mass.
Municipal Electric Light Plant, Newark, Ohio.
Municipal Electric Light & Power Plant, Richmond, Ind.
Municipal Electric Light & Water Plant, Attica, Ind. (G. McDonald, superintendent.)
Municipal Light & Power Plant, Anderson, Ind.
Municipal Lighting Plant, Ashtabula, Ohio.
Municipal Water & Light Department, Wayne, Neb.
Municipal Water, Light & Power Co., Mackinac Island, Mich.
Munn & Co., publishers of the *Scientific American* & patent solicitors, 361, Broadway, New York.
Munns Manufacturing Co., electro-medical apparatus manufacturers, Corning, Iowa.
Munsell, Eugene, & Co., dealers in mica, 218, Water-street, New York, N.Y.

Muralt & Co., electricians, 25, Pine-st., New York. (Telegs.: "Demuralt, New York." Teleph. Nos. 5287 & 5288, John.)
Murphy, E. Vernon, dealer in electrical supplies & manufacturers' agent, Equitable-bldgs., Baltimore, Md.
Murphy, T. J., electrical engineer, 364, West 121st-st., New York.
Murphy, W. J., electrical supply dealer, 124, North Court-st., Montgomery, Ala.
Murphysboro Water Works, Electric & Gas Light Co., Murphysboro, Ill.
Murray, Thos. E., M.AM.I.E.E., second vice-president & general manager New York Edison Co., 55, Duane-st., New York.
Murray Iron Works Co., Corliss engines, steel boilers, Burlington, Iowa. (Telegrams: "Murray, Burlington.")
Murray, James J., & Co., manufacturers of electric light globes & incandescent shades, Trenton-ave., Culvert & Waterloo-sts., Philadelphia, Pa.
Muschenheim, F. A., M.AM.I.E.E., electrical engineer, Western Electric Co., Hotel Astor, New York.
Muskegon Electric Co., electrical contractors, 86, West Western-ave., Muskegon, Mich.
Muskegon Traction & Lighting Co., Muskegon, Mich.
Mustard, John, electrical engineer & manufacturers' agent, Real Estate Trust-bldg., Philadelphia, Pa.
Mutual Boiler Insurance Co., 31, Milk-st., Boston, Mass. (Telegrams: "Steam, Boston." Telephone No. 443.)
Mutual Electric Co., electrical engineers, Duluth, Minn.
Mutual Electric Light Co., San Francisco, Cal.
Mutual Electric Light & Power Co., The, Alamosa, Col. (Teleph. No. 431, Black.)
Mutual Light & Water Co., Brunswick, Ga.
Myers, N. A., installation contractor, 708, Fulton-st., Brooklyn, N.Y.
Myers, Finney & Morrison, consulting electrical engineer, Bond-bldg., Washington, D.C.
Myers, L. E., Co., contractors for complete construction & equipment of steam & electric railways, Monadnock-bldg., Chicago, Ill. (Telephone No. 1571, Harrison.)
Mylander, A. C., & Bro., electrolier manufacturers & fitters, Baltimore, Md.
Mystic Electric & Gas Light Co., electric light contractors, Mystic, Conn.

N. J. Electrical Construction Co., installation contractors, Montclair, N.J.
N. & S. Electric Co., manufacturers of spark dynamos, Seattle, Wash. (Telephone Nos.: 4201, John; & 7128, Ind.)
Nagel, W. G., Electric Co., jobbers of electrical supplies & machinery, Toledo, Ohio.
Nalley, W. J., consulting electrical engineer, Austell-bldg., Atlanta, Ga.
Napa Gas & Electric Co., Napa, Cal.
Naperville City Electric Light & Water Works, Naperville, Ill.
Napoleon Water Works & Electric Light Plant, Napoleon, Ohio.
Narragansett Electric Light Co., Providence, R.I.
Narragansett Electric Lighting Co., Elm, nr. Eddy. Office: 60, Weybosset, Providence, R.I.
Narragansett Pier Electric Light & Power Co., Narragansett Pier, R.I.
Nash, Geo., & Co., magnet-steel, Norway iron, &c., 224, Pearl-st., New York; & 24, South Clinton-st., Chicago, Ill. (Telegrams: "Nashlaw," New York or Chicago.)
Nashua Light, Heat & Power Co., Nashua, New Hampshire.
Nashville Railway & Light Co., Nashville, Tenn. (Teleph. No. 1509.)
Nassau Light & Power Co., Roslyn, N.Y.
Natchitoches Town Electric Light & Water Works Plant, Natchitoches, La.
Natick & Cochituate Street Railway Co., Natick, Mass.
National Acme Manufacturing Co., The, manufacturers of screw, terminal & small detached accessories, Cleveland, Ohio.
National Automatic Fire Alarm Co. of Louisiana, electrical supply dealers, 614-618, Gravier-st., New Orleans, La.
National Battery Co., storage battery manufacturers, 368-382, Massachusetts-ave., Buffalo, N.Y.
National Brake & Electric Co., electric machinery manufacturers, Milwaukee, Wis. (Telegs.: "Eco, Milwaukee.")
National Cable & Wire Co., wire manufacturers—copper, Shousetown, Pa.
National Carbon Co., manufacturers of electric light carbons, carbon electrodes & plates, carbon brushes & primary batteries, Cleveland, Ohio. (Telegrams: "Carbon, Cleveland.")
National Chemical Co., manufacturers of chemicals, Chestnut Hill, Philadelphia, Pa.
National Conduit & Cable Co., electrical conduits & cables, 41, Park-row, New York.
National Correspondence Institute, Second National Bank-bldg., Washington, D.C. (Telephone No. 1157, Main.)
National Electric Co., manufacturers of electrical specialties, 10th & Sansom-sts., Philadelphia, Pa.

National Electric Co., electrical supply dealers & contractors, 455, Sutter-st., San Francisco, Cal.
National Electric Contracting & Constructing Co., installation contractors, 219, Heed-bldg., Philadelphia, Pa.
National Electric Lamp Co., incandescent lamp manufacturers, Cleveland, Ohio.
National Electric Light Association (W. C. L. Eglin, secretary), 136, Liberty-st., New York.
National Electric Signaling Co., wireless telegraph equipments, 8th & Water-sts., Washington, D.C. (Telegs.: "Nelsig, New York." W.U. Code.)
National Electric Supply Co., installation contractors, Eagle Hotel-bldg., Grand Rapids, Mich.
National Electric Works, installation contractors, 316, S. Los Angeles-st., Los Angeles, Cal.
National Electrical Contractors' Association of the United States, 94, General-st., Utica, N.Y. W. H. Morton, secretary.
National Electrical Supply Co., 1330, New York-ave., Washington, D.C.
National Electrical Supply Co., installation contractors, 2171, 7th-ave., New York.
National Elevator & Machine Co., manufacturing electricians, Honesdale, Pa.
National Fire Appliance Co., manufacturers of automatic fire alarms, 161, Franklin-st., Boston, Mass.
National Hoisting Engine Co., makers of electric hoists, Harrison, N.J.
National Indiarubber Co., manufacturers of N.I.R. seamless rubber insulated wires & cables, Bristol, R.I.
National Manufacturing & Electric Co., Assumption, Ill.
National Motor Vehicle Co., makers of gasoline & electric vehicles, 22nd-st. & L. E. & W. R. R., Indianapolis, Ind. (Telegrams: "Automobile, Indianapolis." W.U.T. & A.B.C. 4th ed. Codes.)
National Pipe Bending Co.,manufacturers of the National feed-water heater,94,River-st., New Haven,Conn.
National Porcelain Co., porcelain & china fittings makers, Trenton, N.J.
National Stamping & Electric Works, installation contractors, 54, South Clinton-st., Chicago, Ill. (Teleph. No. 3834, Main.)
National Telephone Supply Co., 1430, Superior-st., Cleveland, Ohio.
National Tube Co., trolley poles, pipes, &c., Pittsburg, Pa.
National Wire Corporation, telephone & telegraph wire manufacturers, 114, Liberty-st., New York.
National X-Ray Reflector Co., reflector & shade manufacturers (glass), 26, Cortland-st., New York.
Naval Electric Co., marine & electrical fixtures, 79, Cortlandt-st., New York. (Telegs.: "Navelec, New York." W.U. Code. Teleph. No. 5132, Cort.)
Nebraska City Street Railway Co., Nebraska City, Neb.
Nebraska City Water & Light Co., Nebraska City, Neb.
Nebraska Electrical Co., installation contractors, Omaha, Neb.
Needham, R. J., superintendent Anglo-American Telegraph Co., Duxbury, Mass.
Neely Construction & Supply Co., electrical engineers, 1005, New York-ave., Washington, D.C.
Neff & Thompson, electrical engineers, Norfolk, Va.
Neiler, Samuel G., M.I.E.E., M.AM.I.E.E., consulting mechanical & electrical engineer, 1409 & 1412, Manhattan-bldg., Chicago, Ill. (Telephone No. 592, Harrison.)
Neilson, John, A.AM.I.E.E., consulting electrical engineer, Bates & Neilson, 42, Broadway, New York.
Neily, M. R., electrical contractor, 64, Shawmut-ave., Boston, Mass.
Nelson, J. V., installation contractor, 61, West 55th-st., New York.
Nelson Electric & Manufacturing Co,, installation contractors, Huron-st., Grand Rapids, Mich.
Nelson Electrical Co., installation contractors, 1823, Michigan-ave., Chicago, Ill.
Nelson Scientific Instrument Co., rontgen apparatus, 18, West Randolph-st., Chicago, Ill.
Nelsonville Electric Light Co., Nelsonville, Ohio.
Nernst Lamp Co., Garrison-pl. & Fayette-st., Pittsburg, Pa.
Neshobe Electric Co., Brandon, Vt.
Neu, Gustave S., Co., electrical engineers & contractors, 125–127, Grand-st., New York. (Telephone No. 6369, Spring.)
Nevada County Gas & Electric Co., Nevada City, Cal.
Neversink Mountain Railway Co., Reading, Pa.
New Bedford Gas & Edison Light Co., New Bedford, Mass.
New Bedford & Onset Street Railway Co., New Bedford, Mass.
New Berne Electric Light & Power Co., New Berne, N.C.
New Britain Machine Co., manufacturers of "Case" steam engines, New Britain, Conn. (Telegrams: "Engine, New Britain." Telephone No. 50.)
New Castle Electric Co., New Castle, Pa.
New England Butt Co., manufacturers of braiding machinery & castings, Providence, R.I.
New England Electric Co., dealers in electrical supplies, 1551, Blake-st., Denver, Col.
New England Electric Manufacturing Co., makers of sockets, receptacles, &c., Somerville, Mass.
New England Electrical Works, magnet & resistance wires, Lisbon, N.H.
New England Engineering Co., installation contractors, Waterbury, Conn.
New England Insurance Exchange (C. M. Goddard, secretary & electrician of electrical department), 55, Kilby-st., Boston, Mass.
New England Motor Co., dynamo & motor makers, Lowell, Mass.

New England Telephone & Telegraph Co., 119, Milk-st., Boston, Mass.
New Era Gas Engine Co., manufacturers of gas engines, cor. 2nd & Dale-ave., Dayton, Ohio.
New Haven Lines (Electric Railway), New Haven, Conn.
New Jersey Asbestos Co., makers of asbestos materials, 52, Dey-st., New York. (Telephone No. 4098, Cort.)
New Jersey Electric Construction Co., installation contractors, Bloomfield, N.J.
New Jersey Electrical Construction Co., electrical engineers & contractors, 45, Clinton-st., Newark, N.J. (Telephone No. 408); & Montclair, N.J. (Telephone No. 362, R.)
New Jersey Engineering & Construction Co., electrical engineers, Morristown, N.J.
New Jersey Foundry & Machine Co., engineers & contractors, 9, Murray-st., New York.
New Jersey & Hudson River Railway & Ferry Co., Edgewater, N.J.
New Jersey & Pennsylvania Concentrating Works (Thomas A. Edison, president). Offices: Edison Laboratory, Orange, N.J. Works: Edison, Sussex County, N.J.
New Kensington Light Co., New Kensington, Pa.
New Lisbon Gas Co., Lisbon, Ohio. (Bell Teleph. No. 93 J. 2.)
New London Gas & Electric Co., New London, Conn.
New Market Electric Light, Power & Heat Co., New Market, N.H.
New Mexico Light, Heat & Power Co., The, Silver City, New Mexico.
New Milford Electric Light Co., New Milford, Conn.
New Milford Power Co., Gaylordsville, Conn.
New Orleans Railway & Light Co., New Orleans, La.
New Orleans Electric Co., electrical supplies & construction, Hibernia Bank-bldg., New Orleans, La.
New Orleans Railroad & Light Co., New Orleans, La.
New Paltz, Highland & Poughkeepsie Traction Co., New Paltz, N.Y.
New Process Rawhide Co., manufacturers of noiseless gears, Syracuse, N.Y.
New Richmond Electric Light & Water Works, New Richmond, Ohio.
New Ulm City Electric Light Plant, New Ulm, Minn.
New York Belting & Packing Co., Ltd., manufacturers of rubber goods, 91, Chambers-st., New York.
New York Car & Truck Co., manufacturers of Peckham System street car trucks, Kingston, N.Y.; & 29, Broadway, New York.
New York Car Wheel Co., manufacturers of railway wheels for horse, steam & electric service, Buffalo, N.Y.
New York City Railway Co, 621, Broadway, New York.
New York Edison Co., 55, Duane-st., New York, N.Y.
New York Electric & Acetylene Supply Co., installation contractors, Taunton, Mass.
New York Electric Co., electrical contractors, Colorado Springs, Col.
New York Electrical Society (Geo. H. Guy, secretary), 114, Liberty-st., New York. (Telegrams: "Lengineer, New York." Telephone No. 7065, Cort.)
New York Insulated Wire Co., manufacturers of insulated wire, 114, Liberty-st., New York.
New York & Long Island Traction Co., Hempstead, N.Y.
New York & New Jersey Telephone Co., 81, Willoughby-st., Brooklyn, N.Y.
New York & Ohio Co., manufacturers of Packard incandescent lamps, Warren, Ohio.
New York & Pennsylvania Telephone & Telegraph Co. (C. F. Cutler, president; W. N. Eastabrook, vice-president; H. F. Stevens, general manager & treasurer; W. J. Farquhar, secretary), Elmira, N.Y.; & 15, Dey-st., New York, N.Y.
New York & Queens Gas & Electric Light & Power Co., Flushing, N.Y.
New York Safety Steam Power Co., makers of automatic engines, 114, Liberty-st., New York.
New York & Stamford Rail Road Co., Stamford, Conn.
New York & Stamford Railway Co., Port Chester, N.Y.
New York Telephone Co. (John H. Cahill, secretary), 15, Dey-st., New York, N.Y.
Newark Electric Supply Co., electrical supplies, 281, Market-st., Newark, N.J.
Newberry Water Works & Electric Light Plant, Newberry, S.C.
Newbery, F. E., & Co., electrical engineers & contractors, 642, Century-bldg., St. Louis, Mo.
Newburgh District Telegraph Co., Newburgh, N.Y.
Newburgh Light, Heat & Power Co., Newburgh, N.Y.
Newburyport Gas & Electric Co., Newburyport, Mass.
Newgard, Henry, & Co., Inc., electrical construction, 225, East Washington-st., Chicago, Ill.
Newhall, Henry B., electrical engineer, 9, Murray-st., New York.
Newhall & Co., consulting electrical engineers, 13, East Read-st., Baltimore, Md.
Newman, Chas. R., installation contractor, Morrisse-bldg., Passaic, N.J.
Newman, F. J., A.AM.I.E.E., superintendent & chief engineer, Woods Motor Vehicle Co., 110, East 20th-st., Chicago, Ill.
Newman, Leon A., installation contractor, Belmar, N.J.
Newman Clock Co., manufacturers of electrical watchman's time detectors, 501, Masonic Temple, Chicago, Ill. (Telegrams: "Watchclock, Chicago.")

Newport Electric Co., Newport, N.H.
Newport Electric Light Co., Newport, Vt.
Newport Engineering Works, Newport, R.I.
Newport & Fall River Street Railway, Newport, R.I.
Newport Light & Power Co., Newport, Maine.
Newport News & Old Point Railway & Electric Co., Hampton, Va.
Newport & Providence Railway Co., Newport, R.I.
Newton & Boston Street Railway Co., 797, Washington-st., Newton, Mass.
Newton Electric Street Railway Co., Newton, Pa.
Newton Gas & Electric Co., Newton, N.J.
Newton & Painter, consulting electrical engineers, 614-616, Professional-bldg., 330, North Charles-st., Baltimore, Md.
Newton & Watertown Gas Light Co., Newton, Mass. (Telephone No. 60, Newton.)
Nezperce Water & Power Co., Nezperce, Idaho.
Niagara Electro-Chemical Works, sodium & peroxide sodium manufacturers, Niagara Falls, N.Y.
Niagara Engineering Co., electrical engineers, 326, Main-st., Niagara Falls, N.Y.
Niagara Falls Hydraulic Power & Manufacturing Co., Niagara Falls, N.Y.
Niagara Gorge Railroad Co., Niagara Falls, N.Y.
Nichols, Edward L., PH.D., M.AM.I.E.E., professor of physics, Cornell University, Ithaca, N.Y.
Nichols Gas Fixture Manufacturing Co., electrolier manufacturers & fitters, 1100, Myrtle-ave., Brooklyn, N.Y.
Nicholson, S. L., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., East Pittsburg, Pa.
Nigh, O. L., & Co., installation contractors, 7th & D.-sts., N.W., Washington, D.C.
Niles-Bement-Pond Co., electric crane makers, 111, Broadway, New York.
Niles City Electric Light Plant, Niles, Mich.
Nimis & Nimis, electrical contractors, 314, Madison-ave., New York.
Nims, E. L., electrical contractor, 156, Wabash-ave., Chicago, Ill. (Telephone No. 3631, Central.)
Nistle, G. W., A.AM.I.E.E., consulting engineer, Manhattan-bldg., Chicago, Ill.
Niven, David Wright, A.I.E.E., Power & Mining Engineering Department, General Electric Co., Schenectady, N.Y.
Nixon, William, installation contractor, Newburgh, N.Y.
Noblett, E. J., Co., makers of switch-boxes, 121st & Peoria-sts., Chicago, Ill. (Teleph. No. 76, Wentworth.)
Noeggerath, J. E., M.AM.I.E.E., electrical engineer, Schenectady, N.Y.
Nogales Electric Light, Ice & Water Co., Nogales, Ariz.
Noll, Aug., M.AM.I.E.E., installation contractor, 8, East 17th-st., New York.
Norfolk & Bristol Street Railway Co., South Walpole, Mass.
Norfolk Electric Co., bell fitters & contractors, Norfolk, Va.
Norfolk Electric Light & Power Co., Norfolk, Neb.
Norfolk & Southern Railroad Co., Norfolk, Va.
Norfolk Street Railway & Light Co., Norfolk, Va.
Norris, H. H., M.E., professor of electrical engineering, Cornell University, Ithaca, N.Y.
Norristown City Electric Light Plant, Norristown, Pa.
Norristown Electric Light & Power Co., Norristown, Pa.
North Adams Gas Light Co., North Adams, Mass.
North Alabama Traction Co., New Decatur, Ala.
North American Railway Construction Co., elec. railway contractors, 1320, Monadnock-bldg., Chicago, Ill.
North Electric Co., installation contractors, 518, High-st., Buffalo, N.Y.
North Electric Co., manufacturers of telephone exchange apparatus, Cleveland, Ohio.
North Hampton Electric Lighting Co., North Hampton, Mass.
North Jersey Street Railway Co., Jersey City, N.J.
North Kankakee Electric Light & Railway Co., Kankakee, Ill.
North Mountain Power Co., Eureka, Cal.
North Shore Electric Co., Evanston, Ill.
North Shore Electric Co., Maywood, Ill.
North Shore Railroad Co., Mutual Life-bldg., San Francisco, Cal.
Northampton Street Railway Co., Northampton, Mass.
Northampton Traction Co., Easton, Pa.
Northern California Power Co., San Francisco, Cal.
Northern Electric Co., installation contractors, Burlington, Vt.
Northern Electric Co., Chico & Shreve-bldg., Chico, Cal.
Northern Electric Co., Eveleth, Minn.
Northern Electrical Co., jobbers of electrical supplies, Duluth, Minn.
Northern Electrical Manufacturing Co., makers of motors, dynamos, &c., Madison, Wis. (Telegrams : "Northelect, Madison.")

Northern Electrical Manufacturing Co., 29, Broadway, New York.
Northern Engineering Works, makers of electric lifts, 12, Chene-st., Detroit, Mich.
Northern Illinois Light & Traction Co., Ottawa, Ill.
Northern Indiana Railway Co., South Bend, Ind.
Northern Iowa Telephone Co., dealers in electrical supplies, Cresco, Iowa.
Northern Michigan Traction Co., Manistee, Mich.
Northern Ohio Traction & Light Co., Akron, Ohio.
Northern Telephone Co., Bottineau, N.D.
Northern Texas Traction Co., Fort Worth, Tex.
Northern Westchester Lighting Co., Ossining, N.Y.
Northrup, E. F., A.AM.I.E.E., Leeds & Northrup Co., 259, North Broad-st., Philadelphia, Pa.
North-West Electric Engineering Co., general electrical contractors, 309, Stark-st., Portland, Ore. (Telephone No. 1888, Main.)
Northwest Engineering Co., electrical engineers & contractors, supply dealers & manufacturers, 343, Minnesota-st., St. Paul, Minn. (Telegs.: "Armature, St. Paul." Teleph. No. 832.)
Northwest Light & Power Co., Seattle, Wash.
Northwest Light & Power Co., Skagway, Alaska.
Northwest Light & Water Co., North Yakima, Wash.
Northwestern Electric Co., installation contractors, 71, West Washington-st., Chicago, Ill.
Northwestern Electric Equipment Co., 131, East 5th-st., St. Paul, Minn.
Northwestern Electric Heat & Power Co., Kearney, Neb.
Northwestern Elevated Railroad Co., Chicago, Ill.
North-Western Gas & Electric Co., Walla Walla, Wash.
Northwestern Light & Power Co., Colville, Wash.
Northwestern Manufacturing Co., manufacturing electricians, Clinton & Madison-sts., Milwaukee, Wis.
Northwestern Storage Battery Co., makers of storage batteries, 280, Michigan-st., Chicago, Ill.
Norton Electrical Instrument Co., makers of electrical instruments, Manchester, Conn.
Norton & Jones' Machine Tool Works, manufacturers of automatic drilling machines, Plainville, Conn. (Telegs.: "Jonort, Plainville." Lieber's Code.)
Norway Electric Light Plant, Norway, Mich.
Norway & Paris Street Railway Co., Norway, Maine.
Norwich Gas & Electric Co., Norwich, N.Y.
Norwood Water Works & Electric Plant, Norwood, Ohio.
Novelty Electric Co., manufacturers of & dealers in electrical supplies, 50–54, North 4th-st., Philadelphia, Pa.
Novelty Electric Works, installation contractors, 262, Yamhill, Portland, Ore.
Novelty Turning Co., electrical wood-work, Fitchburg, Mass.
Novelty Wiring Co., installation contractors, Ayer, Mass. (Teleph. No. 47–3.)
Nowotny, John S., Co., makers of motors, &c., Atlas Bank-bldg., Cincinnati, Ohio.
Noxon, C. P. L., A.AM.I.E.E., manufacturer of dynamos, &c., 500, East Water-st., Syracuse, N.Y.
Noxon & Whitney Co., dealers in electrical supplies, Middletown, Conn.
Nugent, Arthur W., installation contractor, Yonkers, N.Y.
Nungesser Electric Battery Co., dry & closed circuit battery manufacturers, 27–33, King-st., Cleveland, Ohio.
Nunn, P. N., M.AM.I.E.E. (P.O. Box 3), Niagara Falls, N.Y.; chief engineer, Telluride Power Co., Telluride, Col., & Ontario Power Co., Niagara Falls, Ont.
Nunn, R. J., M.D., A.AM.I.E.E., 5, York-st. E., Savannah, Ga.
Nusbaum, Elias, & Bro., electrical contractors, 1519, Moravian-st., Philadelphia, Pa.

O. K. Electric Equipment Co., electrical contractors, 505, Washington-st., Hoboken, N.J.
O. K. Electrical Construction Co., installation contractors, 725, Broadway, New York.
Oak Cliff Water Supply, Electric Light & Power Co., Oak Cliff, Tex.
Oakes, Roland T., Co., electrical contractors, Holyoke, Mass.
Oakes, Thos., & Son, installation contractors, Hartford, Conn.
Oakland Electric Co., installation contractors, 3908, 5th-ave., Pittsburg, Pa.
Oakland Electric Light Co., Oakland, Maine.
Oakland Electrical Co., Oakland, Cal.
Oakland Electrical Supply Co., dealers in electrical supplies, Oakland, Cal.
Oakland Gas Light & Heat Co., Oakland, Cal.
Oakland Transit Co., Oakland, Cal.
Oakwood Street Railway Co., Dayton, Ohio.
Ober, Wm. E., installation contractor, West Medford, Mass.
Oberg & Blumberg, electrical contractors, 112, West 42nd-st., New York.

Oberlin Gas & Electric Co., electric light contractors, Oberlin, Ohio.
Obert, C. W., editor *Street Railway Journal*, 114, Liberty-st., New York.
O'Brien, J., Boiler Works, steam boilers, 11–13, Mullanphy & Howard-sts., St. Louis, Mo.
Ocean City Electric Light Co., Ocean City, N.J.
Ockersbausen, H. A., installation contractor, 103, East 9th-st., New York.
Oconomowoc Electric Light Plant, Oconomowoc, Wis.
O'Dea, M. T., M.AM.I.E.E., 79, North State-st., Chicago, Ill.
Odell Hardware Co., dealers in electrical supplies, Greensboro, N.C.
Ogden Electrical Supply Co., dealers in electrical supplies, 2450, Washington-ave., Ogden, Utah.
Ogden Rapid Transit Co., Ogden, Utah.
Ogden-Ross Electric Mfg. Co., mfrs. of "wasteless" gravity & salamoniac zincs, Madison, Ind.
Ogdensburg Power & Light Co., Ogdensburg, N.Y.
Ogdensburg Street Railway Co., Ogdensburg, N.Y.
O'Hara, Patrick, A.M.I.E.E., 302, Clinton-st., Brooklyn, N.Y.
Ohio Brass Co., The, manufacturers of electric railway supplies, Mansfield, Ohio. (Telegrams: "Electric, Mansfield.")
Ohio Central Traction Co., Cleveland, Ohio.
Ohio Electric Specialty Manufacturing Co., dynamo brush manufacturers, Troy, Ohio.
Ohio Electric Works, manufacturers of electric novelties & supplies, 6304, Ellen-ave., Cleveland, Ohio. (Telegrams: "Fletcher, Cleveland." Lieber's Code. Telephone Nos.: 471–J.; & C. 5372.)
Ohio & Indiana Railway Co., Angola, Ind.
Ohio River Electric Railway & Power Co., Pomeroy, Ohio.
Ohio State University, college of engineering, Columbus, Ohio. For professors, *see* SCHOOLS.
Ohio Traction Co., 5th & Walnut-sts., Cincinnati, Ohio.
Ohio Valley Electric Co., electric light contractors, Bellevue, Pa.
Ohio Valley Electric Light Co., Benwood, W. Va.
O'Keefe & Orbison Engineering & Consulting Co., consulting electrical engineers, Appleton, Wis.
Oklahoma Gas & Electric Co., Oklahoma City, Oklahoma Territory. (Teleph. No. 14.)
Old Colony Street Railway Co., 84, State-st., Boston, Mass.
Old Dominion Railway Co., Portsmouth, Va.
Old Town Electric Co., electric light contractors, Old Town, Maine.
Olds, Chas. L., Construction Co., electrical supply dealers, Fort Wayne, Ind.
Olds Gasoline Engine Works, makers of gas engines, Chestnut-st., Lansing, Mich.
Olds Motor Works, makers of motor cars, Lansing, Mich.
Olean Electric Light & Power Co., Olean, N.Y.
Olean Street Railway Co., Olean, N.Y.
Oliver, W., installation contractor, Spokane, Wash.
Oliver, F. W., Co., installation contractors, 251, 2nd-st., Niagara Falls, N.Y. (Teleph. No. 31.)
Oliver & Snyder Steel Co., cross-arm braces, 1702, Frick-bldg., Pittsburg, Pa.
Olney Bros., dealers in lubricating oils, 54, S. Water-st., Providence, R.I.
Olney Electric Light & Power Co., Olney, Ill.
Olympia Light & Power Co., Olympia, Wash. (Telephone No. 23, Main.)
Omaha & Council Bluffs Railway & Bridge Co., Council Bluffs, Iowa.
Omaha & Council Bluffs Street Railway Co., Omaha, Neb.
Omaha Electric Light & Power Co., Omaha, Neb.
Omaha Electrical Works, electric elevators, 108, North 11th-st., Omaha, Neb. (Telephone No. 1181.)
O'Neil, M. J., electric light fixtures, 60, East 6th-st., St. Paul, Minn.
O'Neil Electric Works, installation contractors, 268, 31st-st., Chicago, Ill.
O'Neill Bros. & Co., electrical supplies, Huron-ave. & Butler-st., Port Huron, Mich.
Oneonta Electric Light & Power Co., Oneonta, N.Y.
Ontagamie Traction Co., Appleton, Wis.
Ontario Light & Traction Co., Canandaigua, N.Y.
Ontario Power Co., Ontario, Cal.
Opelousas Town Electric Light & Water Works, Opelousas, La.
Orang County Lighting Co., Middletown, N.Y.
Orange Electric Light Co., Orange, Mass.
Orange Ice, Light & Water Works Co., Orange, Tex.
Orange & Passaic Valley Railway Co., Orange, N.J.
Orangeburg City Electric Light Plant, Orangeburg, S.C.
Orcutt, J. N., electrical contractor, Lynn, Mass.
Oregon Electric Light & Power Co., Oregon, Ill.
Oregon Water Power & Railway Co., Portland, Ore.
O'Reilly, A. J., electrical engineer, Fire Prevention Bureau, Century-bldg., & 1507, Papin-st., St. Louis, Mo. (Teleph. Nos.: Bell: Main 8503 & Main 1921); & president Board of Public Improvements, St. Louis.

O'Reilly, Matthew, manufacturer of small dynamos & motors, & repairing, 120, North 11th-st., Lincoln, Neb.
Orlando Water & Light Co., Orlando, Fla.
Ormsbee, Alex. F., A.AM.I.E.E., electrical engineer, New York & New Jersey Telephone Co., Brooklyn, N.Y.
Oroville Light & Power Co., Oroville, Cal.
Orr & Howe Electric Co., installation contractors, 237, 4th-ave., Pittsburg, Pa.
Orr & Roller, installation contractors & electrical supplies dealers, Palo Alto, Cal.
Orrville Light, Heat & Power Co., Orrville, Ohio.
Osage Electric Light, Heat & Power Co., Osage, Iowa.
Osborn, Joseph A., consulting electrical engineer, Lincoln Trust-bldg., St. Louis, Mo.
Osborn Manufacturing Co., The, makers of arc lamps, Cleveland, Ohio.
Osborn Water & Electric Light Works, Osborn, Ohio.
Osborn, W. T., & Co., electrical supplies, 702, Delaware-st., Kansas City, Mo.
Osborne, H., superintendent Compagnie Française des Cables Télégraphiques, Orleans, Cape Cod, Mass.
Osborne, Loyall A., A.AM.I.E.E., vice-president Westinghouse Electric & Manufacturing Co., Pittsburg, Pa. (Telegrams: "Osborne, Converter, Pittsburg.")
Osburn Flexible Conduit Co., 21, Park-row, New York.
Osceola Light, Heat & Power Co., Osceola, Iowa.
Oshkosh Logging Tool Co., manufacturers of construction tools, Oshkosh, Wis.
Oskaloosa Traction & Light Co., Oskaloosa, Iowa.
Osmond, I. Thornton, M.S., M.A., professor of physics, Pennsylvania State College, State College, Pa.
Ostrander, W. R., & Co., dealers in electrical goods, speaking tubes, &c., 22, Dey-street, New York, N.Y.
Oswegatchie Light & Power Co., Gouverneur, N.Y.
Oswego Traction Co., Oswego, N.Y.
Otis Elevator Co., manufacturers of elevators, 17, Battery-pl., New York, N.Y. (Telegs.: "Lyndentree, New York." Teleph. No. 700, Rector.)
O'Toole Electric Co., installation contractors, Hamilton, Ohio.
Ott, Clarence J., & Co., electrical contractors, Beaumont, Tex.
Ott Electric Supply Co., installation contractors, Laramie, Wyo.
Ottawa Water Works & Light Co., Ottawa, Kan.
Otto Gas Engine Works, manufacturers of gas engines, Philada Bourse & 33rd & Walnut-sts., Philadelphia, Pa.
Ottumwa Traction & Light Co., Ottumwa, Iowa.
Oudin, Maurice A., M.SC., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Ouray Electric Power & Light Co., Ouray, Col.
Owen, Ralph T., installation contractor, Springfield, Ill.
Owen, Thos. W., consulting electrical & mechanical engineer, 645, 1st National Bank-bldg., Chicago, Ill.
Owensboro City Railroad Co., Owensboro, Ky.
Oxford Village Electric Light Plant, Oxford, Ohio.
Oxnard Light & Water Co., electric light contractors, Oxnard, Cal.

Pacific Carbon & Battery Co., makers of dry & wet batteries, San Francisco, Cal.
Pacific Coast Fixture & Electric Co., installation contractors, Seattle, Wash.
Pacific Electric Co., electrical contractors, 94, 1st-st., Portland, Ore.
Pacific Electric Co., manufacturers of electric shade lamps, 125, Main-st., La Crosse, Wis.
Pacific Electric & Heating Co., heating apparatus makers, 262, South-st., Los Angeles, Cal.
Pacific Electric Motor Co., 183, Jessie-st., San Francisco, Cal.
Pacific Electric Railway Co., Los Angeles, Cal.
Pacific Electrical Works, dealers in electrical supplies, 326-330, S. Los Angeles-st., Los Angeles, Cal. (Telegs.: "Pew, Los Angeles." Teleph. Nos.: 5588, Home; & 1056, Sunset-Main.)
Pacific Light & Power Co., Los Angeles, Cal.
Pacific Lighting Co., San Francisco, Cal.
Packard, G. F., M.AM.I.E.E., chief engineer, Stow Manufacturing Co., Binghamton, N.Y.
Packard, L. W., A.M.I.E.E., assistant engineer of Meter Department, General Electric Co., Lynn, Massachusetts.
Packard Electric Co., manufacturers of transformers, insulating cloth & varnish, Warren, Ohio.
Packard, W. D. & J. W., electrical contractors, Warren, Ohio. (Telegrams: "Packard, Warren, Ohio.")
Paducah Light & Power Co., Paducah, Ky.
Page, A. D., A.AM.I.E.E., manager, incandescent lamp sales, General Electric Co.'s lamp works, Harrison, N.J.
Page Belting Co., manufacturers of leather belting, Concord, N.H.
Page Electric Co., dealers in electrical supplies, 24, Pearl-st., Worcester, Mass.

Paine, E. B., A.AM.I.E.E., professor of electrical engineering, N.C. College of Agr. & Mech. Arts, Raleigh N.C.
Paine, F. B. H., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., 11, Pine-st., New York.
Paine, Sidney B., M.AM.I.E.E., General Electric Co., 84, State-st., Boston, Mass.
Paiste, H. T., Co., manufacturers of switches, cut-outs & sockets, 32nd & Arch-sts., Philadelphia, Pa.
Palatka Gas Light & Fuel Co., Palatka, Fla.
Palestine Electric Light Co., Palestine, Texas.
Palmer, R. M., electrical contractor, 143, High-st., Boston, Mass.
Palmer, W. B., installation contractor, 416, East 3rd-st., Los Angeles, Cal.
Palmer, W. K., mechanical & electrical engineer, 718, Dwight-bldg., Kansas City, Mo. (Teleph. Nos. 3322, Main, Home & Bell.)
Palmer Bros., manufacturers of magnet bells, receivers, gas engines, bells & telephones, Miamus, Conn.
Palmer Electrical Co., specialties manufacturers, 103, Bedford-st., Boston, Mass.
Palmyra Gas & Electric Co., Palmyra, N.Y.
Palmyra Light & Water Co., Palmyra, Mo.
Palo Alto Light Co., Palo Alto, Cal.
Pan Electric Service & Appliance Co., installation contractors, motors & generators, 117–119, Market-st., St. Louis, Mo. (Teleph. Nos.: 4546, Bell, Main; & 1441, Kinloch, B.)
Paradice, Geo. E., installation contractor, 468, 15th-st., Denver, Col.
Parcell, C. A., Co., installation contractors, 136, Liberty-st., New York.
Paris Electric Light Co., Paris, Ky.
Paris Light & Power Co., Paris, Texas.
Parish Electric Track Signal Co., makers of railway signals, Detroit, Mich.
Park City Light, Heat & Power Co., Park City, Utah.
Parke, John Y., & Co., electric apparatus for lighting gas, 728, Cherry-st., Philadelphia, Pa. (Bell Teleph. No. 1206A, Walnut; & 5428D, Keystone, Main.)
Parker, Herschel C., A.AM.I.E.E., professor of physics, Columbia University, New York.
Parker, Joseph E., installation contractor, 44, West Chelten-ave., Philadelphia, Pa.
Parker, L. H., M.AM.I.E.E., associate engineer, Stone & Webster Engineering Corp., 84, State-st., Boston, Mass.
Parker Electric Co., electrical supplies, New Orleans, La.
Parker Engineering Co., consulting electrical engineers, 18, East 42nd-st., New York.
Parker-Hamer Electric Co., installation contractors, Palmer, Mass. (Teleph. No. 65–21.)
Parkersburg, Marietta & Inter-urban Railway Co., Parkersburg, W. Va.
Parkhurst, Charles William, A.AM.I.E.E., superintendent of Electrical Department, Cambria Steel Co., Johnstown, Pa.
Parks, C. Wellman, M.AM.I.E.E., civil engineer, U.S. Navy, U.S. Navy Yard, Portsmouth, N.H.
Parmelee, Z. L., Co., dealers in electrical fixtures, 716–720, South Broadway, Los Angeles, Cal.
Parsell, Henry V. A., A.AM.I.E.E., electrical & mechanical designing & experimental work, 129, West 31st-st., New York.
Parsell & Weed, electrical goods, 129–131, West 31st-st., New York. (Telegs.: "Modelshop, New York." Western Union Code. Teleph. No. 156, Madison-sq.)
Parsons Electric Light & Power Co., Parsons, Kan.
Partrick, Carter & Wilkins Co., makers of electrical supplies, 22nd & Wood-sts., Philadelphia, Pa.
Partridge, Arthur S., dealer in street railway supplies, 421, Olive-st., St. Louis, Mo.
Pascagoula Street Railway & Power Co., Scranton, Miss.
Pass & Seymour, Incorporated, manufacturers of electrical specialities & porcelain, Solvay, N.Y.
Patchogue Electric Light Co., Patchogue, N.Y.
Patent Tray Plate Storage Battery, makers of accumulators, 5, Frederick-st., Binghampton, N.Y.
Paterson District Telegraph Co., Paterson, N.J.
Paterson & Passaic Gas & Electric Co., Paterson, N.J.
Pattengell, C. E., Son & Co., electrical contractors, 116, John-st., New York. (Telephone No. 3847, J.)
Patterson, Geo. L., dealers in electrical supplies, 23, Murray-st., New York.
Patterson, George Washington, M.A., PH.D., A.AM.I.E.E., &c., junior professor of electrical engineering, University of Michigan, 814, South University-ave., Ann Arbor, Mich.
Patterson, Joseph M., installation contractor, 1409, New York-ave., N.W., Washington, D.C.
Patterson Bros., telegraph & telephone construction tools, 27, Park-row, New York.
Patterson, Gottfried & Hunter, Ltd., machinery, metals & supplies, 146, Centre-st., New York, N.Y. (Telephone No. 2540, Franklin.)
Pattison, Frank A., M.AM.I.E.E., consulting electrical engineer, Fuller-bldg., Broadway, New York.
Pattison Brothers, consulting electrical engineers, Fuller-bldg., Broadway, New York.
Paulin & Mitchell, electrical contractors, 1826, Ridge-ave., Philadelphia, Pa.
Pawcatuck Valley Street Railway Co., Westerly, R.I.
Pawling & Harnischfeger, makers of electric cranes & hoists, 156, Clinton-st., Milwaukee, Wis.
Pawtucket Electric Co., electric light & power, Pawtucket, R.I.

Paxtang Electric Co., Harrisburg, Pa.
Paxton Electric Co., electric light contractors, Paxton, Ill.
Payne Co., manufacturers of high speed engines, Elmira, N.Y.
Pazak, F. J., installation contractor, Crossley-bldg., San Francisco, Cal.
Peabody City Electric Light Plant, Peabody, Mass.
Peacock, Thomas, installation contractor, 545, Liberty-st., Pittsburg, Pa.
Peake, Edward W., installation contractor, Pensacola, Fla.
Pearce, Fredk., Co., manufacturing electricians, 18, Rose-st., New York, N.Y.
Pearce & Scheck, installation contractors, 223, North Culvert-st., Baltimore, Md.
Pearl, P. R., & Co., electrical contractors, 15, West Garden-st., Pensacola, Fla.
Pearson, F. S., M.AM.I.E.E., electrical engineer, 25, Broad-st., New York.
Pearson, W. A., M.AM.I.E.E., electrical engineer, Interurban Street Railway Co., 621, Broadway, New York.
Pease, E. R., electrical contractor, 290, Main-st., Poughkeepsie, N.Y. (Telephone No. 304, Hudson River); & 579, Broadway, Kingston, N.Y. (Telephone No. 881 D., Hudson River.)
Pease, H. C., M.AM.I.E.E., engineer, General Electric Co., Schenectady, N.Y.
Peck, E. E., installation contractor, Batavia, N.Y.
Peck, E. F., A.AM.I.E.E., general manager, Schenectady Railway Co., Schenectady, N.Y.
Pedersen, F. M., M.AM.I.E.E., College of City of New York, 138th-st. & Amsterdam-ave., New York.
Peekskill Lighting & Railroad Co., Peekskill, N.Y.
Peerless Electric Co., manufacturing electricians, 130, West 25th-st., New York.
Peerless Electric Co., manufacturing electricians, 141, South Clinton-st., Chicago, Ill. (Telephone No. 1025, Main.)
Peerless Electric Co., motor, generator, fan & transformer makers, Warren, Ohio.
Peerless Telephone Manufacturing Co., manufacturers of telephone apparatus, Rio, Wis.
Peet, McAnerney & Powers, consulting & contracting electrical engineers, 225, 4th-ave., New York. (Telegrams: "Creigpeet, New York." Telephone No. 1205, Gramercy.)
Peirce Specialty Co., manufacturers of electrical construction material, 105–107, South Jefferson-st., Chicago, Ill.
Pellegrini, A., & Co., electrolier manufacturers & fitters, 155, West 29th-st., New York.
Pelton Water Wheel Co., hydraulic engineers & manufacturers of Pelton water wheels, 143, Liberty-st., New York; & Monadnock-bldg., San Francisco, Cal.
Peltyn Electric Construction Co., installation contractors, 82, 3rd-ave., New York.
Penacook Electric Light Co., Penacook, N.H.
Penberthy Injector Co., manufacturers of automatic injectors, Detroit, Mich.
Pen Dell, Chas. W., A.AM.I.E.E., assistant signal engineer, Santa Fe Railway System, Cleburne, Tex.
Peninsular Electric Light Co., Detroit, Mich.
Penn Yan City Electric Light Plant, Penn Yan, N.Y.
Penna Electric Co., electric fan makers, Marietta, Pa.
Penna Mahoming Valley Railway Co., New Castle, Pa.
Penniman, Dr. Thos. D., engineer, Rowland Telegraphic Co., 922, Cathedral-st., Baltimore, Md.
Penniman & Fairley, consulting & contracting engineers, 416, Marine Bank-bldg., Baltimore, Md.
Pennsylvania Armature Works, manufacturing electricians, Wilkesbarre, Pa.
Pennsylvania Electric Co., telephone apparatus makers, Marietta, Pa.
Pennsylvania Electrical Equipment Co., installation contractors, 12th & Chestnut-sts., Philadelphia, Pa.
Pennsylvania Electrical Equipment Co., installation contractors, American-bldg., Baltimore, Md.
Pennsylvania Electric Works, installation contractors, 105, North 2nd-st., Philadelphia, Pa.
Pennsylvania Iron Works, engines & street railway material, 1306, Land Title-bldgs., Philadelphia, Pa.
Pennsylvania Light & Power Co., Allegheny, Pa.
Pennsylvania & Ohio Railway Co., Ashtabula, Ohio.
Pennsylvania State College, The, State College, Centre County, Pa. For professors, *see* SCHOOLS.
Pennsylvania Steel Co., manufacturers of steel rails, switches, frogs & crossings, Steelton, Pa.
Pensacola County Electric Light & Power Co., Pensacola, Fla.
Penton, C. T., M.AM.I.E.E., electrical engineer, Great Lakes Engineering Works, Detroit, Mich.
People's Edison Illuminating & Power Co., River Point, R.I.
People's Electric Light Co., Bedford, Ohio.
People's Electric Light, Heat & Power Co., Greenville, Pa.
People's Electric Light, Heat & Power Co., Nanticoke, Pa.
People's Electric Light & Power Co., Silver Creek, N.Y.
People's Gas & Electric Co., Burlington, Iowa.
People's Gas & Electric Co., Chillicothe, Mo. (Local Telephone No. 74.)
People's Gas & Electric Co., Defiance, Ohio.
People's Gas & Electric Co. of Oswego, N.Y., 70, East 1st-st., Oswego, N.Y. (Teleph. No. 168.)
People's Gas, Electric & Heating Co., Bloomington, Ind.
People's Gas & Electric Light Co., Canton, Ill.
People's Gas & Electric Light Co., Xenia, Ohio.

People's Gas Fixture Co., electrolier manufacturers & fitters, 523, Main-st., Cincinnati, Ohio.
People's Gas Light & Power Co., Danielson, Conn.
People's Land & Manufacturing Co., Oconto, Wis.
Peoples Light, Heat & Power Co., Salina, Kan.
People's Light, Heat & Power Co., Springfield, Ohio.
People's Power Co., Moline, Ill.
People's Railway Co., Dayton, Ohio.
People's Railway Co., Wilmington, Del.
People's Street Railway Co., Nanticoke, Pa.
Peoria Gas & Electric Co., Peoria, Ill.
Pepper & Bowie, installation contractors, Land, Title & Trust-bldg., Philadelphia, Pa.
Percival & Jones, mechanical & electrical engineers, 604, Burlington-bldg., St. Louis, Mo. (Telephone No. 1911, Main.)
Perfection Supply Co., manufacturers of woven wire dynamo brushes, 621, Broadway, New York. (Teleph. No. 2281, Spring.)
Perkins, Frank C., A.M.I.E.E., A.AM.I.E.E., electrical engineer & contractor, 8th Floor, Erie County Bank-bldg., Buffalo, N.Y.
Perkins, H. A., A.AM.I.E.E., professor of physics, Trinity College, Hartford, Conn.
Perkins Electric Switch Manufacturing Co., manufacturers of switches, sockets & general electric hardware, 1421, State-st., Bridgeport, Conn.
Perot, L. K., M.AM.I.E.E., president, Valley Forge Railroad Co., 2126, Land Title-bldg., Philadelphia, Pa.
Perrin, Seamans & Co., machinery for gas & electric companies, 57, Oliver-street, Boston, Mass.
Perrine, F. A. C., D.SC., M.AM.I.E.E., M.I.E.E., electrical engineer, 60, Wall-st., New York.
Perry, C. L., A.AM.I.E.E., designing engineer, General Electric Co., Schenectady, N.Y.
Perry, J. W., A.AM.I.E.E., electrician, H. W. Johns Manville Co., 100, William-st., New York.
Perry Electric Co., installation contractors, Columbia, S.C.
Perry Electric Light Co., Perry, N.Y.
Perry Electric Light & Power & Heat Co., Perry, Iowa.
Perry Water, Light & Ice Co., Perry, Okla.
Peru City Electric Light Plant, Peru, Ind.
Peru City Lighting Plant, Peru, Ill.
Peru Electric Manufacturing Co., manufacturers of porcelain & china fittings, Peru, Ind.
Petaluma Gas & Electric Co., Petaluma, Cal.
Petaluma & Santa Rosa Railway Co., 331, Pine-st., San Francisco, Cal.
Peterboro Electric Light, Power & Heating Co., Peterboro, N.H.
Peterman, Albert, installation contractor, Milwaukee, Wis.
Peters, H. L., electrical contractor, 260, Pear-st., Buffalo, N.Y.
Petersburg Electric Light Plant, Petersburg, Ill.
Petersen, H. A., Electric Co., installation contractors, 1326, Roscoe-st., Chicago, Ill.
Peterson Heat, Light & Water Co., Iowa Falls, Iowa.
Pettes & Randall Co., electrical contractors, 150, Nassau-st., New York.
Pettet, E., electrical contractor, Farmer City, Ill.
Pettingell-Andrews Co., dealers in electrical supplies, 156-160, Pearl-st., & 491-511, Atlantic-ave., Boston, Mass.
Pettman, O. E., & Co., electrical contractors, Chelsea, Mass.
Petty, H. C., contract manager, Crocker-Wheeler Co., Ampere, N.J. (Cable address: "Crockwheel, Ampere.")
Petty, Walter M., A.AM.I.E.E., general electrical contractor & borough electrician, Rutherford, N.J. (Telephone No. 84.)
Pfatisher, Mathias, M.AM.I.E.E., chief engineer, Electro-Dynamic Co., Philadelphia, Pa.
Pfund, Richard, M.AM.I.E.E., engineer, Marconi Wireless Telegraph Co., 601, West 169th-st., New York.
Phelon, J. O., M.AM.I.E.E., assistant professor, Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass.
Phelps, Wm. J., A.I.E.E., manager Phelps Co., 535, 2nd-ave., Detroit, Mich. (Telegs.: "Hylo, Detroit.")
Phelps Co., makers of Hylo incandescent lamps, Detroit, Mich. (Telegrams: "Hylo, Detroit.")
Philadelphia Book Co., electrical books, 15, South 9th-st., Philadelphia, Pa.
Philadelphia, Bristol & Trenton Street Railway Co., Philadelphia, Pa.
Philadelphia Central Manual Training School (William L. Sayre, principal), N.E. corner 17th & Wood-streets, Philadelphia, Pa.
Philadelphia & Easton Street Railway Co., Doylestown, Pa.
Philadelphia Electric Co., electric light & power contractors, Philadelphia, Pa.
Philadelphia Electric Construction Co., installation contractors, 1215, Filbert-st., Philadelphia, Pa.
Philadelphia Electric Service Co., Rothschild-bldg., Philadelphia, Pa.
Philadelphia Engineering Works, Ltd., makers of Corliss engines, Mifflin-street, Philadelphia, Pa.
Philadelphia & Lehigh Valley Traction Co., Allentown, Pa.

Philadelphia Machine Screw Works, manufacturers of all kinds of special machine screws & studs, &c., 624, Race-st., Philadelphia, Pa.
Philadelphia Rapid Transit Co., Philadelphia, Pa.
Philadelphia Speciality Co., 1941, Market-st., Philadelphia, Pa.
Philadelphia & West Chester Traction Co., 610, Arcade-bldg., Philadelphia, Pa.
Philadelphia & Western Railroad Co., Philadelphia, Pa.
Philbric, C. M., electrical contractor, 4, St. Peter-st., Salem, Mass.
Philipsburg Electric Light, Gas, Power & Heat Co., Philipsburg, Pa.
Phillips, Chas. C., installation contractor, Lynn, Mass.
Phillips, Ellis Laurimore, A.AM.I.E.E., A.S.M.E., A.S.R.E., consulting engineer & contractor, 45, Broadway, New York. (Cables: "Elpse, New York." Teleph. No. 3950-3951, Rector.)
Phillips, Edward, & Co., electrical contractors, 340-342-344, Broad-st., Newark, N.J.
Phillips Insulated Wire Co., makers of insulated wire, Pawtucket, R.I. (Telegrams: "Okay, Pawtucket." W.U. Code.)
Phillipsburg Electric Light, Heat & Power Co., Phillipsburg, N.J.
Phillipsburg-Granite Electric Light Co., Phillipsburg, Mont.
Phœnix Electric Co., Butte City, Mont.
Phœnix Electric Co., installation contractors, 513, West German-st., Baltimore, Md.
Phœnix Electric Light & Coal Co., East Greenwich, R.I.
Phœnix Electric Manufacturing Co., commutator segments, dynamos & motors, Mansfield, Ohio.
Phœnix Gas & Electric Co., Phœnixville, Pa.
Phœnix Glass Co., manufacturers of electric light shades, 413, Penn-ave., Pittsburgh, Pa.; & New York.
Phœnix Iron Works Co., boilers & engines, Meadville, Pa.
Phœnix Light & Fuel Co., cor. First-ave. & Jefferson-st., Phœnix, Ari.
Phœnix Railway Co., Phœnix, Ari.
Phosphor-Bronze Smelting Co., Ltd., The, manufacturers of phosphor-bronze, 2200, Washington-ave., Philadelphia, Pa.
Physical Review (monthly; ann. sub., $5), Cornell University, Ithaca, N.Y. (Edward L. Nichols, E. Merritt, & F. Bedell, editors.)
Picard, A. L., Co., electrical engineers, 306½, Atlantic-ave., Boston, Mass.
Pickenpack, M. S., elec. engineer & contractor, 472, Main-st., Poughkeepsie, N.Y. (Teleph. No. 116, D.C.)
Pickering, H. H., & Co., electrical contractors, 23, North Juniper-st., Philadelphia, Pa.
Pickernell, F. A., M.AM.I.E.E., chief engineer, Am. Telegraph & Telephone Co., 1295, Milk-st., Boston, Mass.
Piedmont Electric Co., engineers & contractors, Asheville, N.C. (Long Distance Teleph. No. 478.)
Piedmont Electric Light & Power Co., Piedmont, W. Va.
Pierce, Edwin F., electric fixtures, &c., 108, Mason-st., Milwaukee, Wis.
Pierce, Richard H., M.I.E.E., M.AM.I.E.E., electrical engineer, 110, State-st., Boston, Mass.
Pierce Bros, installation contractors, 303, Franklin-st., Tampa, Fla. (Teleph. Nos. 444, Penn.)
Pierce, Chas., & Co., electrical contractors, 42, Charles-st., Boston, Mass.
Pierce Electric Co., wiring & fixtures, installation contractors, 220, 16th-st., Denver, Col.
Pierce Hardware Co., dealers in electrical supplies, 1108, Broadway, Oakland, Cal.
Pierce, Richardson & Neiler, consulting mechanical & electrical engineers, 1409-1412, Manhattan-bldg., Chicago, Ill. (Telephone No. 592, Harrison); & 110, State-st., Boston, Mass.
Pierson, Frank E., city electrician, Morristown, N.J. (Telephone No. 167F.)
Pierson & Co., electrical engineers, 1, Park-row, New York.
Pierson Electric Co., installation contractors, 64, Dearborn-st., Chicago, Ill.
Pignolet, Louis M., maker of electric measuring instruments, 78, Cortlandt-st., New York, N.Y. (Telegrams: "Pignolet, New York.")
Pike, Clayton W., M.AM.I.E.E., superintendent & general manager, Keller, Pike & Co., 112, North 12th-st., Philadelphia, Pa.
Pike, W. E., electrical contractor, Newton, Mass.
Pile Bloc Co., The, makers of dry batteries, 253, Broadway, New York.
Pillsbury, Chas. L., A.AM.I.E.E., consulting electrical engineer, 515, German-American Bank-bldg., St. Paul, Minn.
Pine Bluff Light & Water Co., Pine Bluff, Ark.
Pineville Electric Light Co., Pineville, Ky.
Pinkerton, Andrew, M.AM.I.E.E., electrical engineer, American Sheet & Tin Plate Co., Vandergrift, Pa.
Pinkham, Chas. S., electrical contractor, 30, Washington-st., Boston, Mass.
Pinkham, C. T., & Co., installation contractors, 416, 6th-ave., New York. (Teleph. No. 4414, Madison-sq.)
Pinkham Electric & Repair Co., electrical engineers, 531, Smithfield-st., Pittsburg, Pa.
Pittsburgh Armature Works, manufacturing electricians, South Main & Wabash-sts., Pittsburg, Pa.
Pittsburg Electric Repair Co., installation contractors, 941, Liberty-ave., Pittsburg, Pa.
Pittsburgh Electrical & Machine Works, Barker-pl., Pittsburgh, Pa.

Pittsburg Engineering Co., electrical engineers, 1212, Keystone-bldg., Pittsburg, Pa.
Pittsburg Gas & Electric Co., electric light fixtures, 513, Wood-st., Pittsburg, Pa.
Pittsburgh Gage & Supply Co., manufacturers of safety water columns, steam specialties, &c., 309-311, Water-st., Pittsburgh, Pa.
Pittsburg Glass Co., sellers of arc globes, opal shades, &c., Allegheny, Pa.
Pittsburgh Hardware & House Supply Co., dealers in electrical supplies, 7th & Grant-sts., Pittsburgh, Pa. (Teleph. Nos. 1022, Bell Grant & P. & A. Main.)
Pittsburg Insulating Co., manufacturers of insulating paper, linen, &c., Pittsburg, Pa.
Pittsburg, McKeesport & Greensburg Railway Co., Greensburg, Pa.
Pittsburg Railroad & Light Co., Pittsburg, Kan.
Pittsburg Railways Co., Pittsburg, Pa.
Pittsburgh Reduction Co., manufacturers of aluminium, 522, Smith-block, Pittsburgh, Pa.
Pittsburg Transformer Co., manufacturers of transformers, Penne-ave., Pittsburg, Pa.
Pittsburgh Trolley Pole Co., manufacturers of trolley poles for electric railways, 115-117, Water-st., Pittsburgh, Pa.
Pittsfield Electric Co., electric light contractors, Pittsfield, Ill.
Pittsfield Electric Co., Pittsfield, Mass.
Pittsfield Electric Street Railway Co., Pittsfield, Mass.
Pittsfield Spark Coil Co., batteries, Pittsfield, Mass.
Place, Geo., electric tramway supply manufacturer, 120, Broadway, New York.
Plain City Electric Light Plant, Plain City, Ohio.
Plastic Rail Bond, rustless bonds for electric railways, 120, Liberty-st., New York. (Telegrams: "Lorah, New York.")
Platt, Chas. S., dealer in platinum, 29, Gold-street, New York, N.Y.
Platt Iron Works Co., manufacturers of Victor turbines, pumping machinery & feed-water heaters & purifiers, Dayton, Ohio. (Telegrams: "Stilwell, Dayton.")
Platteville Electric Light & Power Co., Platteville, Wis.
Plattsburg Light, Heat & Power Co., Plattsburg, N.Y.
Plattsburgh Traction Co., Plattsburgh, N.Y.
Pleasantville Electric Co., Pleasantville, N.J.
Plews & Trimingham, consulting electrical engineers, 56, 5th-ave., Chicago, Ill.
Plumb, C., Electrical Works, 47, West Swan-st., Buffalo, N.Y. (Telephone No. 1011, Seneca.)
Plume & Atwood Manufacturing Co., wire manufacturers & electric portables, 29, Murray-st., New York (Telegrams: "Plumwood, New York"); Boston, Mass.; & Chicago, Ill. Factory: Waterbury, Conn.
Plummer Electric Co., installation contractors, 200, Summer-st, Boston, Mass.
Plummer, Ham & Richardson, manufacturers of & dealers in electrical supplies, 619, Main-st., Worcester, Mass.
Plymouth Electric Co., installation contractors, 120, Liberty-st., New York.
Plymouth Electric Light Co., Plymouth, Ind. (Telephone No. 124.)
Plymouth Electric Light Co., Plymouth, Mass.
Pocahoutas Light & Water Co., Bramwell, W. Va.
Pohl, George D., Manufacturing Co., makers of gas & gasoline engines, Vernon, N.Y.
Point Richmond Light & Power Co., Point Richmond, Cal.
Polacheck, Chas., & Bros. Co., electrolier manufacturers & fitters, 182, 3rd-st., Milwaukee, Wis.
Polar Star Electric Co., electric light contractors, Faribault, Minn.
Polo Electric Light & Power Co., Polo, Ill.
Polytechnic Institute of Brooklyn, technical school, Brooklyn, N.Y.
Pomeroy, J. G., A.AM.I.E.E., West manager Adams-Bagnall Electric Co., 303, Dearborn-st., Chicago, Ill.
Pomeroy & Middleport Electric Co., Pomeroy, Ohio.
Pontiac Light Co., Pontiac, Mich.
Pontiac Light & Water Co., Pontiac, Ill.
Poole, C. O., M.AM.I.E.E., assistant general manager Nevada Power M. & M. C., Ponopah, Nevada.
Poole, Cecil P., M.AM.I.E.E., editor *Power*, 505, Pearl-st., New York. (Telephone No. 6167, Franklin.)
Poole, J. W., dealers in electrical supplies, 16, Columbia, Boston, Mass.
Poole, Wm. C., electrician, 227, Lewis-ave., Brooklyn, N.Y.
Pope, Ralph W. (secretary American Institute of Electrical Engineers), 95, Liberty-st., New York (Telegrams: "Cyandric, New York." Telephone No. 2199, Cort.); & 570, Cherry-st., Elizabeth, N.J.
Pope, William H., installation contractor, Plainfield, N.J.
Pope Motor Car Co., makers of electric vehicles, Indianapolis, Ind.
Popular Science Monthly, Garrison-ave., Hudson, N.Y.
Port Deposit Electric Co., Port Deposit, Md.
Port Huron Light & Power Co., Port Huron, Mich.
Port Jervis Electric Light, Power, Gas & Railroad Co., Port Jervis, N.Y.
Port Tampa Electric Light & Power Co., Port Tampa, Fla.

Portable Electric Safety Light Co., makers of miners' safety electric lamps, 37, N.J. Railroad-ave., Newark, N.J. (Telegrams: "Ohmvolt, Newark." Telephone No. 3095, Newark.)
Porter, Albert B., consulting electrical engineer, 324, Dearborn-st., Chicago, Ill.
Porter, J. F., C.E., M.AM.I.E.E., pres. & managing engineer, Alton, Granite & St. Louis Traction Co. & Alton Gas & Electric Co., Alton, Ill.
Porter, Stanley S., electrical contractor, 185, Franklin-st., Boston, Mass.
Porter Battery Co., manufacturers of storage batteries, Monadnock-bldg., Chicago, Ill.
Porter Cedar Co., wood poles, Saginaw, Mich.
Porter, Stephen, & Co., mfrs. of the Porter electric light adjuster, 384, Atlantic-ave., Boston, Mass.
Porter's, Wm., Sons' Co., mfrs. of electric marine lamps, lanterns & fixtures, 17, Vandewater-st., New York.
Portland Co., manufacturers of car wheels, 58, Fore-st., Portland, Maine.
Portland Electric Works, electrical contractors, 353, Stark-st., Portland, Ore.
Portland General Electric Co., Portland, Ore. (Teleph. No. 13, Private Exchange.)
Portland Lighting & Power Co., Portland, Maine.
Portland Rail Road Co., Portland, Maine.
Portland Railway Co., Portland, Ore.
Portsmouth, Dover & York Street Railway, Portsmouth, N.H.
Portsmouth Electric & Gas Co., Portsmouth, Va.
Portsmouth Electric Railway, Portsmouth, N.H. (Teleph. No. 233, Portsmouth.)
Portsmouth Electric Supply Co., electrical supplies & contractors, Portsmouth, Ohio.
Portsmouth Street Railroad & Light Co., Portsmouth, Ohio.
Postal Telegraph — Cable Co., 253, Broadway, New York. (Telephone No. 5156, Cortlandt.)
Post-Glover Electric Co., manufacturers of & dealers in electric & street railway supplies, 314 & 316, West 4th-st., Cincinnati, Ohio. (Telephone No. 3, Main.)
Postel & Linn, consulting electrical engineers, Fisher-bldg., Chicago, Ill.
Potee & Co., M., electrical contractors, 321, Central-ave., Great Falls, Mont.
Potomac Terra Cotta Co., electric conduits, Washington, D.C.
Potsdam Electric Light & Power Co., Potsdam, N.Y.
Potter, H. N., SC.D., M.AM.I.E.E., electrical engineer & chemist, 510, West 23rd-st., New York. (Telegs.: "Sawyerman, Potter, New York." Teleph. No. 433, Chelsea.)
Potter, Herbert S., electrical engineer, 24, Commerce-st., Boston, Mass. (Telephone No. 850, Richmond.)
Potter, W. B., M.AM.I.E.E., M.AM.S.M.E, chief engr., railway dept., General Elec. Co., Schenectady, N.Y.
Potter, A. L., & Co., poles & supplies, 18, Broadway, Norwich, Conn.
Potter & Earle, electrical supplies, Fall River, Mass. (Teleph. Nos.: Bell, 660; Auto., 5692.)
Potts, L. M., PH.D., A.AM.I.E.E., chief engr., Rowland Telegraphic Co., 107, East Lombard-st., Baltimore, Md.
Pottstown Light, Heat & Power Co., Pottstown, Pa.
Pottstown Passenger Railway Co., Pottstown, Pa.
Pottstown & Reading Street Railway Co., Pottstown, Pa.
Pottsville Union Traction Co., Pottsville, Pa.
Poughkeepsie City & Wappingers Falls Electric Railway Co., Poughkeepsie, N.Y.
Poughkeepsie Light, Heat & Power Co., Poughkeepsie, N.Y.
Powell, Percy Howard, M.E., A.AM.I.E.E., Bridgeport Brass Co., Bridgeport, Connecticut. (Telephone No. 842.)
Powell Co., Wm., oilers; signal oilers & oil gauges for dynamos & engines, 2525–2531, Spring Grove-avenue, Cincinnati, Ohio. (Telegrams: "Star, Cincinnati.")
Powelson, W. V. N., A.AM.I.E.E., Union Electric Light & Power Co., St. Louis, Mo.
Power, Thomas W., electrical, hydraulic & civil contracting engineer, Washington Loan & Trust-bldg., Washington, D.C. (Telegs.: "Thospower, Washington." Teleph. No. 1667, Main.)
Power (monthly, ann. sub., United States, Canada & Mexico, $2; Great Britain, 10s.; & all other countries, 12s.), 505, Pearl-st., New York (Telegrams: "Powpub, New York." Telephone No. 6167, Franklin); & 6, Bouverie-st., London. (Telegrams: "Backlash, London." Telephone No. 5158, Holborn.)
Power Installation Co., electrical engineers, 202, Main-st., Buffalo, N.Y.
Power & Mining Machinery Co., dynamo & electric machine manufacturers, 52, William-st., New York.
Power Specialty Co., superheaters, 111, Broadway, New York.
Prairie City Electric Co., Prairie-du-Chien, Wis.
Prather, M. E. & H. W., installation contractors, 1100, Clendenin-st., Baltimore, Md.
Pratt, W. F. B., electrical supplies, 25, W. Broadway, New York.
Pratt, William Hemmenway, M.AM.I.E.E., designing engineer, General Electric Co., Lynn, Mass.
Pratt & Atkins, consulting engineers, 1000 & 1001, Monadnock-bldg., Chicago, Ill. (Telephone No. 2135, Harrison.)
Pratt Institute, school of electricity, Brooklyn, N.Y.
Pratt & Whitney Co., manufacturers of machine tools, 1, Flower-st., Hartford, Conn. (Telegrams: "Pratwhit, Hartford." Telephone No. 1130.)

Pray, Thomas, jun., consulting & constructing engineer, steam & electricity, 131, State-st. (P.O. Box 2809), Boston, Mass. (Telegs.: "Milkpray, Boston." Teleph. No. 1683-2, Main.)
Premier Electric Co., installation contractors, 364, Wabash-ave., Chicago, Ill.
Premier Electrical Co., installation contractors, Troy, N.Y.
Prentiss Clock Improvement Co., electric clock makers, 49, Dey-st., New York.
Prescott Electric Co., Prescott, Ariz.
Prescott Water & Light Plant, Prescott, Ark.
Presidio & Ferries R. R. Co., 1111, Union-st., San Francisco, Cal.
Press, A., A.M.I.E.E., Department of Agriculture, Bureau of Soils, Washington, D.C.
Pressed Steel Car Co., manufacturers of steel passenger cars & trucks, Farmers Bank-bldg., Pittsburg, Pa.
Pressey, S., installation contractor, Camden, N.J.
Preston Bros., dealers in electrical supplies, 209, Main-st., Norwich, Conn.
Price, Chas. W., A.AM.I.E.E., president & editor of the *Electrical Review*, 13, Park-row, New York.
Price, Edgar F., A.AM.I.E.E., electrical engineer, works manager Union Carbide Co., Niagara Falls, New York.
Price, G. L. W., Electric Co., dealers in electrical supplies, 908, Beech-ave., Allegheny City, Pa.
Priceburg Electric Light Co., Priceburg, Pa.
Priest, Chas., A.I.E.E., Commercial Cable Co., 252, Broadway, New York.
Princeton City Electric Light & Water Works, Princeton, Minn.
Princeton Electric Works, Princeton, N.J.
Princeton Light & Power Co., Princeton, Ind.
Pringle Electrical Manufacturing Co., manufacturers of electrical specialties, 1906–1908, North 6th-st., Philadelphia, Pa.
Prior & Sallada Co., Inc., electrical engineers, 248, Pine-st., Williamsport, Pa. (Teleph. Nos.: 1032, United; & 103, Bell.)
Prismatic Electric Sign Co., Syracuse, N.Y.
Proal, A. B., jun., M.E., N.Y. & Staten Island Electric Co., West New Brighton, N.Y.
Proceedings of the American Institute of Electrical Engineers (monthly; ann. sub. $6 = £1 1s.), 95, Liberty-st., New York. (Telegrams: "Cyandric, New York." Telephone No. 2199, Cort.)
Proctor, Thos. L., A.AM.I.E.E., electrical engineer, 149, Broadway, New York.
Progressive Age (semi-monthly; ann. sub., $3 in advance, post free to U.S. & Canada; E. C. Brown, editor & publisher), Stewart-bldg., 280, Broadway, New York. (Telegrams: "Progage, New York." Long Distance Telephone No. 3709-10, Franklin.)
Prometheus Electric Co., electric cooking & heating apparatus, 236, East 43rd-st., New York. (Teleph. No. 714, 38th-st.)
Prosser, Herman A., M.AM.I.M.E., M.AM.I.E.E., mining & electrical engineer, general manager De Lamar's Copper Refining Co., Chrome, N.J.
Prouth, F. G., M.AM.I.E.E., general manager, Jackson Electric Railway, Light & Power Co., Jackson, Miss.
Providence Belting Co., manufacturers of leather belting, 37–39, Charles-st., Providence, R.I.
Providence & Danielson Railway Co., Providence, R.I.
Providence Engineering Works, manufacturers of engines, 521, South Main-st., Providence, R.I. (Telegrams: "Greene, Providence." Telephone No. 1909.)
Providence Telephone Co., 112, Union-st., Providence, R.I.
Providence, Warren & Bristol R.R., Providence, R.I.
Provident Electric Co., installation contractors, Waco, Tex.
Pruden, W. E., Hardware Co., installation contractors, 866, 8th-ave., New York.
Public Lighting Commission, 40, Atwater-st., Detroit, Mich. (Telephone No. 580.)
Public Service Co., St. Cloud, Minn.
Public Service Corporation of New Jersey, 207, Market-st., Newark, N.J.
Pueblo Electric Co., electrical & steam engineers & contractors, 117, W. Fourth-st., Pueblo, Col. (Telephone No. 276, Main.)
Pueblo & Suburban Traction & Lighting Co., Pueblo, Col.
Puffer, Wm. L., M.AM.I.E.E., associate professor of electrical engineering, Massachusetts Institute of Technology, Boston, Mass.
Puget Sound Electric Railway Co., Tacoma, Wash.
Puget Sound Electrical Co., Tacoma, W. Va.
Pullen, Leon W., primary batteries, Philadelphia, Pa.
Pullman Railroad Supply Co., makers of trolley catchers & electrical appliances, Rochester, N.Y.
Pullman's Co., tramcar builders, 533, Marquette-bldg., Chicago, Ill.
Pupin, Michael I., adjunct professor of mechanics, Columbia College, New York, N.Y.
Purity Oil Filter Co., 211, Water-st., Pittsburg, Pa.
Pusey Voltage Regulator Co., makers of regulators, 618, Fidelity-bldg., Philadelphia, Pa.
Putnam, J. E., engineer-in-charge, City Engineer's Laboratory, Rochester, N.Y.

Putnam Electric Co., Greencastle, Ind.
Putnam Light & Power Co., Putnam, Conn.
Putnam Machine Co., manufacturers of engines & water wheels, Fitchburg, Mass.
Pyle-National Electric Headlight Co., 1426 & 1427, Monadnock-blk., Chicago, Ill.

Quakertown Borough Electric Light Department, Quakertown, Pa.
Queen & Co. (incorporated), manufacturers of electrical test instruments, 1010, Chestnut-st., Philadelphia, Pa. (Telegrams: "Queen, Philadelphia"); & 59, 5th-ave., New York.
Queens Borough Gas & Electric Co., Far Rockaway, N.Y. (Telephone No. 62.)
Quimby, William E., Inc., electric pumps, 49, East 23rd-st., New York.
Quincy Electric & Ice Plant, Quincy, Fla.
Quincy Electric Light & Power Co., Quincy, Mass. (Teleph. No. 185.)

Rachford Bros., dealers in electrical supplies, 211, North 5th-st., Springfield, Ill. (Teleph. No. 910.)
Racine Engine & Machinery Co., manufacturers of vertical automatic cut-off engines & boilers, Racine, Wis. (Telegrams: "Enicar, Racine.")
Radack & Robinson, installation contractors, Titusville, Pa.
Rackaway Electric Light & Improvement Co., Rackaway, N.J.
Radford Electric Co., installation contractors, Los Angeles, Cal.
Radford Water Power Co., Radford, Va. T. L. Pickle, superintendent.
Radtke, A. A., A.AM.I.E.E., 3860, Ellis-ave., Chicago, Ill.
Rae, Frank B., M.AM.I.E.E., electrical & mechanical engineer, Penobscot-bldg., Detroit, Mich.
Raeburn, Andrew, mechanical & electrical engineer, Westinghouse, Church, Kerr & Co., 131, State-st., Boston, Mass.
Railroad Gazette (weekly; ann. sub., U.S., Can. & Mexico, $5.00; P.U., $8.00), 83, Fulton-st., New York (Telegrams: "Railgaz, New York"); & Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Trazette, London.")
Railway Age (weekly), 1660, Monadnock-blk., Chicago, Ill. (Ann. sub., $4.00; P.U., $6.00.)
Railway & Locomotive Engineering (monthly), 136, Liberty-st., New York. (Ann. sub., $2; Foreign, $2.50.) (Cable address: "Loceng, New York.")
Raleigh Electric Co., light, power & traction, Raleigh, N.C.
Randall, John E., electrical engineer, National Electric Lamp Association, 1805, East 45th-st., Cleveland, Ohio.
Randall, K. C., M.AM.I.E.E., engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Randolph, L. S., M.AM.S.C.E., M.AM.S.M.E., A.I.E.E., consulting engineer, Blacksburg, Va.
Randolph & Clowes, manufacturers of sheet brass & copper seamless & brazed tubing, Waterbury, Conn.; New York; Chicago; Philadelphia; & Cincinnati.
Randolph & Holbrook Electric Light Co., Randolph, Mass.
Rankin, John R., installation contractor, 88, Broad-st., Elizabeth, N.J.
Raphael, Harry, installation contractor, 143, Washington-st., Pittsburg, Pa. (Teleph. Nos.: P. & A. 4481F.; & Bell, 1758, R. Grant, Main.)
Rapid City Electric & Gas Light Co., Rapid City, South Dakota.
Rapid Railway System Co., Detroit, Mich.
Rapid Transit Co. of Chattanooga, Chattanooga, Tenn.
Rapid Transit Railway Co., Dallas, Tex.
Rapid Transit Subway Construction Co., 13, Park-row, New York.
Rappahannock Electric Light & Power Plant, Fredericksburg, Va.
Raton Electric Light Co., Raton, New Mexico.
Rau, John C., dealer in electrical supplies, 524, 12th-st., N.W., Washington, D.C.
Ravenna Gas & Electric Light Co., Ravenna, Ohio.
Ravenswood Electric Co., installation contractors, 1239, West Ravenswood Park, Chicago, Ill.
Rawlings, A. P., electrical supply dealer, Helena, Ark.
Rawlins Electric Light & Fuel Co., Rawlins, Wyo.
Rawson Electric Co., makers of telephones, Elyria, Ohio.
Ray, F. O., & Co., electrical contractors, Nashua, N.H.
Raymer, G. O., installation contractor, 118, Marietta-st., Atlanta, Ga.
Raymond Electric Co., installation contractors, 501, Chestnut-st., Philadelphia, Pa.
Read, H. M., installation contractor, Hancock, N.Y.
Read, R. H., A.AM.I.E.E., patent attorney, General Electric Co., Schenectady, N.Y.
Reading Electric Co., electrical dealers & contractors, 9, North 5th-st., Reading, Pa.

Reading Electrical Supply & Construction Co., electric supply dealers, 651, Penn-st., Reading, Pennsylvania.
Reading Municipal Electric Light Plant, Reading, Mass.
Reading Town Electric Light Plant, Reading, Ohio.
Readville Electric Co., electrical engineers, Readville, Mass.
Reber, H. L., M.AM.I.E.E., general manager & chief engineer, Kinloch Telephone Co., Kinloch-bldg., St. Louis, Mo.
Reber, Samuel, M.AM.I.E.E., lieut.-col. U.S. Army, Washington, D.C.
Reckenzaun, Frederick, M.AM.I.E.E., electrical engineer, 77, Chambers-st., New York.
Reconstructed Granite Co., manufacturers of granite insulators, 14, Dey-st., New York. (Telegrams: "Regran, New York.")
Red Oak Electric Co., Red Oak, Iowa.
Redding, J. Herbert, installation contractor, 31, Exchange, Boston, Mass.
Redman, Geo. A., M.AM.I.E.E., Rochester G. & E. Co., Rochester, N.Y.
Reed, Charles J., A.AM.I.E.E., electrical engineer, 3313, North 16th-st., Philadelphia, Pa.
Reed, H. A., A.AM.I.E.E., president, Bishop Gutta Percha Co., 420, East 25th-st., New York. (Teleph. No. 21, Madison-sq.)
Reed, Henry, A.AM.I.E.E., vice-president & superintendent, Bishop Gutta Percha Co., 420, East 25th-st., New York. (Teleph. No. 21, Madison-sq.)
Reed, H. W., installation contractor, Middletown, N.Y.
Reed, Lyman C., manager Engineering Department, Interstate Electric Co., Ltd., Baronne & Union-sts., New Orleans, La. (Telephone Nos. 1525 & 72.)
Reed, S. Albert, electrical & consulting engineer, 17, Battery-pl., New York.
Reed, Walter Wilson, A.M.AM.I.E.E., electrical engineer & superintendent Houston Lighting & Power Co., Houston, Tex.
Reed & Bro., consulting electricians, 160, West Tioga-st., Philadelphia, Pa.
Reed, E. M., Electrical Co., installation contractors, 717, Delaware-st., Kansas City, Mo. (Teleph. No. 833, Home.)
Reeder, Chas. L., consulting electrical engineer, 919–921, Equitable-bldg., Baltimore, Md.
Reedy Elevator Manufacturing Co., electric elevators, 91, Illinois-st., Chicago, Ill.
Reedy, H. J., & Co., manufacturing electricians, 11, 13 & 15, West 2nd-st., Cincinnati, Ohio.
Reeves Engine Co., makers of steam engines for electrical purposes, 85, Liberty-st., New York.
Register, A. L., & Co., installation contractors, 112, North Broad-st., Philadelphia, Pa.
Reid, Brice H., installation contractor, Elkhart, Ind. (Teleph. No. 643.)
Reid, Thorburn, M.AM.I.E.E., consulting electrician, 150, Nassau-st., New York, N.Y. (Telephone No. 1502, John.)
Reilly, H. J., jun., installation contractor, 22, East 21st-st., New York.
Reilly, John C., A.AM.I.E.E., second vice-president New York & New Jersey Telephone Co., 81, Willoughby-st., Brooklyn, N.Y.
Reilly & Guy, electric bell hanging & dealers in supplies, 26, Whitehall-st., New York, N.Y.
Reineke, Wilson Co., dealers in gas & electric fixtures, Wood-st. & First-ave., Pittsburg, Pa.
Reinwald, H., jun., installation contractor, 952, Amsterdam-ave., New York.
Reis & O'Donovan, electrical contractors, 1123, Broadway, New York. (Teleph. No. 4418, Madison-sq.)
Reisinger, Hugo, electric light carbon manufacturer, 11, Broadway, New York. (Telegrams: "Reisinger, New York.")
Reist, H. G., M.E., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Reliance Electric Co., installation contractors, 254, Ogden-ave., Chicago, Ill.
Reliance Electric & Manufacturing Co., installation contractors, 832, West 6th-st., Cincinnati, Ohio.
Reliance Electrical Works, installation contractors, Portland, Ore.
Reliance Engineering Co., consulting electrical engineers, Traction-bldg., Cincinnati, Ohio.
Reliance Gauge Column Co., manufacturers of reliance safety water columns, reliance floats, &c., 70, East Prospect-st., Cleveland, Ohio. (Telegrams: "Gauge, Cleveland." Telephone No. E. 760.)
Remy Electric Co., manufacturers of magneto ignition apparatus, Sherman & 1st-sts., Anderson, Ind. (Telegrams: "Remygnite, Anderson." W.U. Code. Telephone No. 284 X., Main.)
Renim Specialty Co., makers of switch boxes, 37, Parkman-st., Brighton Station, Boston, Mass. (Teleph. No. 164, Brighton.)
Rennard, John C., A.AM.I.E.E., consulting & supervising electrical engineer, New York Telephone Co., 18, Cortlandt-st., New York, N.Y.
Reno, C. Stowe, M.AM.I.E.E., chief engineer, Triumph Electric Co., 610, Baymiller-st., Cincinnati, Ohio. (Telephone Nos. 765 & 636, W.)
Reno Power, Light & Water Co., Reno, Nevada.
Renovo Edison Light, Heat & Power Co., Renovo, Pa.
Rensselaer City Water & Electric Light Plant, Rensselaer, Ind.
Rensselaer Electric Co., installation contractors, Troy, N.Y.

Replogle Governor Works, The, makers of the Replogle water wheel governor, Akron, Ohio. (Telegrams: "Replogle, Akron." W.U. Code used.)
Retherford Bros., electrolier manufacturers & fitters, Muncie, Ind.
Reuter, Wm. G., electrical contractor & electrical supplies, 25, East 6th-st, Cincinnati, Ohio. (Telephone No. 2625, Main.)
Reuterdahl, Arvid, A.AM.I.E.E., 20, Babcock-st., Providence, R.I.
Revell, A. H., & Co., electrolier manufacturers, Wabash-ave. & Adams-st., Chicago, Ill.
Revere Rubber Co., manufacturers of electrical supplies, Chelsea, & 77, Bedford-st., Boston, Mass.
Revolute Machine Co., makers of electric blue printing apparatus, 517, West 45th-st., New York.
Reynolds Electric Flasher Manufacturing Co., electric sign flashers, 225, 5th-ave., Chicago, Ill.
Reynolds Electrical Co., installation contractors, Marion, Ind.
Reynolds Electrical Supply Co., Inc., electrical engineers, 1020, State-st., Santa Barbara, Cal. (Telephone Nos.: 295, Sunset; & 295, Home.)
Rhea County Electric Light Co., electric light contractors, Dayton, Tenn.
Rhinelander Lighting Co., Rhinelander, Wis.
Rhode Island Braiding Machine Co., manufacturers of machinery for covering wire, 228–232, Aborn-st., Providence, R.I.
Rhode Island Co., electric light & power contractors, Providence, R.I.
Rhode Island Electric Protective Co., operating municipal burglar & fire alarm systems (J. M. Addeman, president; H. A. Barker, treasurer & general manager; Joel White, superintendent), 32, Custom House-st., Providence, R.I. (Telephone No. 250, Union.)
Rhode Island Electrical Equipment Co., electrical supplies, 45, South Main-st., Providence, R.I.
Rhode Island Telephone & Electric Co., manufacturers & dealers in electrical supplies, 25, Callender-st., Providence, R.I.
Ricard Boiler & Engine Co., manufacturing electricians, Toledo, Ohio.
Rice, Arthur, A.AM.I.E.E., A.S.M.E., New York Telephone Co., 30, Gold-st., New York.
Rice, Calvin W., M.I.E.E., M.AM.I.E.E., M.AM.S.M.E., 29, West 39th-st., New York.
Rice, D. E., manufacturer of feed-water heaters, 191, Atwater-street, Detroit, Mich.
Rice, Edwin Wilbur, jun., M.I.C.E., M.I.E.E., M.AM.I.E.E., technical director, General Electric Co., Schenectady, N.Y.
Rice, Geo. S., chief engineer, New York Rapid Transit Commission, New York.
Rice, Martin P., A.AM.I.E.E., chief of Publication Bureau, General Electric Co., Schenectady, N.Y.
Rice, Seymour A., dealer in electrical supplies, 119, Michigan-ave., Lansing, Mich.
Rice & Baldwin Electric Co., electrical engineers & supplies, 214, Pearl-st., Hartford, Conn.
Rice-Lake City Electric Light Plant, Rice-Lake, Wis.
Rich & Ware, electrical engineers, 162, West 29th-st., New York.
Richardson, H. W., A.AM.I.E.E., commercial engineer, Meter & Instrument Supply Department, General Electric Co., Schenectady, N.Y.
Richardson, J. W. A., installation contractor & engineer, New Orleans, La.
Richardson, R. E., M.AM.I.E.E., general manager Kansas City Electric Light Co., Kansas City, Mo.
Richardson, W. Gerry, electrician, 130, East 34th-st., New York. (Telephone No. 3197, Madison-sq.)
Richardson Engineering Co., complete electric light plants, Ford-st., Hartford, Conn.
Richmond, Will F., electrical engineer, 308, Atlantic-ave., Boston, Mass.
Richmond Electric Co., manufacturing electricians, Richmond, Va.
Richmond Light, Heat & Power Co., Richmond, Ind.
Richmond Light & Power Co., Richmond, Cal.
Richmond Street & Interurban Railway Co., Richmond, Ind.
Richter, Eugene L., electrical contracts & supplies, 1914, Columbia-ave., Philadelphia, Pa. (Long Dist. Bell Teleph. Nos.: 2869D, Poplar; & 5056A, Keystone Park.)
Richter Electrical Co., 406, Plum-ave., Cincinnati, Ohio.
Richter & Eschler, dynamo manufacturers, Camden, N.J.
Ricketts & Banks, chemists, metallurgists & mining engineers, 104, John-st., New York.
Rideout, Alexander C., LL.D., A.AM.I.E.E., 101, Randolph-st., Chicago, Ill.
Rider, Georges, & Son, consulting electrical engineers, Century-bldg., Cleveland, Ohio.
Ridgway Dynamo & Engine Co., Ridgway, Pa. (H. S. Thayer, president.)
Ridgway Electric Light Co., Ridgway, Pa.
Ridley, A. E. Brooke, M.I.E.E., M.AM.I.E.E., contracting electrical engineer, 18, Fell-st., San Francisco, Cal. (Telegrams: "Rimpazzare, San Francisco." Telephone No. 394, South.)
Ridlon, Frank, Co., dealers in second-hand electric light & power apparatus, 200, Summer-st., Boston, Mass. (Telegrams: "Ridwood, Boston.")
Riehle Bros. Testing Machine Co., 19, North 69th-st., Philadelphia, Pa.
Rieman, A., & Co., electrical contractors, 824, Market-st., St. Louis, Mo.
Ries, Elias E., M.AM.I.E.E., electrical engineer & inventor, 110, Nassau-st., New York. (Telegrams: "Rieselect, New York.")
Riess Incorp. Light Supply Co., electric light fixtures, 719, Vine-st., Cincinnati, Ohio.

Riggs, A. Arthur, electrical dealer & contractor, Flint, Mich. (Telephone Nos.: 57, Bell; & 84, Valley.)
Riggs, W. M., A.AM.I.E.E., professor of electrical engineering, Clemson College, S.C.
Riker, Andrew L., M.AM.I.E.E., electrical engineer, Short Hills, N.J.
Ringing Rocks Electric Railway Co., Pottsville, Pa.
Ripley, Ernest, installation contractor, Tacoma, Wash.
Ripon Light & Water Co., Ripon, Wis.
Risdon-Alcott Turbine Co., turbine waterwheel makers, Mount Holly, N.J.
Risdon Iron & Locomotive Works, electric lighting & electric railway & mining machinery, San Francisco, Cal.
Ritchie & Sons, E. S., manufacturers of electrical instruments, Brookline, Mass.
Ritter, Joseph S., installation contractor, Allentown, Pa.
Ritter, Wm. F., manufacturing electrician, 208, East 2nd-st., Cincinnati, Ohio.
River Falls City Electric Light Plant, River Falls, Wis.
Riverside & Arlington Railway Co., Riverside, Cal.
Riverside City Electric Light Department, Riverside, Cal.
Riverside Power Co., Riverside, Cal.
Roanoke Railway & Electric Co., Roanoke, Va.
Roaring Fork Electric Light & Power Co., Aspen, Col.
Robb, D., installation contractor, 124, West 50th-st., New York.
Robb, Russell, M.AM.I.E.E., electrical engineer, Stone & Webster, 84, State-st., Boston, Mass.
Robb, W. L., M.AM.I.E.E., professor of physics & electrical engineering, Rensselaer Polytechnic Institute, Troy, N.Y.
Robb & Blackmer, installation contractors, 129, Pearl-st., Boston, Mass.
Robbins Electric Co., dealers in electrical supplies & construction, 830, Liberty-ave., Pittsburgh, Pa.
Robbins & Myers Co., manufacturers of "Standard" fans & dynamos & power motors, Springfield, Ohio. (Telegrams: "Standard, Springfield, Ohio." Telephone No. 63, Main.)
Robert Instrument Co., voltmeters & ammeters, 56, Shelby-st., Detroit, Mich.
Roberts, E. P., M.AM.I.E.E., consulting engineer, Schofields-bldg., Cleveland, Ohio.
Roberts, J. H., manufacturer of electric lifts, &c., 430, West Broadway, New York.
Roberts & Abbott Co., consulting electrical engineers, Schofield-bldg., Cleveland, Ohio.
Roberts Electric Supply Co., H. C., electric supplies, 905, Arch-st., Philadelphia, Pa.
Roberts & Fry, installation contractors, Wells Fargo Express-bldg., San Francisco, Cal.
Roberts, Geo. I., & Bros., constructing engineers for steam power & electric plants, & dealers in mill, hotel, & engineers' supplies, 473, Fourth-ave., New York, N.Y.
Roberts Manufacturing Co., electrolier manufacturers & fitters, 641, Mission-st., San Francisco, Cal.
Robertson Electric Co., 21, Terrace-st., Buffalo, N.Y.
Robinson, A. L., A.AM.I.E.E., manager Eclipse Mine, Auburn, Cal.
Robinson, Almon, A.M.AM.I.E.E., Webster-rd., P.O. Box 54, Lewiston, Maine.
Robinson, D. P., M.AM.I.E.E., with Stone & Webster, 907, 1st-ave., Seattle, Wash.
Robinson, Harry A., M.AM.S.H.V.E., consulting engineer, 1409, Manhattan-bldg., Chicago, Ill. (Teleph. No. 592, Harrison.)
Rochdale Electric Co., electrical contractors, San Francisco, Cal.
Roche, Wm., "New Standard" dry battery manufacturer, 52, Park-pl., New York.
Rochester Car Wheel Works Co., manufacturers of street car wheels, Rochester, N.Y.
Rochester, Charlotte & Manitou Rail Road Co., Rochester, N.Y.
Rochester City Electric Light Plant, Rochester, Minn.
Rochester & Eastern Rapid Railway Co., Rochester, N.Y.
Rochester Electric Light, Heat & Power Co., Rochester, Ind.
Rochester Electric Motor Co., makers of dynamos & motors, Rochester, N.Y.
Rochester Machine Tool Works, Ltd., makers of automatic, high speed & petroleum engines, 3, Frank-st., Rochester, N.Y. (Telegrams: "Acme, Rochester, N.Y.")
Rochester Railway & Light Co., Rochester, N.Y.
Rochester & Sodus Bay Railway Co., Rochester, N.Y.
Rochester & Suburban Railway Co., Rochester, N.Y.
Rock Hill Water, Light & Power Co., Rock Hill, S.C.
Rock Island Battery Co., primary batteries, 9th & Sycamore-sts., Cincinnati, Ohio.
Rockford, Beloit & Janesville R. R. Co., Beloit, Wis.
Rockford Electric Novelty Co., installation contractors, Rockford, Ill.
Rockford & Interurban Railway Co., Rockford, Ill.
Rockingham County Light & Power Co., Portsmouth, N.H.
Rockland Electric Co., Hillburn, N.Y.
Rockland Light & Power Co., Haverstran, N.Y.
Rockland Light & Power Co., Nyack, N.Y.
Rockland, Thomaston & Owl's Head Railway Co. Rockland, Maine.

Rockville Center Village Electric Light Plant, Rockville Center, N.Y.
Rockville Gas & Electric Light Co., Rockville, Conn.
Rockwood Manufacturing Co., manufacturers of paper pulleys, 1801–2001, English-ave., Indianapolis, Ind. (Telegrams: "Rock, Indianapolis.")
Rocky Mount City Electric Light Plant, Rocky Mount, N.C.
Rocky Mountain Electric Equipment Co., electrical supplies, Salt Lake City, Utah.
Rodgers, Howard S., M.AM.I.E.E., Merchants' National Bank, Cincinnati, Ohio.
Rodrigues, M. R., portable battery fans, 17, Whipple-st., Brooklyn, N.Y.
Roe, Albert, & Co., electrical & mechanical engineers, 766, Fox-ave., New York.
Roeber, E. F., editor *Electrochemical & Metallurgical Industry*, 114, Liberty-st., New York.
Roebling, Ferdinand W., A.AM.I.E.E., J. A. Roebling's Sons Co., Trenton, N.J.
Roebling's, John A., Sons Co., manufacturers of wire for all electrical purposes, Trenton, N.J.
Roeller, W. H., & Co., electrical engineers, Pottstown, Pa.
Roeser & Sommer, gas & electric fixtures, 386–388, 2nd-ave., New York.
Roessler & Hasslacher Chemical Co., manufacturers & importers of chemicals, 100, William-st., New York.
Rogers, C. B., installation contractor, Seattle, Wash.
Rogers, Nelson W., A.AM.I.E.E., electrician, Cooper-Hewitt Laboratory, Madison-sq., Garden Town, New York.
Rogers & Hilton, installation contractors, 219, Walton-st., Syracuse, N.Y.
Rogers Laboratory of Physics, Massachusetts Institute of Technology, Boston, Mass.
Rogers Paper Manufacturing Co., insulating papers, South Manchester, Conn.
Rohan, John, & Son Boiler Works Co., manufacturers of boilers, Lewis & Biddle-sts., St. Louis, Mo.
Rohn, George F., installation contractor, 88, Mason-st., Milwaukee, Wis.
Rohrer, A. L., M.AM.I.E.E., M.AM.S.M.E., electrical superintendent, Schenectady Works, General Electric Co., Schenectady, N.Y.
Roller, J. E., M.AM.I.E.E., retired Commander in U.S. Navy Dept., Norfolk, Va.
Roller, Frank W., M.E., M.AM.I.E.E., Machado & Roller, 203, Broadway, New York, N.Y. (Telegrams: "Weeco, New York." Telephone No. 3580, Cort.)
Rollins Engine Co., manufacturers of Rollin's engines, Nashua, N.H.
Roman, Joseph M., & Co., electrical & hydraulic engineers, New York; & Atlanta, Ga.
Rome City Street Railway Co., Rome, N.Y.
Rome Gas, Electric Light & Power Co., Rome, N.Y. (Telephone Nos. 180 & 181.)
Rondinella, L. F., electrical, mechanical & civil engineer, 728, Stephen Girard-bldg., Philadelphia, Pa.
Rooney Electric Lamp Co., makers of incandescent lamps, 155, East 23rd-st., New York.
Roosa, E. D., & Co., electrical contractors & engineers, 100–110, East Washington-ave., Springfield, Ill.
Roovers Bros., manufacturers of electric novelties, 100, Shermerhorn-st., Brooklyn, N.Y.
Rosa, E. B., PH.D., SC.D., M.AM.I.E.E., physicist, National Bureau of Standards, Washington, D.C.
Rose, A. E., electrical contractor, Decatur, Ind.
Rose Electric Co., dealers in second-hand electric light apparatus, 202, South 3rd-st., St. Louis, Mo.
Rose Polytechnic Institute, Terre Haute, Ind. For professors, *see* SCHOOLS.
Rosenbaum, William A., A.AM.I.E.E., electrical expert & patent agent, 140, Nassau-st., New York. (Telegrams: "Almagesto, New York." Telephone No. 2977, John.)
Ross, Edwin L., installation contractor, 614, East 138th-st., New York.
Ross, Frederick C., installation contractor,.255, Greenwich-st., New York, N.Y. (Telephone No. 4810, Cort.)
Ross, Olof, electrical contractor, Everett, Mass.
Ross & Co., electrical contractors, 9, Cornhill-st., Boston, Mass.
Ross, L. C., & Co., electrolier manufacturers & fitters, 1023, Girard-ave., Kansas City, Mo.
Ross-Hull Electric Co., electrical supplies & machinery, 114–116, North 3rd-st., Columbus, Ohio.
Rossister, MacGovern & Co., dealers in electrical machinery, 17, Battery-pl., New York.
Rossmann, G. M., installation contractor, Keene, N.H.
Roswell Electric Light Co., Roswell, North Mexico.
Roth, Ernest F., electrical contractor, 75, No. Main-st., Wilkesbarre, Pa. (Teleph. Nos.: 300, Consolidated; & 119–3, Bell.)
Roth Bros. & Co., manufacturing electrical engineers, 27–29, South Clinton-st., Chicago, Ill. (Telegrams: "Rothbro, Chicago." W.U. Code. Telephone No. 2429, Main.)
Rougtell Electric Co., electrical contractors, 816, Olive-st., St. Louis, Mo.
Rouquette, W. F. B., Life M.AM.I.E.E., 47, Warren-st., New York.
Rouquette & Co., electrical & mechanical engineers & contractors, 47, Dey-st., New York. (Telegrams: "Rouquette, New York." Telephone No. 5249, Cort.)
Rousseau, David, installation contractor, 310, Mott-ave., New York.
Rousseau, J. M., electrical contractor, 57, East 59th-st., New York.
Roux, G. Paul, M.I.E.E., Ardmore, Pa.
Rowe, W. W., electrician & bell hanger, 30, Cornhill, Boston, Mass.
Rowell, Herbert G., electrical engineer & contractor, Auburn, Maine.

Rowell & Blackall, installation contractors, Joliet, Ill.
Rowell, S. C., & Co., dealers in steel & iron castings, 139, Pearl-st., Boston, Mass.
Rowland, Prof. A. J., A.AM.I.E.E., electrical engineer, Drexel Institute, 4510, Osage-ave., Philadelphia, Pa.
Rowland Telegraphic Co., 107, East Lombard-st., Baltimore, Md.
Royal Battery Co., makers of accumulators, 143, Chambers-st., New York.
Royal Electric Co., installation contractors, 25, South 16th-st., Philadelphia, Pa.
Royal Electrical Supply Co., dealers in electrical supplies, 48, West 27th-st., New York.
Royal Light & Power Co., Delavan, Ill.
Royse Electric Co., wholesale electrical supplies & apparatus, 125, South Meridian-st., Indianapolis, Ind. (Telephone No. 849.)
Rubay, Leon, storage batteries, 140, West 38th-st., New York.
Ruebel & Wells, consulting electrical engineers, Chemical-bldg., St. Louis, Mo.
Ruffner, Charles Shumway, A.AM.I.E.E., assistant general superintendent, Utah Department, Telluride Power Co., Provo, Utah.
Ruger, J. W., Manufacturing Co., makers of gas engines, Buffalo, N.Y.
Rugg, H. V., district engineer, Westinghouse Electric & Manufacturing Co., Philadelphia, Pa.
Rugg, J. K., & Co., electrical engineers, Commercial Tribune-bldg., Cincinnati, Ohio.
Ruggles-Cole Engineering Co., engineers & contractors, 39, Cortlandt-st., New York, N.Y.
Ruiz, Thomas, installation contractor, Ventura, Cal.
Rumford Falls Light & Water Co., Rumford Falls, Maine.
Rumsey & Co., Ltd., power pumps especially adapted for electric power & pumps for all purposes, 75, Warren-st., New York. (Telegrams: "Pumps, New York." Teleph. No. 4322, Court.)
Rumsey Electric Co., electrical supplies, 19, Bagley-st., Detroit, Mich.
Rumsey Electrical Manufacturers Co., dealers in electrical machinery & supplies, 1211, Filbert-st., Philadelphia, Pa. (Telegrams: "Remco, Philadelphia." Telephone No. 52–87, Filbert.)
Rumsey & Sikemeier Co., electrical, street railway, telephone & telegraph supplies, 19th & Pine-sts., St. Louis, Mo. (Teleph. Nos.: Beaumont, 970, Bell; & D. 74, Kinloch.)
Runyan, C. C., & Son, installation contractors, Mansfield, Ohio.
Runyon & Carey, electrical & mechanical engineers, 122, Market-st., Newark, N.J.
Runzel-Lenz Electric Manufacturing Co., makers of telephone cables, 97, South Clinton-st., Chicago, Ill.
Ruprecht Electric Co., manufacturing electro-medical electricians, 7117, Cedar-ave., Cleveland, Ohio.
Rushmore, D. B., M.AM.I.E.E., electrician, Ganley Electric Manufacturing Co., Pittsfield, Mass.
Rushmore Dynamo Works, search lights projectors, Plainfield, N.J.
Russell, Chas. Joyce, A.M.I.E.E., Tacony, Philadelphia, Pa.
Russel, Edgar, A.AM.I.E.E., Major Signal Corps, U.S. Army, Washington, D.C.
Russell, G. W., jun., M.AM.I.E.E., electrical engineer & contractor, 500, 5th-ave., New York.
Russell, H. A., A.AM.I.E.E., agent, General Electric Co., 302, Laurel-st., San Francisco, Cal.
Russell, Percy, electrical dental appliances, 10 & 12, East 23rd-st., New York. (Telephone No. 3747, J.–Gramercy.)
Russell Electric Co., installation contractors, 500, 5th-ave., New York.
Russell Engine Co., manufacturers of high-speed & medium-speed engines, Massillon, Ohio.
Russell & Stoll Co., makers of electrical fittings, 46, Cliff-st., New York.
Russell-Tomlinson Electric Co., manufacturers of telephones, Milford, Conn.
Rust, H. B., Co., electrical contractors, 14–22, Peck-st., Providence, R.I.
Ruth & Kochmann, electrical contractors, Mount Vernon, N.Y.
Rutherfoord, B., A.I.E.E., A.AM.I.E.E., engineer & agent, Westinghouse-bldg., Pittsburg, Pa.
Rutland City Electric Light Co., Rutland, Vt.
Rutland Street Railway Co., Rutland, Vt.
Ryan, Harris J., M.E., M.AM.I.E.E., professor of electrical engineering, Stanford University, Cal.
Ryan, Walter D'Arcy, A.AM.I.E.E., director Ill. Eng. Soc., illuminating engineer, General Electric Co., Lynn, Mass.
Ryan Electric Co., installation contractors, 60, East Spring-st., Columbus, Ohio.
Ryan Electric Construction Co., installation contractors, 133, East Market-st., Indianapolis, Ind.
Ryerson & Keyes, electricians, 2, West Broadway, New York.
Ryle, William, & Co., silk for electrical purposes, 54, Howard-street, New York City.

S. B. Construction Co., electrical contractors, 1205, Grandview-ave., Pittsburg, Pa.
S. E. I. Co., measuring instrument makers, Syracuse, N.Y.
S. S. Electric Co., installation contractors, 214, 15th-st., Denver, Col. (Telephone No. 1249)
Sabina Village Water & Light Plant, Sabina, Ohio.
Sabine, J. B., patent agent & expert, 181, Broadway, New York, N.Y. (Telephone No. 425, Cortlandt.)
Sachers, Ralph J., PH.D., M.E., E.E., patent solicitor & expert, 26, Cortlandt-st., New York. (Cable address: "Patentsach, New York." Teleph. No. 3347, Cortlandt.)

Sachs, Joseph, M.AM.I.E.E., electrical engineer, 4, Cone-st., Hartford, Conn.
Sachs Electric Co., manufacturers of insulators, 1417, Olive-st., St. Louis, Mo.
Sachsenmaier, George, installation contractor, 1220, Filbert-st., Philadelphia, Pa.
Sackett, H. I., electrical contractor, engineer & jobber of electrical supplies, Buffalo, N.Y.
Sackett Mine Supply Co., electrical engineers & contractors, 77, East Long-st., Columbus, Ohio. (Bell Telephone No. 1627; Citizens No. 1829.)
Sacramento Electric, Gas & Railway Co., Sacramento, Cal.
Safety-Armorite Conduit Co., interior conduits, Rankin Station, Pa.
Safety Car Heating & Lighting Co., 160, Broadway, New York.
Safety Electric Switch Co., makers of switches, 144, Pine-st., Providence, R.I.
Safety Insulated Wire & Cable Co., manufacturers of insulated wire & cable, 114, Liberty-st., New York. (Telegs.: "Bosforo, New York." Teleph. No. 7620-1-2, Cort.) Works: Bayonne, N.J.
Safford, W. W., electrical contractor, Sunapee-st., Newport, N.H. (Telephone No. 14-11, Newport.)
Sag Harbor Electric Light & Power Co., Sag Harbor, N.Y.
Sagadahock Light & Power Co., Bath, Maine.
Saginaw Bay City Railway & Light Co., Saginaw, Mich.
Saginaw Electric Construction Co., installation contractors, Saginaw, Mich.
Saginaw Suburban Electric Railway Co., Saginaw, Mich.
Saginaw Valley Traction Co., Saginaw, Mich.
St. Albans Electric Light & Power Co., St. Albans, Vt.
St. François County Electric Railway Co., Farmington, Mo.
St. James City Electric Light Plant, St. James, Minn.
St. Johnsbury Electric Co., electric light contractors, St. Johnsbury, Vt.
St. Joseph Railway, Light, Heat & Power Co., St. Joseph, Mo.
St. Lawrence International Electric Railroad & Land Co., Alexandria Bay, N.Y.
St. Louis Brass Manufacturing Co., manufacturers of electric apparatus & fixtures, 1116, Market-st., St. Louis, Mo.
St. Louis Car Co., manufacturers of cars, trucks & specialities, 8000, North Broadway, St. Louis, Mo.
St. Louis Electric & Machine Co., installation contractors, 218, North 2nd-st., St. Louis, Mo.
St. Louis Electric Manufacturing Co., manufacturing electricians, 7th & Hickory-sts., St. Louis, Mo.
St. Louis Motor Carriage Co., motor carriages, St. Louis, Mo.
St. Louis & Suburban Railway Co., St. Louis, Mo.
St. Mary's Electric Co., electric light contractors, St. Mary's, Pa.
St. Mary's Electric Light Plant, St. Mary's, Ohio.
St. Mary's Incandescent Lamp Co., makers of incandescent lamps, St. Mary's, Pa.
St. Paul Electric Co., dealers in electrical supplies, 316, Robert-st., St. Paul, Minn.
St. Peter Electric Light & Water Works, St. Peter, Minn.
St. Regis Falls Electric Light Co., St. Regis Falls, N.Y.
Salamanca Water Works Co., Salamanca, N.Y.
Salem Electric Co., Salem, N.J.
Salem Electric Light & Artificial Ice Co., Salem, Ind.
Salem Electric Light & Power Co., Salem, Ohio.
Salem Electric Lighting Co., 19-25, Peabody-st., Salem, Mass. (Telephone No. 36-2.)
Salem Milling, Lighting & Heating Co., Salem, S.D.
Salem Town Electric Light Plant, Salem, Va.
Salich & Co., electrical engineers, 755, Monadnock-blk., Chicago, Ill.
Salida Light & Power Utility Co., Salida, Col.
Salineville Electric Light, Heat & Power Co., Salineville, Ohio.
Salisbury & Spencer Railway Co., Salisbury, N.C.
Salomon, L. A., & Bro., moulded insulation, 216, Pearl-st., New York.
Salt Lake Electric Supply Co., dealers in electrical supplies, 151, Main-st., Salt Lake City, Utah.
Salter, Ralph L., electrical contractor, Burnet-st., Maplewood, N.J. (Teleph. No. 261 R., S.O.); & 61, South Orange-ave., South Orange, N.J.
Salzer, I. J., installation contractor, 452, St. Clair-st., Cleveland, Ohio.
Sampson, F. D., M.AM.I.E.E., superintendent, Catawba Power Co., Charlotte, N.C.
Sampson & Allen, electrical engineers & contractors, 51 & 57, Exchange-st., Lynn, Mass. (Telephone Nos.: 108, Lynn; & 936, Beverly.)
Samson Cordage Works, manufacturers of solid braided cordage for arc lamp cord, trolley cord, &c., 115, Congress-street, Boston, Mass. (Telephone No. 3214.)
San Angelo Water Works Co., San Angelo, Tex.
San Antonio Traction Co., San Antonio, Texas.
San Bernardino Valley Traction Co., San Bernardino, Cal.
San Diego Consolidated Gas & Electric Co., San Diego, Cal. (Teleph. Nos.: Home, 1066; & Sunset, 66.)
San Diego Electric Railway Co., San Diego, Cal.

San Francisco Electrical Co., electrical engineers, 501, Market-st., San Francisco, Cal. (Teleph. No. 1166.)
San Francisco Gas & Electric Co., San Francisco, Cal.
San Joaquin Light & Power Co., Fresno, Cal.
San Jose Railroad Co., San Jose, Cal.
San Jose & Santa Clara County Rail Road Co., San Jose, Cal.
San Leandro Gas & Electric Light Co., San Leandro, Cal.
San Luis Gas & Electric Co., San Luis Obispo, Cal.
San Marcos Electric Light & Power Co., San Marcos, Tex.
Sanborn-Marsh Electric Co., contracting engineers & supplies, 115, W. Illinois-st., Indianapolis, Ind.
Sand Point Electric Co., Sand Point, Idaho.
Sanders Duck & Rubber Co., manufacturers of rubber & leather belting, & driving bands, 805, Washington-ave., St. Louis, Mo.
Sanderson & Porter, street railway, electric light & power engineers & contractors, 52, William-st., New York. (Telegrams: "Sandport, New York.")
Sands, H. S., M.AM.I.E.E., consulting & constructing elect. engineer, 1153, Market-st., Wheeling, W. Va.
Sands, H. S., Electric & Manufacturing Co., electrical contractors, 1151 & 1153, Market-st., Wheeling, W. Va.
Sandusky Gas & Electric Co., Sandusky, Ohio.
Sandusky, Norwalk & Mansfield Electric Railway Co., Norwalk, Ohio.
Sandwich Pole Changer Co., telephone apparatus makers, 200, Eddy-st., Sandwich, Ill.
Sanford, G. E., A.AM.I.E.E., General Electric Co., Lynn, Mass.
Sanford Electric Co., installation contractors, Sanford, Maine.
Sanford Light & Power Co., Sanford, Maine.
Sangamo Electric Co., makers of wattmeters, Springfield, Ill.
Santa Barbara Construction Railway Co., Santa Barbara, Cal.
Santa Cruz Electric Light & Power Co., Santa Cruz, Cal.
Santa Fe Water & Electric Co., electric light contractors, Santa Fe, New Mexico.
Santa Paula Electric Co., Santa Paula, Cal.
Santa Rosa Lighting Co., Santa Rosa, Cal.
Saranac Lake Light, Heat & Power Co., Saranac Lake, N.Y.
Saratoga Gas & Electric Light Co., Saratoga Springs, N.Y.
Saratoga Light, Heat & Power Co., Saratoga, Wyo.
Sarco Co., The, electrical fittings makers, 906, 6th-ave., New York.
Sargent, Howard R., A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Sargent, W. D., M.I.E.E., M.AM.I.E.E., vice-pres. New York & New Jersey Telephone Co., 81, Willoughby-st., Brooklyn, N.Y. (Telephone No. 5000, Main.)
Sargent, Conant & Co., Incorporated, electrical engineers & contractors, Equitable-bldg., Boston, Mass. (Telephone No. 1423, Main.)
Sargent & Lundy, mechanical & electrical engineers, Railway Exchange-bldg., Chicago, Ill. (Teleph. No. 586, Harrison.)
Satherberg, Carl H., A.AM.I.E.E., chief engineer, Midvale Steel Co., Nicetown, Philadelphia, Pa.
Saunders, C. L., Co., installation contractors, 4, South Water-st., Cleveland, Ohio.
Sauquoit Silk Manufacturing Co., braiding & insulating for all purposes, 4015, Clarissa-st., Nicetown, Philadelphia, Pa.
Savage, A. H., electrical contractor, Germania Life-bldg., St. Paul, Minn.
Savannah Electric Co., Savannah, Ga.
Sawin, G. A., A.AM.I.E.E., assistant engineer of Meter Department, General Electric Co., Lynn, Mass.
Sawyer, Willits Herbert, A.AM.I.E.E., engineer, Railway Engineering Department, General Electric Co., Schenectady, N.Y.
Sawyer, E. G., & Co., electrical contractors, 12, Province-ct., Boston, Mass.
Sawyer-Man Electric Co., makers of incandescent lamps, 510, West 23rd-st., New York. (Telegs.: "Sawyerman, New York." Teleph. No. 433, Chelsea.)
Saxelby, F., electrical engineer, 39, Cortlandt-st., New York.
Saxton, E., electric railway contractor, 123 G-st., N.E., Washington, D.C.
Saye Electric Co., Albany, Ga.
Saylor Electric Co., installation contractors, 127, 4th-ave., Pittsburg, Pa.
Sayre & Co., installation contractors, 1229, Cambridge-st., Cambridge, Mass.
Sayville Electric Co., Sayville, N.Y.
Scannevin & Potter, electrical supplies, Newport, R.I.
Schaefer's Electric Construction Co., installation contractors, 370, Pearl-st., Brooklyn, N.Y. (Teleph. No. 3487, Main.)
Schaeffel, W. A., installation contractor, 34, West 18th-st., New York.
Schaff, Jacob G., Electric Co., electrical contractors, Chambersburg, Pa.; & Hagerstoun, Md.
Schaffer & Budenberg, makers of tachometers, 10 Leo-pl., Brooklyn, N.Y.

Schattner, E. B., A.M.I.E.E., 38, Wendall-ave., Schenectady, N.Y.
Schawel, Jas., & Co., platinum refiners & importers, Cockcroft-bldg., New York.
Scheffeld, Fredk., electrical contractor, 31, Oakdale-st., Boston, Mass.
Scheffler, F. A., M.AM.I.E.E., Sterling Co., 111, Broadway, N.Y.
Scheible, Albert, electrical engineer, 14, South Jefferson-st., Chicago, Ill.
Scheible, L. B., electric light fixtures, 306, West Federal-st., Youngstown, Ohio.
Scheidel, W., Coil Co., manufacturers of X-ray coils & electrical specialities, 171–173, East Randolph-st., Chicago, Ill. (Telegs.: "Scheidelcoil, Chicago." Long Dist. Teleph. No. 1766, Main.)
Schenectady Illuminating Co., Schenectady, N.Y. (Telephone No. 425, Hud. River.)
Schenectady Railway Co., Schenectady, N.Y.
Schieren, Charles A., & Co., dealers in belting for electrical purposes, 30, Ferry-st., New York.
Schill, Chas. A., electrical contractor, 750, South 4th-st., St. Louis, Mo.
Schimetshek, Maurice, installation contractor, 549, Hayes-st., San Francisco, Cal.
Schimpf, Alfred, electric bell hangers, electricians, &c., 59, Washington-ave., Albany, N.Y.
Schippers Electrical Construction Co., 185, Dearborn-st., Chicago, Ill.
Schlosser, Fred. G., A.AM.I.E.E., superintendent, Electrical Dept., Laclede Gas Light Co., 2721, Adams-st., St. Louis, Mo.
Schmidt, A. R., electrical contractor & engineer, 137, Oneida-st., Milwaukee, Wis.
Schmidt, H. T., dealer in electrical supplies, 318, West 3rd-st., Davenport, Iowa.
Schmidt, J. G., & Son, electricians & bell hangers, 209, Main-street, Memphis, Tenn.
Schmidt, Rudolph & Co., dealers in electrical goods, 51, Main-st. East, Rochester, N.Y.
Schneider, John V., maker of electric door openers, Long Island City, N.Y.
Schneider, C., Sons, electrical contractors, 1207, F-st., Washington, D.C.
Schneider Electrical Co., installation contractors, 1181, Jefferson-ave., Detroit, Mich.
Schoedinger Electric Co., installation contractors, 61, South Front-st., Columbus, Ohio.
Schoen, Allen M., M.AM.I.E.E., chief electrician, South-Eastern Tariff Association, Equitable-bldg., Atlanta, Ga.
Schoenberg, R. A., & Co., installation contractors, 906, 6th-ave., New York.
SCHONHEIDER, R. C., A.AM.I.E.E., consulting & supervising mechanical, electrical engineer, electric plants with steam, water, gas or wind power. Ask for prices on plants for private houses, Highwood, St. Paul, Minn.
School of Mines Quarterly, Columbia University, New York.
Schoonmaker, A. O., dealer in all grades of electric mica, 221, Fulton-st., New York, N.Y.
Schoonmaker, A. G., Co., electrical agents, 143, Liberty-st., New York.
Schopper & Co., F. D., electricians, south-east corner 512, Race-street, Cincinnati, Ohio.
Schreiter, Henry, C. & E.E., LL.B., Attorney & Counsellor at Law & Solicitor of Patents (Schreiter & Mathews), 20, Nassau-st., New York. (Telephone No. 2631, John.)
Schroeter, Herman, electrical contractor, 54, Gratiot-ave., Detroit, Mich.
Schulman, A. S., electrical contractor, 40, Perin-bldgs., Cincinnati, Ohio.
Schultz-Marsh-Gaylord, consulting electrical engineers, 9, East 22nd-st., New York.
Schum, Ch. H., A.AM.I.E.E., electrical engineer, Burke Electric Co., Erie, Pa.
Schureman, J. L., Co., manufacturers of automatic motor controlling devices, 80, West Jackson-boul., Chicago, Ill.
Schuwirth, W. G., & Co., electrical supplies & installations, 229, East Commerce-st., San Antonio, Tex.
Schuyler Electric Light Plant, Schuyler, Neb.
Schuylkill Valley Traction Co., Norristown, Pa.
Schwabe, Walter P., A.AM.I.E.E., local superintendent, Rutherford District, Public Service Corp. of N.J. Rutherford, N.J.
Schwarze Electric Co., electric bell manufacturers, 324, Dearborn-st., Chicago, Ill.
Schwedtman, F., M.AM.I.E.E., general superintendent, Wagner Electric Manufacturing Co., 2017, Locust-st., St. Louis, Mo.
Scidmore, Frank L., A.AM.I.E.E., Otis Elevator Co., Yonkers, N.Y.
Scientific American (weekly; ann. sub., $3; Europe, $4. *Scientific American Supplement*, weekly; ann. sub., $5; Europe, $6; combined rates, $7 & $9), 361, Broadway, New York.
Scientific American Export Edition (monthly; ann. sub., $3, in English & Spanish), 361, Broadway, New York.
Scioto Valley Traction Co., 3rd & Rich-sts., Columbus, Ohio.
Scott, C. B., jobber in electrical supplies, 119, Franklin-ave., Scranton, Pa.
Scott, Chas. F., M.AM.I.E.E., M.I.E.E., consulting engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Scott, George B., superintendent & electrician, Gold & Stock Tel. Co., 68, Broad-st., New York.
Scott, George W., consulting electrical engineer, 188, East Madison-ave., Chicago, Ill.
Scott, H. M., electrical contractor, Capitol & Quanier-sts., Charleston, W. Va.
Scott, Jas. B., M.AM.I.E.E., M.A.S.M.E., consulting engineer, 306, Amen-bldg., Baltimore, Md.
Scott, James B., consulting electrician, West End Trust-bldg., Philadelphia, Pa.

Scott, W. W., contractor for electric wiring, &c., 200, Summer-st., Boston, Mass.
Scott Bros., installation contractors, Troy, N.Y.
Scott Bros. Electric Co., electric supplies & repairing, 3–7, Farrar-st., Detroit, Mich. (Teleph. No. 2175, Main.)
Scott, Lyman & Stack, installation contractors, 421, J-st., Sacramento, Cal.
Scovill Manufacturing Co., manufacturers of brass wire, 35, Mill-st., Waterbury, Conn.
Scranton Button Co., manufacturers of insulating material, Scranton, Pa.
Scranton Electric Construction Co., manufacturing electrical engineers, Scranton, Pa.
Scranton Electric Light & Heat Co., Scranton, Pa.
Scranton Illuminating, Heat & Power Co., Scranton, Pa.
Scranton Railway Co., Scranton, Pa.
Scranton Supply Co., dealers in electrical supplies, Scranton, Pa.
Scribner, Charles E., A.AM.I.E.E., engineer, Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Seaboard Electric Equipment Co., installation contractors, 26, Cortlandt-st., New York.
Seabord Electric Co., installation contractors, Norfolk, Va.
Seabright Electric Light Co., Seabright, N.J.
Seaman, Jno. H., Electric Co., electrical contractors, 175, Dearborn-st., Chicago, Ill.
Searing, Lewis, A.AM.I.E.E., vice-president & general manager Denver Engineering Works Co., 901, East 10th-ave., Denver, Col.
Searles, A. L., A.AM.I.E.E., electrical engineer, 222, Houseman-bldg., Grand Rapids, Mich.
Sears, Henry D., maker of electric porcelain, 131, State-st., Boston, Mass.
Seaton Mountain Electric Light, Heat & Power Co., Idaho Springs, Col.
Seattle City Electric Light Plant, Seattle, Wash.
Seattle Electric Co., The, Seattle, Wash.
Seattle Electric & Equipment Co., installation contractors, 507, Pike-st., Seattle, Wash.
Seattle Electric Light & Power Co., Seattle, Wash.
Seattle, Renton & Southern Railway Co., Seattle, Wash.
Seattle Tacoma Power Co., Seattle, Wash.
Seaview Railroad Co., Narragansett Pier, R.I.
Sebastian Lathe Co., machinists & tool makers, 121 & 123, Culvert-st., Cincinnati, Ohio.
Sechrist, Albert, Manufacturing Co., manufacturers of gas & electric fixtures, 1033, 16th-st., Denver, Colorado.
Second, T. A., consulting electrical engineer, Unionville, Mo.
Security Register Co., manufacturers of car registers, 714, St. Charles-st., St. Louis, Mo.
Sedalia Electric Light & Power Co., Sedalia, Mo.
Sedalia Railway & Electric Co., Sedalia, Mo.
Sedalia Water & Light Co., Sedalia, Mo.
Seidler-Miner Electric Co., manufacturers of navy & marine electric fixtures, 207–211, Jefferson-ave., Detroit, Mich.
Seiler's Electrical Works, manufacturers of electric supplies, 845, Octavia-st., San Francisco, Cal.
Self-Winding Clock Co., self-winding synchronized clocks, 161, Grand-ave., Brooklyn, N.Y.
Selleck, G. H., & Co., installation contractors, 66, West 132nd-st., New York, N.Y. (Telephone No. 2538 R. Harlem.)
Sellers, Dr. Coleman, consulting engineer, 1301, Stephen Girard-bldg., Philadelphia, Pa. (Telegrams: "Sele, Philadelphia." Telephone No. 32–56, Filbert.)
Sellers, W., & Co., electric crane builders, 1600, Hamilton-st., Philadelphia, Pa. (Telegrams: "Sellers, Philadelphia.")
Sellner Gas & Electric Fixture Manufacturing Co., electrolier manufacturers & fitters, 703, Locust-st., St. Louis, Mo. (Teleph. Nos.: Bell, 518, Main; & Kinloch, 947 A.)
Sells, O. P., installation contractor, Sterling, Col.
Selma Lighting Co., Selma, Ala.
Selma Street & Suburban Railway Co., Selma, Ala.
Selzer, C. A., electric light fixtures, Euclid-ave., cor. Erie-st., Cleveland, Ohio.
Semi-Dry Battery Co., makers of dry batteries, Harrison (Newark), N.J.
Seneca Edison Co., Seneca Falls, N.Y.
Seneca River Power Co., Baldwinsville, N.Y.
Serrell, L. W., mechanical & electrical engineer, 29, Broadway, New York, N.Y.
Sessions Foundry Co., iron castings for electrical purposes, Bristol, Conn.
Sethman, G. H., M.AM.I.E.E., mechanical & electrical engineer, Skinner & Sethman, Denver, Col.
Sever, George F., M.SC., M.AM.I.E.E., professor of electrical engineering, Columbia University, New York.
Sewickley Electric Co., Sewickley, Pa. (Telephone No. 28–2.)
Seyfert's Sons, L. F., dealers in new & second-hand machinery, &c., 437, North 3rd-st., Philadelphia, Pennsylvania.
Seymour Electric Light Co., Seymour, Conn.
Seymour Gas & Electric Light Co., Seymour, Ind.

Seymour & Whitlock, consulting engineers & manufacturers, 43, Lawrence-street, Newark, N.J.
Shafer, A. H., installation contractor, San Antonio, Tex.
Shamokin & Edgewood Electric Railway Co., Shamokin, Pa.
Shamokin Electric Light, Heat & Power Co., Shamokin, Pa.
Shand Engineering Co., hydraulic, mechanical & electrical engineers, Columbia, S.C.
Shannon, H. L., electrolier manufacturer & fitter, 729, 15th-st., Denver, Col.
Shapiro & Arouson, electric fixtures manufacturers, 67, Centre-st., New York. (Telephone No. 343, Williamsburg.)
Shapter, W. P., installation contractor, Summit, N.J.
Sharon & Wheatland Street Railway Co., Sharon, Pa.
Sharp, Chas. E., electrical supplies, Security-bldg., St. Louis, Mo.
Sharp, Clayton H., PH.D., Electrical Testing Laboratories, 80th-st. & East End-ave., New York. (Telephone No. 5513, 79th-st.)
Sharp, Joseph, Belting & Supply Co., manufacturers of machine belting, 457, East Front-st., Cincinnati, Ohio.
Shaw, Edwin C., M.AM.I.E.E., M.AM.S.M.E., general superintendent, B. F. Goodrich Co., Akron, Ohio.
Shaw, Howard Burton, A.AM.I.E.E., professor of electrical engineering, Missouri State University, Columbia, Mo.
Shaw, Leonard, consulting electrical engineer, Hammond-bldg., Detroit, Mich.
Shaw Electric Crane Co., The, manufacturers of electric crane & hoisting machinery, Muskegon, Mich.
Shaw, Geo. W., & Co., electrolier manufacturers & fitters, 1020, Walnut-st., Philadelphia, Pa.
Shaw, J. Elliott, Co., manufacturers of & dealers in electrical supplies, 632, Arch-st., Philadelphia, Pennsylvannia.
Shawnee Lighting Co., Shawnee, Okla.
Shawnee & Straitsville Electric Light Co., Shawnee, Ohio.
Shawneetown Electric Co., electric light contractors, Shawneetown, Ill.
Shea, D. M., electrical contractor, Waverly-pl., Madison, N.J.
Shea, D. W., M.AM.I.E.E., professor of electrical engineering & physics, Catholic University of America, Washington, D.C.
Shea, D. W., installation contractor, Tampa, Fla.
Shean, John, electrical contractor, 12th & Filbert-sts., Philadelphia, Pa.
Shearer, J. S., B.S., PH.D., assistant professor of physics, Cornell University, Ithaca, N.Y.
Sheboygan Light, Power & Railway Co., Sheboygan, Wis.
Shedd Electric Co., makers of oscillating electric fans, 60, Leonard-st., New York. (Telegs.: "Oscillate, New York.")
Shedd, S. S., & Bro. Co., dealers in electric & gas fixtures, 432, 9th-st., N.W., Washington, D.C.
Sheddy, J. H., manager & electrician, Renovo Edison Light, Heat & Power Co., Renovo, Pa.
Sheehan, W. M., & Co., electrical contractors & supply dealers, 136, Liberty-st., New York.
Sheffield Co., electric light & traction, Sheffield, Ala.
Shelby Electric Co., manufacturers of incandescent lamps, Shelby, Ohio.
Shelby Steel Tube Co., trolley-pole makers, Pittsburg, Pa.
Shelby Village Electric Light Plant, Shelby, Ohio.
Shelbyville Water & Light Co., Shelbyville, Ind.
Sheldon, Samuel, A.M., PH.D., M.AM.I.E.E., professor of physics & electrical engineering, Polytechnic Institute, & 198½, Schermerhorn-st., Brooklyn, N.Y. (Telephone No. 2619, Main.)
Sheldon, S. R., M.AM.I.E.E., professor of electrical engineering, University of Idaho, Moscow, Idaho.
Sheldon, T. P., & Co., consulting electrical engineers, Industrial Trust-bldg., Providence, R.I.
Shelton Electric Co., medical manufacturing electricians, 511, Atlas-blk., Chicago, Ill.
Shenandoah Electric Light & Power Co., Shenandoah, Iowa.
Shepard, G. R., electrical & consulting engineer, 5, Dutch-st., New York.
Shepardson, Geo. D., M.E., M.AM.I.E.E., prof. of electrical engineering, University of Minn., Minneapolis, Minn.
Shepherd & Rust, electrical engineers & contractors, 42, West Market-st., Wilkes Barre, Pa.
Sherer, Cornelius, installation contractor, 1770, Amsterdam-ave., New York.
Sherman & Willis, consulting engineers, Board of Trade-bldg., Boston, Mass.
Sherman City Electric Light Plant, Sherman, Tex.
Sherman Gas & Electric Co., Sherman, Tex.
Sherrill Moore Electric Co., installation contractors, Burlington, Iowa.
Sherwin, Geo. W., dealer in electrical supplies, Burlington, Vt.
Sherwood Manufacturing Co., manufacturers of injectors, lubricators & engine & boiler supplies, 34, Washington-street, Buffalo, N.Y. (Telegrams: "Injector, Buffalo.")
Shiawassee Light & Power Co., Corunna, Mich.
Shields, Edward T., installation contractor, 30, Wesley-ave., Boston, Mass.
Shields, W. J., & Co., makers of volt graduators, New Wilmington, Pa. Office: Pittsburg, Pa.
Shippensburg Electric Light, Heat & Power Co. Shippensburg, Pa.

Shirley, John R., & Sons, electric light fixtures, 262, Weybosset-st., Providence, R.I.
Shoemaker, W. M., & Co., installation contractors, 232, 3rd-st., Louisville, Ky.
Shoenberg Electrical Co., electrical engineer, 927, Market-st., San Francisco, Cal.
Shore Electric Co., Red Bank, N.J.
Shreve, Crump & Low Co., makers of electric light fixtures, 147, Tremont-st., Boston, Mass.
Shreveport Gas, Electric Light & Power Co., Shreveport, La.
Shreveport Traction Co., 100, Market-st., Shreveport, La.
Shrewsbury & Smith, installation contractors, San Mateo, Cal.
Shuh, J. F., electrical contractor, 207, East Washington-st., Ann Arbor, Mich.
Shultz Belting Co., manufacturers of leather belting, St. Louis, Missouri; & 113, Liberty-st., New York.
Shuster, John Wesley, A.AM.I.E.E., assistant professor in electrical engineering, University of Wisconsin, Madison, Wis. (Teleph. No. 6427 S.)
Sibley & Pitman, dealers in electrical supplies, 26, Warren-st., New York, N.Y. (Telephone Nos. 8040 8041 & 8042, Cort.)
Sidney Electric Light Co., Sidney, Ohio.
Sieber, G. A., electrical repairing, Jacksonville, Ill. (Telephone No. 259.)
Siebert, A. E., & Co., installation contractors, Norfolk, Va.
Sieder, A. L., electrical contractor, 234, Springfield-ave., Newark, N.J.
Sieman Hard Rubber Corporation, platina smiths, Bridgeport, Conn.
Siggers & Siggers, patent lawyers, National Union-bldg., Washington, D.C.
Signal & Control Co., patentees & makers of electric automatic whistle operators, 161, Washington-st., New York. (Telegrams: "Signal, New York.")
Sigourney Electric Light & Power Co., Sigourney, Iowa.
Sigourney Tool Co., manufacturers of electricians' tools, 9, Sigourney-st., Hartford, Conn.
Silver State Electric Co., installation contractors, 214, 15th-st., Denver, Col.
Silverton, Town of, Electric Light Plant, Silverton, Col.
Simmons, Geo. H., electrical contractor, 315, Orchard-st., New Haven, Conn.
Simonds Manufacturing Co., manufacturers of gear wheels, pinions, &c., 25th & Liberty-sts., Pittsburg, Pa.
Simplex Co., The, manufacturers of electric measuring instruments, 60, Nassau-st., Newark, N.J.
Simplex Electric Heating Co., heating apparatus, Cambridgeport, Mass.
Simplex Electrical Co., manufacturers of insulated wires & cables, 110, State-st., Boston, Mass. (Telegrams: "Innosam, Boston." Telephone No. 5300, Main.)
Simplex Interior Telephone Co., telephone makers, 19, East 3rd-st., Cincinnati, Ohio.
Simpson, Alexander B., A.AM.I.E.E., electrical contractor, 126, East 41st-st., New York. (Telephone No. 2125–38th.)
Simpson, G. T., consulting engineer, Pioneer Press-bldg., St. Paul, Minn.
Simpson, J. H., electrical engineer, 286, Amsterdam-ave., New York.
Sinclair, H. A., M.AM.I.E.E., electrical engineer, 35, South William-st., New York.
Singer-Geiser Electric Co., electrical engineers, contractors & supply dealers, Waynesboro, Pa. (Teleph. No. 43 Y., Bell.)
Single, John, Paper Co., insulating paper, Syracuse, N.Y.
Sinker-Davis Co., The, manufacturers of engines & boilers, Indianapolis, Ind.
Sioux City Gas & Electric Co., Sioux City, Iowa.
Sioux City Traction Co., Sioux City, Iowa.
Sipp Electrical & Machine Co., Mill-st., Paterson, N.J.
Siskiyou Electric Power Co., Yreka, Cal.
Sistersville Electric Light & Power Co., Sistersville, W. Va.
Skinner, C. E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Skinner Engine Co., builders of steam engines, Erie, Pa.
Skirrow, J. F., A.AM.I.E.E., electrical engineer, 253, Broadway, New York. (Telephone No. 5156, Cortlandt.)
Skowhegan Electric Light Co., Skowhegan, Maine.
Slater, Wm., installation contractor, Memphis, Tenn.
Slater Light & Water Works, Slater, Mo.
Slayton, Edmund R., manufacturing electrician, 132, Water-st., Cleveland, Ohio.
Sleaster, Fredk., & Co., battery makers, 202, Court-st., Brooklyn, N.Y.
Slichter, W. I., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Sloane, T. O. C., jun., A.AM.I.E.E., general contractor, 76, William-st., New York.
Smethurst & Allen, electric railway builders, North American-bldg., Philadelphia, Pa.
Smith, Arthur C., electrical supplies, New Bedford, Mass.
Smith, Frank E., M.AM.I.E.E., consulting & supervising electrical engineer, 418, Eugenia-ave., San Francisco, Cal.
Smith, Fred R., electrolier manufacturer & fitter, 507, Linden st., Scranton, Pa.

Smith, F. S., A.AM.I.E.E., Sawyer-Man Electric Co., 374, 5th-ave., New York.
Smith, Harold B., M.E., M.AM.I.E.E., M.I.E.E., consulting engineer, professor of electrical engineering, Worcester Polytechnic Institute, Worcester, Mass.
Smith, H. E., installation contractor, Batavia, N.Y.
Smith, Harry H., installation contractor, Paterson, N.J.
Smith, H. H. C., electrical contractor, Allentown, Pa.
Smith, Howard M., installation contractor, Berkeley, Cal.
Smith, Irving W., A.AM.I.E.E., electrician, Bishop Gutta Percha Co., 420, East 25th-st., New York.
Smith, J., electrical engineer, 3, East 135th-st., New York. (Telephone No. 1122, Harlem.)
Smith, J. Brodie, A.AM.I.E.E., vice-president & general manager Manchester Traction Light & Power Co., 46, Hanover-st., Manchester, N.H.
Smith, James H., installation contractor, Hartford, Conn.
Smith, Jesse M., M.AM.I.E.E., consulting electrical & mechanical engineer, 220, Broadway, New York.
Smith, J. W., installation contractor, Norfolk, Va.
Smith, L. J., installation contractor, 844, Maple-ave., Los Angeles, Cal.
Smith, Oberlin, A.AM.I.E.E., president, Ferracute Machine Co., Bridgeton, N.J. (Telegrams: "Ferracute, Bridgeton." Long Distance Telephone No. 34.)
Smith, Richard W., electric railway supplies, 67, Milk-st., Boston, Mass.
Smith, Samuel H., contractor & engineer, 45, West State-st., Trenton, N.J.
Smith, S. J., A.AM.I.E.E., engineer, Fostoria Incandescent Lamp Co., 1328, Empire-bldg., Atlanta, Ga.
Smith, S. W., electrical contractor, 725, Temple-ct., Minneapolis, Minn.
Smith, T. Carpenter, M.AM.S.M.E., M.AM.I.E.E., mechanical engineer & electrician, 316, Mariner & Merchant-bldg., Philadelphia, Pa. (Telegs.: "Muckle, Philadelphia." Long Distance Teleph. No. Lombard, 1485.)
Smith, Thomas H., contracting electrician, 1730, Champa-st., Denver, Col.
Smith, T. Jarrard, A.AM.I.E.E., Manufacturers' & Inventors' Electric Co., 84, Nassau-st., New York.
Smith, W. E., A.AM.I.E.E., electrician, United States Navy Department, Midvale Steel Works, Philadelphia, Pa.
Smith & Co., manufacturing electricians, Tacoma, Wash.
Smith, E. P., Electric Contract Co., installation contractors, Dubuque, Iowa.
Smith Electric Construction Co, 169, West Water-st., Milwaukee, Wis.
Smith Electrical Engineering Co., electric bell, light, telegraph & telephone supplies, Watertown, N.Y.
Smith, F. M., & Co., electrical supplies, Fort Wayne, Indiana. (Teleph. Nos.: 204, Home; 690, Bell.)
Smith, S. Morgan, Co., makers of water turbines, York, Pa.
Smith & Nichols, manufacturers of ozokerit, &c., 48, South-st., New York, N.Y.
Smith of New York Co., manufacturers of headlights for electric cars, 352, Pearl-st., New York, N.Y.
Smith Storage Battery Co., accumulators, Zoar, Ohio.
Smith, Thos., & Co., manufacturers of armature core discs, 14, Cypress-st., Worcester, Mass.
Smith-Thompson Electric Co., installation contractors, 237, 4th-ave., Pittsburgh, Pa.
Smith & Wallace, manufacturers of & dealers in electrical railway supplies, Woburn, Mass. (Telegrams: "Montvale, Woburn." W.U. Code. Long Distance Telephone No. 35.)
Smith-Courtney Co., supplies & machinery, 1418 & 1424, East Cary-st., Richmond, Va.
Smyrna Electric Light Plant, Smyrna, Del.
Snider Electric Co., dealers in dynamos & motors, 1626, South Broadway, St. Louis, Mo.
Snohomish Electric Light, Power & Gas Co., Snohomish, Wash.
Snow, J. E., A.M., M.S., E.E., A.AM.I.E.E., associate professor of electrical engineering & consulting engineer, Armour Institute of Technology, Chicago, Ill.
Snyder, N. M., A.I.E.E., county surveyor for Scotts Bluff Co., Alliance, Neb.
Snyder, W. J., jun., elec. engineer, 6014, Center-ave., Pittsburg, Pa. (Bell Tel. No. 2090, Highland.)
Solano Electric Light & Gas Co., Benicia, Cal.
Somerset Electric Light, Heat & Power Co., Somerset, Pa.
Somerset Traction Co., Skowhegan, Maine.
Sommer, C. R., gas & electrical fixtures, 386–388, 2nd-ave., New York.
Soper, C. A., installation contractor, 1092, Fulton-st., Brooklyn, N.Y.
Soren, Townsend Hodges, A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Sorenson Manufacturing Co., X-ray apparatus makers, Ravenna, Ohio.
Sound Waves (monthly; ann. sub., U.S. & Canada, $1.00, P.U., $1.50), Logansport, Ind. London office: S. Rentell & Co., 39, Maiden Lane, W.C.
South Bend Electric Co., South Bend, Ind.
South Bend Electric Co., South Bend, Wash.
South Chicago City Railway Co., Chicago, Ill.
South Jersey Gas, Electric & Traction Co., Camden, N.J.
South Shore Electric Co., installation contractors, 9220, Commercial-ave., Chicago, Ill.
South Shore Gas & Electric Co., Hammond, Ind. (Telephone No. 10.)
South Side Electric Light & Power Co., Kansas City, Mo.

South Side Elevated Railroad Co., Chicago, Ill.
South-West Missouri Electric Railway Co., Webb City, Mo.
Southern Bell Telephone & Telegraph Co. (D. I. Carson, secretary), 78, South Pryor-st., Atlanta, Ga.
Southern California Electric Co., installation contractors, 121½, West 3rd-st., Los Angeles, Cal.
Southern Car Co., makers of tramcars, High Point, N.C.
Southern Electric Co., installation contractors, Jacksonville, Fla.
Southern Electric Co., installation contractors, Wilmington, N.C.
Southern Electric Co., manufacturers of & dealers in electrical specialties, Baltimore, Md.
Southern Electric Supply Co., electrical supplies, 614, Mulberry-st., Macon, Ga.
Southern Electrical Co., installation contractors, San Diego, Cal.
Southern Electrical Co., electrical engineers, installation contractors & jobbers of electrical goods, Nashville, Tenn.
Southern Electrical Co., installation contractors, Hennen-bldg., New Orleans, La.
Southern Heating, Light & Power Co., Carnegie, Pa.
Southern Light & Traction Co., Natchez, Miss.
Southern Michigan Railway Co., South Bend, Ind.
Southern New England Telephone Co. (H. H. Sykes, general superintendent), New Haven, Conn.
Southern Ohio Traction Co., Hamilton, Ohio.
Southern Pines & Carthage Electric Light Plant, Southern Pines, N.C.
Southern Supply & Electric Co., installation contractors, Atlanta, Ga.
Southgate, Francis J., installation contractor, Worcester, Mass.
Southwark Foundry & Machine Co., builders of engines, Washington-ave. & 5th-st., Philadelphia, Pa.
South-west Electric Co., installation contractors, Redlands, Cal.
Southwest Electrical Co., electrical apparatus makers, San Bernardino, Riverside & Redlands, Cal.
Southwestern Electric Co., installation contractors, 24, South 10th-st., St. Louis, Md.
Southwestern Electrical Engineering & Construction Co., Dallas, Tex. (Telegrams: "Sallad, Dallas.")
Southwestern Street Railway Co., Philadelphia, Pa.
Southworth, M. O., A.AM.I.E.E., chief engineer, Commercial Electric Co., Indianapolis, Ind.
Sowers, D. W., A.AM.I.E.E., president H. W. Dopp Co., Buffalo, N.Y. (Teleph. No. 416, Bell North.)
Spalding, P. L., A.AM.I.E.E., Bell Telephone Co., N.W. cor. 17th & Filbert-sts., Philadelphia, Pa. (Teleph. No. 2790, Filbert.)
Spangler Bros., manufacturers of electric signs, Newark, N.J.
Sparta Electric Light Plant, Sparta, Wis.
Sparta Gas & Electric Co., Sparta, Ill.
Spartanburg Railway, Gas & Electric Co., Spartanburg, S.C.
Spaulding & Metcalf, dealers in machinists & mill supplies, 532, Arch-st., Philadelphia, Pa.
Spear, James, Stove & Heating Co., manufacturers of street car heaters, 1014, Market-st., Philadelphia, Pa.
Specialty Manufacturing Co., manufacturers of water-motor fans, water motors, exhaust fans, &c, 32–36, East South-st., Indianapolis, Ind. (Telegrams: "Fans, Indianapolis." Telephone No. 843.)
Speer Carbon Co., manufacturers of carbon brushes, St. Mary's, Pa.
Spellmire, Walter B., consulting electrical engineer, Farmer's Bank-bldg., Pittsburg, Pa.
Spencer, Chas. J., A.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., East Pittsburg, Pa.
Spencer, E. J., consulting engineer, 400, Merchants-Laclede-bldg., 219, North 4th-st., St. Louis, Mo.
Spencer, L. D., installation contractor, 1128, 15th-ave., Seattle, Wash. (Telegs.: "Spencer, Seattle." Teleph. Nos.: 4968, Sunset; & Independent A. 8343.)
Spencer, Paul, A.AM.I.E.E., inspector of electric plants, United Gas Improvement Co., Philadelphia, Pa.
Spencer Electric Light Co., Spencer, Ind.
Spencer Electric Light & Power Co., Belding, Mich.
Spencer Electrical Co., manufacturers of telephones & transmitters, 163, Greenwich-st., New York. (Telegs.: "Spencerco, New York." Teleph. No. 603, Court.)
Spencer Gas Co., electric light contractors, Spencer, Mass.
Spencer's Sons, I. S., manufacturers of specialties in soft gray iron, brass & bronze castings for electrical purposes, Guilford, Conn.
Spengel, Carl, patent expert & draughtsman. Offices: 75, Atlas National Bank-bldg., Cincinnati, Ohio. (Telephone No. 3968.)
Sperry, Elmer A., M.AM.I.E.E., electrical engineer, 855, Case-ave., Cleveland, Ohio.
Spies, Albert, A.AM.I.E.E., editor, *Cassier's Magazine*, 3, West 29th-st., New York.
Spies Electric Co., telephone apparatus makers, 81, West Van Buren-st., Chicago, Ill.
Spiese, F. P., A.AM.I.E.E., secretary, treasurer & manager, Edison Electric Illuminating Co., Tamaqua, Pa. (Bell Telephone No. 72.)
Spinney, L. B., M.AM.I.E.E., professor of physics & electrical engineering, Iowa State College, Ames, Iowa.

Spinney, Wise Co., manufacturers of rubber goods & insulating material, Lynn, Mass.
Spittal, Andrew, electrical & physical instrument, 210½, South High-st., Columbus, Ohio.
Splitdorf, C. F., electrical engineer, manufacturer of induction coils, &c., 17, Vandewater-st., New York (Telephone No. 2408, John.)
Spokane Traction Co., Spokane, Wash.
Spokesfield, F. A., electrical contractor, 1887, Dorchester-ave., Boston, Mass.
Spon & Chamberlain, publishers of electrical & scientific books, 123, Liberty-st., New York.
Sprague, B. S., electrical supplies, Marietta, Ohio.
Sprague, Frank J., M.I.E.E., M.AM.I.E.E., consulting engineer, 20, Broad-st., New York. (Telegs.: "Spragmotor, New York.")
Sprague, T. W., electrical engineer, 4, State-st., Boston, Mass.
Sprague Electric Co., makers of dynamos & electric machinery, 20, Broad-st., New York. (Telegs.: "Spragmotor, New York.")
Sprague Electric Elevator Co., manufacturers of all classes of electric elevators, 17, Battery-pl., New York. (Telegrams: "Spragelec, New York.")
Spranley & Reed, Ltd., supply dealers & machinery, 601–611, Baronne-st., New Orleans, La. (Teleph. No. 879, Main.)
Spring Valley Electric Light Co., Spring Valley, Ill.
Spring Valley Electric Light & Investment Co., Spring Valley, Minn.
Springer, F. W., M.AM.I.E.E., assistant professor of electrical engineering, University of Minn., Minneapolis, Minn.
Springfield City Electric Light Plant, Springfield, Tenn.
Springfield Consolidated Railway Co., Springfield, Ill.
Springfield & Easton Street Railway Co., Palmer, Mass.
Springfield Electric Co., installation contractors, Springfield, Mass.
Springfield Electric Co., Springfield, Vt.
Springfield Electric Railroad Co., Springfield, Vt.
Springfield Elevator & Pump Co., makers of electric lifts, Springfield, Mass.
Springfield Foundry Co., manufacturers of electric elevators & machinery, Springfield, Mass.
Springfield Gas & Electric Co., Springfield, Mo.
Springfield Railway Co., Springfield, Ohio.
Springfield Street Railway Co., Springfield, Mass.
Springfield Traction Co., Springfield, Mo.
Springfield Water & Electric Light Co., Springfield, Ky.
Springfield & Xenia Railway Co., Springfield, Ohio.
Springville City Electric Light Plant, Springville, Utah.
Sproul & Johnson, installation contractors, 5809, Penn-ave., Pittsburg, Pa.
Sprout, Sidney, consulting & supervising mechanical & electrical engineer, Room 210, Crocker-bldg., San Francisco, Cal.
Spruance, W. C., jun., consulting engineer, Equitable-bldg., Wilmington, Del. (Teleph. No. 1107A.)
Spruill, J. B., installation contractor, 97, Main-st., North Adams, Mass.
Spurling, O. C., A.M.I.E.E., c/o Western Electric Co., 259, S. Clinton-st., Chicago, Ill.
Squier, Capt. G. O., M.AM.I.E.E., University Club, New York.
Squire Electric Co., engineers & contractors, 614, Wyandotte-st., Kansas City, Mo. (Bell Teleph. No. 789, Main.)
Stafford Springs Electric Light & Gas Co., Stafford Springs, Conn.
Staines, Bunn & Taber Co., manufacturers of electric fixtures, 147, Lawrence-st., Brooklyn, N.Y.
Staley & Gillespie, electrical elevator repairs, 445–7, West Broadway, New York. (Teleph. No. 5346, Spring.)
Stamford Gas & Electric Co., Stamford, Conn.
Stanberry Electric Light Co., Stanberry, Mo.
Standard Electric Co., electrical contractors, 199, N. Main-st., Barre, Vt.
Standard Electric Co., installation contractors, 194, Randolph-st., Detroit, Mich.
Standard Electric Co., electrical contractors & supplies, Jacksonville, Fla.
Standard Electric Co., supplies, repairing & construction, 820, Church-st., Nashville, Tenn. (Tel. No. 399.)
Standard Electric Co., installation contractors, Norfolk, Va.
Standard Electric Co., electric light contractors, Rialto-bldg., San Francisco, Cal.
Standard Electric Co., installation contractors, Syracuse, N.Y.
Standard Electric Co., jobbers of electrical supplies, 10, 12 & 14, East 2nd-st., Charlotte, N.C.
Standard Electric Co., arc lamp, motor & dynamo makers, 113, West 3rd-st., Cincinnati, Ohio. (Teleph. No. 819, Main.)
Standard Electric Co., installation contractors, Portland, Ore. (Teleph. No. 12, Main.)
Standard Electric Co., Ltd., electrical construction & supplies, 424, Camp-st., New Orleans, La. (Telephone No. 1193.)
Standard Electric Construction Co., electrical engineers, 14–16, N. Water-st., Rochester, N.Y.

Standard Electric Equipment Co., installation contractors, 218, La Salle-st., Chicago, Ill.
Standard Electric Equipment Co., installation contractors, 275, Greenwich-st., New York.
Standard Electric Light Co., Argentine, Kan.
Standard Electric & Machine Co., manufacturing electricians, Allegheny, Pa.
Standard Electric Manufacturing Co., manufacturers of incandescent lamps, Niles, Ohio.
Standard Electrical Co., manufacturing electricians, Charlotte, N.C.
Standard Electrical Works, makers of electrical supplies, 604, Mission-st., San Francisco, Cal.
Standard Engineering Co., installation contractors, Garfield-bldg., Cleveland, Ohio
Standard Gas & Electric Co., Raleigh, N.C.
Standard Glass Insulators, manufacturers of electrical insulators, Brookfield, Mo.
Standard Machinery & Equipment Co., manufacturing electricians, 410, Electric-bldg., Cleveland, Ohio.
Standard Underground Cable Co., manufacturers of bare & insulated wires & cables, Westinghouse-bldg., Pittsburgh, Pa. Branch offices: New York, Boston, Philadelphia, Chicago, St. Louis & San Francisco. (Telegrams: "Cables, Pittsburgh.")
Standard Vitrified Conduit Co., makers of conduits, 39, Cortlandt-st., New York.
Standard Welding Co., seamless steel tubes, electric welding, cor. Central-ave. & 70th-st. S.E., Cleveland, Ohio.
Stanford Water, Light & Ice Co., Stanford, Ky.
Stanley, William, M.AM.I.E.E., electrical engineer & inventor, Great Barrington, Mass.
Stanley, G. I., Electric Manufacturing Co., manufacturers of electrical apparatus, Pittsfield, Mass. (Telegrams: "Selemco, Pittsfield." A.B.C. Code, 4th edition. Long Dist. Telephone Nos. 118 & 104); & Pioneer-bldg., Seattle, Wash.
Stanley Instrument Co., makers of electricity meters, Great Barrington, Mass.
Stanley & Patterson, Incorporated, manufacturers of general electrical equipment supplies, 23, Murray-st.—27, Warren-st., New York. (Telegs.: "Eleclight, New York." A.B.C. Code, 4th & 5th editions. Teleph. Nos. 5900–5904, Cort.) Store: 329, 4th-ave.; factory: 35 & 37, Vesey-st.
Stanley Recording Wattmeters, electrical instrument manufacturers, Great Barrington, Mass.
Stanton, Albert L., A.M.I.E.E., c/o H. Sturm, 2519, Pasadena-ave., Los Angeles, Cal.
Stanton, L. B., electrical contractor, Poughkeepsie, N.Y.
Stanton, Le Roy W., M.AM.I.E.E., consulting telephone engineer, 411, Electrical-bldg., Cleveland, Ohio; & 1644, Monadnock-bldg., Chicago, Ill.
Star Brass Works, makers of tramway appliances, Kalamazoo, Mich.
Star Dynamo Co., installation contractors, Jeffersen City, Mo.
Star Electric Co., installation contractors, Kalamazoo, Mich.
Star Electric Co., The, fan motor makers, Niles, Ohio.
Star Electric Co., makers of fire alarm telegraph apparatus, Binghamton, N.Y. (Telegrams: "Beach, Binghamton, New York." Telephone No. 515.)
Star Porcelain Co., electrical specialities, Trenton, N.J.
Stark Electric Railroad Co., Alliance, N.D.
Starr Bros. Bell Co., manufacturers of bells, East Hampton, Conn.
Starr Electric Co., installation contractors, 208, West Worthington-st., Springfield, Mass.
State Electric Co., installation contractors, Atlanta, Ga.
State Electric Co., Clinton, Iowa.
Statham, Noel, A.M.I.E.E., c/o West Virginia Paper & Pulp Co., Piedmont, W. Va.
Station Equipment Co., dealers in electrical machinery, Marquette-bldg., Chicago, Ill.
Staunton, A. R., electrical supplies & installation contractor (P.O. Box 258), Thibaudaux, La. (Long Distance Teleph. No. 180.)
Staylor Electric Co., installation contractors, 21, East West-st., Baltimore, Md.
Steamboat Springs Electric Co., electric light contractors, Steamboat Springs, Col.
Stearns, Chas. K., M.AM.I.E.E., M.AM.S.M.E., mechanical & electrical engineer, 93, Federal-st., Boston, Mass.
Stearns, J. W., M.AM.I.E.E., president Mountain Electric Co., Denver, Col.
Stearns Manufacturing Co., manufacturers of steam engines, Erie, Pa.
Stebbins, T., M.AM.I.E.E., Interurban Railway Association, New York.
Stecker Electric & Machine Co., installation contractors & manufacturing electricians, 32, Larned E.-st., Detroit, Mich. (Teleph. No. 3928, Main.)
Stedman's Foundry & Machine Works, manufacturers of engines, Aurora, Ind.
Steel City Electric Co., conduit specialities & manufacturers of electrical supplies, 3rd-st. & Penn.-ave., Pittsburgh, Pa. (Bell Teleph. No. 3301, Court.)
Steele, Robt. A. M., electrical contractor, 131, South Highland-ave., East End, Pittsburg, Pa.
Steele, Walter D., electrical engineer, c/o Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Steen & Burford, installation contractors, Cripple Creek, Col. (Teleph. No. 324, B.)
Steffens Electrical Supply & Construction Co., Coffeyville, Kan.
Steinberger, A., installation contractor, 312, West Madison-st., Chicago, Ill.
Steinholtz, H. M., electrical contractor, 172, Pearl-st., Hartford, Conn.

Steinmetz, Charles P., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Steinmetz Electric Co., installation contractors, 88, La Salle-st., Chicago, Ill.
Stendicke & Volkmer, electro-medical instrument makers, 61, Fulton-st., New York. (Teleph. No. 5655, John.)
Stenger, E. H., electrical engineer, 708, Vine-st., Cincinnati, Ohio.
Stephens Engineering Co., 153, La Salle-st., Chicago, Ill.
Stephenson, D. J., Co., electrical supplies, 520, Water-st., Port Huron, Mich.
Stephenson, John, Co., tramcar builders, Elizabeth, N.J.
Sterling, Dixon & Eastern Electric Railway Co., Sterling, Ill.
Sterling Electric Co., installation contractors, Troy, N.Y.
Sterling Electric Co., manufacturers of telephones & complete telephone exchange equipments, Lafayette, Ind.
Sterling Electric Manufacturing Co., electric incandescent lamp manufacturers, Warren, Ohio.
Sterling Electric Motor Co., dynamo & electric machinery, State & Fremont-sts., Dayton, Ohio. (Telegrams: "Sterlmot, Dayton, Ohio." Lieber Code. Long Distance Telephone No. 1468.)
Sterling Gas & Electric Light Co., Sterling, Ill.
Sterling Hardware & Electrical Co., installation contractors, 1003, Mission-st., San Francisco, Cal.
Sterling-Meaker Co., makers of safety brakes, 420, Ogden-st., Newark, N.J. (Cables: "Sterco, Newark.")
Sterling Varnish Co., insulating varnish, 307, 4th-ave., Pittsburgh, Pa. (Telegrams: "Varnish, Pittsburgh, Pa." A.B.C. Code, 4th edition); & Brougham-st., Blackfriars-rd., Manchester, England.
Sterling, W. C., & Son Co., dealers in cedar poles, ties & posts, Monroe, Mich. (Long Dist. Teleph. No. 100.)
Stern, P. K., A.AM.I.E.E., electrical & mechanical engineer, 34, West 136th-st., New York.
Stern & Silverman, electrical engineers & contractors, 605, Land Title-bldg., Philadelphia, Pa.
Sterner, Edwin, Co., electrical contractors, Flint, Mich.
Sterns Electric Equipment Co., installation contractors, 316, Pearl-st., Buffalo, N.Y.
Sterns, J. C., & Co., electrical engineers & dealers in electrical supplies, 259, Pearl-st., Buffalo, N.Y. (Telephone No. 877, Frontier); & Warren, Pa.
Stetson, Thomas Drew, patent solicitor & expert, 108, Fulton-st., New York. (Telegrams: "Stetsonpat, Newyork." Telephone No. 4289, John.)
Steubenville, Mingo & Ohio Valley Traction Co., Stubenville, Ohio.
Steubenville Traction & Light Co., Steubenville, Ohio.
Stevens, C. F. W., electrical contractor, 60, Norfolk-st., Boston, Mass.
Stevens, J. F., B.S.C., M.E., M.AM.I.E.E., A.S.M.E., president, Keystone Electrical Instrument Co., 9th-st. & Montgomery-ave., Philadelphia, Pa.
Stevens, William, installation contractor, Joliet, Ill.
Stevens Electric Co., Fort Fairfield, Maine.
Stevens, Geo. M., Co., Inc., manufacturers of fire alarm apparatus & dealers in supplies, 15, Chardon-st., Boston, Mass.
Stevens Institute of Technology, Hoboken, N.J.
Stevens & Sanville, consulting electrical engineers, Girard Trust-bldg., Philadelphia, Pa.
Stevens-Hewitt Engineering Co., electrical & hydraulic engineers, 17–21, Park-row, New York.
Steward, D. M., Manufacturing Co., manufacturers of lavite insulators, Chattanooga, Tenn. (Telegs.: "Steatite, Chattanooga." A.B.C. Code, 4th edition); & 47, Murray-st., New York. (Telegs.: "Steatite, New York.")
Stewart, R. S., M.AM.I.E.E., consulting electrical engineer, 814, Penobseat-bldg., Detroit, Mich. (Teleph. No. 3026, Main.)
Stewart, Frank, Electric Co., dealers in electrical supplies, 35, N. 7th-st., Philadelphia, Pa.
Stewart, John A., Electric Co., brokers, 311, East 5th-st., Cincinnati, Ohio. (Telegs.: "Jaselco, Cincinnati." Teleph. Nos. 1253 & 3412, Main.)
Stewart, J. A., & Son, electrical contractors, 221, Park-ave., Baltimore, Md.
Stewart Heater Co., manufacturers of feed-water heaters, Buffalo, N.Y.
Stewart & Son, manufacturers of steam boilers, Worcester, Mass.
Stewart & Spangler, installation contractors, Waynesboro, Pa.
Stickney & Holmes Co., installation contractors, Jersey City, N.J.
Stillwater City Electric Light & Water Works, Stillwater, Okla.
Stillwater Gas & Electric Light Co., Stillwater, Minn.
Stillwell, Lewis Buckley, M.AM.I.E.E., M.I.E.E., consulting electrical engineer, 100, Broadway, New York
Stimple & Ward, electrical engineers, 817, West Diamond-st., Allegheny City, Pa.
Stine, Dr. Wilbur M., A.AM.I.E.E., electrical engineer, professor of engineering, Swarthmore College, Swarthmore, Pa.
Stirling, C. C., electrician, 66, State-st., Hartford, Conn.
Stirling Co., water tube boilers, 606, Pullman-bldg., Chicago, Ill.
Stitzer, Arthur B., electrical engineer, Philadelphia Rapid Transit Co., Philadelphia, Pa.

Stockbridge, G. H., A.AM.I.E.E., patents, 111, Broadway, New York, N.Y. (Telegs.: "Legitimist, New York." Teleph. No. 3800, Rector.)
Stockton Electric Railroad Co., Stockton, Cal.
Stockton Gas & Electric Co., Stockton, Cal.
Stoelting, C. H., Co., manufacturers of & dealers in scientific apparatus & laboratory appliances, 31–45, West Randolph-st., Chicago, Ill. (Telegrams: "Stoelting, Chicago." Telephone No. 4025, Main.)
Stokes & Parrish Elevator Co., makers of electric cranes, 702, Bullit-building, Philadelphia, Pa.
Stone, Chas. A., electrical engineer, Stone & Webster, 84, State-st., Boston, Mass. (Telegrams: "Electreng, Boston." Telephone No. 6820, Main.)
Stone Telegraph & Telephone Co., 31, State-st., Boston, Mass.
Stone & Webster, electrical engineers, 84, State-st., Boston, Mass. (Telegrams: "Electreng, Boston." Telephone No. 6820, Main.)
Stonington Electric & Engineering Co., installation contractors, Stonington, Conn.
Storage Battery Supply Co., manufacturers of storage batteries & electrical specialties, 239, E. 27th-st., New York.
Storer, Norman W., M.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Storm Lake Electric Light & Power Co., Storm Lake, Iowa.
Storrs, H. A., M.AM.I.E.E., electrical engineer, U.S. Geological Survey, Chamber of Commerce-bldg., Denver, Col.
Storsberg, F., dealer in electrical fixtures, 22, Atlantic-st., Newark, N.J.
Stott, Henry G., M.AM.I.E.E., M.AM.S.M.E., superintendent Motive Power, Interborough Rapid Transit Co., New York
Stoughton Gas & Electric Co., Stoughton, Mass.
Stovel, R. W., A.AM.I.E.E., electrical engineer, Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Stow Manufacturing Co., manufacturers of flexible shafts, portable tools, multi-speed motors, &c., Binghampton, N.Y.
Straight Electric Co., installation contractors, Des Moines, Iowa.
Straight Line Engine Co., manufacturers of high-speed engines, Syracuse, N.Y. (Telegrams: "Engine, Syracuse, N.Y.")
Strang, E. P., electrical contractor, 723, Walnut-st., Philadelphia, Pa. (Telephone Nos.: 1216, Walnut, Bell; & 1752, Keystone.)
Stratton, E. E., electrical contractor, Hinsdale, N.H.
Strauss, H. A., consulting electrical & steam engineer, 390, Broadway, New York. (Telegrams: "Nodal, New York." Telephone No. 6555, Cort.)
Strauss, Laurence L., electrician, 13, East 125th-st., New York. (Telephone No. 1511, Harlem.)
Streator Gas & Light Co., Streator, Ill.
Street Bros., electrical contractors, Chattanooga, Tenn.
Street Railway Journal (weekly; ann. sub., North America, $3.00; other countries, $6 = £1 5*s*.), 114, Liberty-st., New York (Telegrams: "Stryjourn, New York." Telephone No. 7605, Cort.); & Hastings House, Norfolk-st., Strand, London, W.C. (Telegrams: "Stryjourn, London.")
Strobel & Wilkin Co., makers of O. K. dry batteries, 591, Broadway, New York.
Strock, S. C., maker of railroad ties, trolley-poles, &c., Bowling Green-bldg., 11, Broadway, New York. (Telegs.: "Strock, New York." Teleph. No. 2658, Rector.)
Strom, Victor A., installation contractor, Alameda, Cal.
Stromberg-Carlson Telephone Manufacturing Co., manufacturers of telephones & switchboards, 76, West Jackson-boul., Chicago, Ill. (Telegrams: "Stromcarl, Chicago." Telephone No. 3936, Harrison.)
Strong, Frederick G., M.AM.I.E.E., electrical engineer, Box 959, Hartford, Conn.
Stroudsburg Electric Light & Power Co., Stroudsburg, Pa.
Strutt, Wm., dealer in electrical fixtures, Paterson, N.J.
Stuart, H. R., A.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Stuart, D. A., & Co., manufacturers of dynamo oil, 447, Illinois-ave., Chicago, Ill.
Stuart-Howland Co., manufacturers & dealers in electrical supplies, 4–5, Winthrop-sq., 261–281, Devonshire-st., Boston, Mass.
Stucky, Jacob, repairing & reconstructing of dynamos & motors, 17, Alling-st., Newark, N.J.
Studebaker Automobile Co., electric motor cars, South Bend, Ind.
Sturtevant, B. F., Co., makers of fans, engines, motors, generators, &c., Boston & Hyde Park, Mass.
Sturtevant & Mason, patent attorneys, Washington Loan & Trust-bldg., Washington, D.C. (Telegs.: "Sturtevant, Washington.")
Stuttgart Water & Electric Light Plant, Stuttgart, Ark.
Submarine Signal Co., 88, Broad-st., Boston, Mass. (Telegs.: "Submarine, Boston.")
Suburban Electric Light Co., Scranton, Pa.
Suburban Gas & Electric Co., Revere, Mass.
Suburban Railroad Co., electric tramway, Chicago, Ill.
Suburban Rapid Transit Street Railway Co., Pittsburg, Pa.

Sullinger, Park, electrical contractor, 335, Broadway, New York. (Teleph. No. 1603, Franklin.)
Sullivan Electric Co., Sullivan, Ill.
Sullivan, G. W., & Co., manufacturing electricians, 118, Longworth-st., Cincinnati, Ohio.
Sullivan Heat, Light & Power Co., Sullivan, Ind.
Sulzer & Co., electric light fixtures, 821, Cherry-st., Philadelphia, Pa.
Summers, L. L., A.AM.I.E.E., consulting engineer, 441, The Rookery, Chicago, Ill.
Sumpter Light & Water Co., Sumpter, Ore.
Sumter Ice, Light & Power Co., Sumter, S.C.
Sumter Telephone Manufacturing Co., telephone apparatus makers, Sumter, S.C. (Teleph. No. 78.)
Sun Porcelain Co., manufacturers of electrical specialties, Trenton, N.J.
Sunbeam Incandescent Lamp Co., 32, West Polk-st., Chicago, Ill.; & at New York.
Sunbury & Northumberland Electric Railway Co., Sunbury, Pa.
Sunlight Window Reflector Co., manufacturers of metal reflector & shade, 141, Court-st., Brooklyn, N.Y.
Sunny, B. E., M.AM.I.E.E., Western manager, General Electric Co., Monadnock-bldg., Chicago, Ill.
Sunset Electric Supply Co., installation contractors, Portland, Ore.
Superior Water, Light & Power Co., Superior, Wis.
Supplee, Harry S., contracting electrical engineer, 1033, Market-st., Philadelphia, Pa.
Supply Manufacturing Co., The, manufacturers of incandescent lamps, electric railway & light supplies, 32nd & Smallman-sts., Pittsburgh, Pa.
Susquehanna County Electric Co., Susquehanna, Pa.
Susquehanna Traction Co., Lock Haven, Pa.
Sutherland Manufacturing Co., electrolier manufacturers & fitters, 516, Main-st., Cincinnati, Ohio.
Sutter, Chas. J., electrical engineer & contractor, 1220, Pine-st., St. Louis, Mo. (Telephone Nos.: 5198, Main; & Kinloch, B433.)
Sutton, Edwin G., practical electrician, 1205, West 7th-st., Wilmington, Del. (Telephone No. 1297.)
Sutton, Frank, consulting electrical & mechanical engineer, 91, Wall-st., New York.
Swan Electric Co., electrical engineers, 37, Pearl-st., Boston, Mass.
Swann Day Lumber Co., Clay City, Ky.
Swanson, A. L., electrical construction & supplies, 316, 2nd-st., Evansville, Ind. (Telephone No. 36.)
Swayze, H. B., electrician, 1726, North 22nd-st., Philadelphia, Pa.
Swedish-American Telephone Co., manufacturers of telephones, switchboards & supplies, 88, 90 & 92, West Jackson-boul., Chicago, Ill. (Telephone No. 4236.)
Sweet, F. P., installation contractor, Chattanooga, Tenn.
Sweet, A. L., Iron Works, installation contractors, Medina, N.Y.
Sweeten-Crossan Electric Co., manufacturers of & dealers in electrical supplies, 816, Arch-st., Philadelphia, Pa. (Teleph. Nos.: 850 & 851, Bell; & 4930, A., Keystone.)
Sweetland, Ralph, A.AM.I.E.E., electrical inspector, New England Insurance Exchange, 55, Kilby-st., Boston, Mass.
Sweetser, F. C., installation contractor, 72, North Raymond-ave., Pasadena, Cal.
Sweetser, S. G., & Co., installation contractors, Harrisburg, Pa.
Swenson, Bernard V., M.AM.I.E.E., M.AM.S.M.E., secretary & treasurer, American Street & Interurban Railway Association, 60, Wall-st., New York City.
Swett Electric Light & Power Co., Medina, N.Y.
Swett & Lewis Co., manufacturers of X-ray apparatus, &c., 79, Franklin-st., Boston, Mass.
"Swift" Lubricator Co., manufacturers of sight feed lubricators, 730, West 1st-st., Elmira, N.Y.
Switchboard Equipment Co., makers of circuit breakers, Bethlehem, Pa.
Sykes, E. C., electrical contractors, 16, Front-st., Rochester, N.Y.
Sykes, Henry H., A.AM.I.E.E., general superintendent, Southern New England Telephone Co., New Haven, Conn. (Telephone No. 12.)
Synnestvedt Machine Co., motor carriages, 4117, Liberty-ave., Pittsburgh, Pa.
Syracuse Armature Works, manufacturing electricians, Syracuse, N.Y.
Syracuse Boiler Works, makers of boilers, 511, East Water-street, Syracuse, N.Y.
Syracuse Electric Co., installation contractors, Syracuse, N.Y.
Syracuse, Lakeside Baldwinswille Railway, Syracuse, N.Y.
Syracuse Lighting Co., Syracuse, N.Y.
Syracuse Rapid Transit Railway Co., Syracuse, N.Y.
Syracuse & Suburban Railroad Co., Syracuse, N.Y.
Syracuse Twist Drill Co., bell fitters' & electricians' bits, 936, Grape-street, Syracuse, N.Y.

Tacoma City Electric Light Plant, Tacoma, Wash.
Tacoma Electric Co., electrical machinery & supplies, 761, C.-st., Tacoma, Wash. (Teleph. No. 447, Main.)
Tacoma Railway & Power Co., Tacoma, Wash.

Tada, Shigekane, M.AM.I.E.E., electrical engineer, Imperial Japanese Navy, 10, Wall-st., New York.
Tafel, H. C., electrical supplies, 254 & 256, West Jefferson-st., Louisville, Ky.
Takata & Co., engineers & contractors for Japan, 60, Wall-st., New York.
Talbot, Richmond, electrical contractor, 52, William-st., New York.
Talcott Electric Co., installation contractors & electrical supplies, 418, Navarro-st., San Antonio, Tex. (Teleph. No. 119, New.)
Talladega Electric Power Co., Talladega, Ala.
Talmont Electric Engineering Co., makers of ammeters, 88–90, Centre-st., New York. (Telegs.: "Taltric, New York." Teleph. No. 2716, Franklin.)
Taltavall, Thos. R., associate editor, *Electrical World*, 114, Liberty-st., New York.
Tama & Toledo Electric Railway & Light Co., Toledo, Iowa.
Tamagua Light, Heat & Power Co., Tamagua, Pa.
Tampa Electric Co., Tampa, Fla.
Tank Electric Co., electrical contractors, 324, Dearborn-st., Chicago, Ill.
Taper Sleeve Pulley Works, manufacturers of pulleys & power transmission machinery, Erie, Pa.
Tarbell, E. H., Co., electric light fixtures, 15, Washington-st., Boston, Mass.
Tarentum Traction Passenger Railway Co., Tarentum, Pa.
Tarrytown, White Plains & Mamaroneek Railway Co., White Plains, N.Y.
Tatham, Jas., M.I.E.E., 226 & 228, South 5th-st., Philadelphia, Pa.
Taunton Locomotive Manufacturing Co., manufacturers of feed water heaters, &c., Taunton, Mass.
Taunton Municipal Lighting, Taunton, Mass.
Taunton & Pawtucket Street Railway Co., Taunton, Mass.
Taylor, Geo. J., installation contractor, Jersey City, N.J.
Taylor, J. B., M.AM.I.E.E., Railway Engineering Department, General Electric Co., Schenectady, N.Y.
Taylor, Seymour, electrical contractor, Glen Falls, N.Y. (Teleph. Nos.: 317, Commercial Union; & 345 J., Hudson River.)
Taylor, Wm., dealer in electrical specialities & supplies, 203, Broadway, New York. (Telegrams: "Rolyat, New York." Telephone No. 4969, Cort.)
Taylor, W. G., M.I.E.E., c/o Commercial Cable Co., 253, Broadway, New York.
Taylor, Wm. T., A.M.I.E.E., Sacramento Electric, Gas & Railway Co., 6th & H.-sts., Sacramento, Cal.
Taylor, Wyatt W., consulting electrical engineer, 500, 5th-ave., New York.
Taylor Electric Light Co., Taylor, Tex.
Taylor Electric Truck Co., electric car truck manufacturers, Troy, N.Y.
Taylor & Fountain Engineering Co., electrical engineers, 365, Market-st., Newark, N.J.
Taylor, H. B., & Co., installation contractors, Tacoma, Wash.
Taylor, Taylor & Hobson, Ltd., photographic lens manufacturers, St. James-bldg., 1135, Broadway, New York.
Taylor, W. H., & Co., electrical machinery, 254, Hamilton-st., Allentown, Pa.
Taylorville Electric Co., Taylorville, Ill.
Teal, Frank C., dealer in electrical supplies, 75, Bates-st., Detroit, Mich.
Technology Quarterly, issued by the Massachusetts Institute of Technology (ann. sub., $3), Boston, Mass.
Tecumseeh Electric Co., Tecumseh, Mich.
Telegraph Age (semi-monthly; ann. sub., U.S. & Canada, $1.50, P.U., $2.00), 253, Broadway, New York.
Telephony (monthly; ann. sub., P.U., $2.50), Manhattan-bldg., Chicago, Ill. (H. B. McMeal, editor.) (Teleph. No. 2951, Harrison.)
Teleseme Electric Manufacturing Co., 51, West 24th-st., New York.
Telford, C. S., installation contractor, Galesburg, Ill.
Telluride Electric Light & Power Co., Telluride, Col.
Telluride Power Co., Provo, Utah.
Temple, Henry D., electrical engineer, Worcester, Mass.
Temple Electric Light Co., Temple, Texas.
Templeton Street Railway Co., East Templeton, Mass.
Tenk Hardware Co., electrical supplies, Quincy, Ill.
Tergus Falls City Electric Plant, Tergus Falls, Minn.
Terre Haute Electric Co., Terre Haute, Ind.
Terre Haute Gas Fixture Co., electrolier manufacturers & fitters, Terre Haute, Ind.
Terre Haute Traction & Light Co., Terre Haute, Ind.
Terrell Electric Light Co., Terrell, Tex.
Terrell-Hedges Co., jobbers & manufacturers of electrical supplies, Chattanooga, Tenn.
Terry, C. A., M.AM.I.E.E., Lawyer W. E. & M. Co., 111, Broadway, New York.
Tesla, Nikola, M.I.E.E., M.AM.I.E.E., electrical engineer, Wardenclyffe, Long Island, N.Y.
Texarkana Gas & Electric Light Co., Texarkana, Ark.
Texas Arm & Pin Co., brackets, pins & cross-arms, Beaumont, Tex.
Texas-Mexican Electric Light & Power Co., Eagle Pass, Tex.
Thames Electric Co., electrical contractors, 50, State-st., New London, Conn.

Thaxter, Frank O., electrical contractor, 722, Dudley-st., Boston, Mass.
Thayer & Lynn, manufacturing electricians, 350, Dearborn-st., Chicago, Ill.
Thayer, W. N., Co., electrical contractors, 784, 6th-ave., New York.
Thiemer, E. J. H., electrical engineer & contractor, 523, Nostrand-ave., Brooklyn, N.Y. (Telephone No. 1911, Bedford.)
Tholen Bros., installation contractors, Leavenworth, Kan.
Thomas, Benjamin F., M.AM.I.E.E., professor of physics, Columbia State University, Columbus, Ohio.
Thomas, P. H., M.AM.I.E.E., chief electrician, Cooper Hewitt Electric Co., 220, West 29th-st., New York.
Thomas, W. Owen, consulting electrical engineer, 166, Dearborn-st., Chicago, Ill.
Thomas & Betts, electrical engineers, Washington Life-bldg., 141, Broadway, New York. (Telegrams: "Loricated, New York." Telephone No. 5950, Cortlandt.)
Thomas & Johnson, electrical engineers, 183, Greenwich-st., New York.
Thomas, R., & Sons Co., porcelain insulators, East Liverpool, Ohio.
Thomaston Electric Light Co., Thomaston, Conn.
Thomasville Municipal Electric Light Plant, Thomasville, Ga.
Thompson, Edward P., M.AM.I.E.E., A.S.M.E., patent solicitor & consulting expert, 156, 5th-ave., New York. (Telegrams: "Science, New York.")
Thompson, Joseph H., jun., electrical & steam machinery, 17, Battery-pl., New York. (Teleph. No. 6698, Broad.)
Thompson, O. C., installation contractor, 107, East Main-st., New Albany, Ind.
Thompson, S. Boteler, installation contractor, Lake City, Fla.
Thompson, Thos. Perrin, A.AM.I.E.E., consulting engineer, Neff & Thompson, Withers-bldg., Norfolk, Va.
Thompson, Charles A., Co., manufacturing electricians, 143, Liberty-st., New York.
Thompson Electric Works, manufacturing electricians, 346, Wabash-ave., Chicago, Ill.
Thompson, H. G., & Son, manufacturers of electric machinery, 6 Elm, cor. of State-st., New Haven, Conn.
Thompson-Bonney Co., electrical repairs & supplies, 45 & 47, York-st., Brooklyn, N.Y. (Long Distance Teleph. No. 3906, Main.)
Thompson-Starrett Co., installation contractors, 51, Wall-st., New York.
Thomson, D. P., designer, General Electric Co., Schenectady, N.Y.
Thomson, Prof. Elihu, A.M., PH.D., M.I.C.E., Hon. M.I.E.E., M.AM.I.E.E., &c., inventor & electrician, General Electric Co., & Thomson Electric Welding Co., Lynn, Mass.
Thomson Electric Welding Co., manufacturers of electric welding apparatus, Lynn, Mass. (Telegs.: "Welding, Lynn." Teleph. No. 2014.)
Thomson-Houston Electric Co., 42, Center-st., Lynn, Mass.
Thornapple Gas & Electric Co., Hastings, Mich.
Thorne, Chas. F., electrical engineer, 202, East 36th-st., New York.
Thornley, Wm., electrical engineer, contractor & supplies, 914, Walnut-st., Philadelphia, Pa. (Teleph. Nos.: Bell, Walnut, 2023 A.; & Keystone, Main, 4251 A.); & Laurel Springs, N.J.
Thornton, K. B., A.AM.I.E.E., Operating Department, J. G. White & Co., 43-49, Exchange-pl., New York City.
Thorpe & Co., installation contractors, Paterson, N.J.
Thousand Islands Electric Light & Power Co., Clayton, N.Y.
Three Rivers Electric Manufacturing Co., electrical machinery, Three Rivers, Mich.
Three Rivers Light & Power Co., Three Rivers, Mich.
Thresher, Alfred A., M.AM.I.E.E., proprietor Thresher Electric Works, Dayton, Ohio.
Throop, W. E., electrical contractor, Bristol, Conn.
Thurber, Howard F., A.AM.I.E.E., general superintendent New York Telephone Co., 15, Dey-st., New York, N.Y.
Thurston & Co., Geo. H., electrical engineers & dealers in electric supplies, 65, South Main-street, Providence, R.I.
Thye, M. P., & Co., electrical supplies, Los Angeles, Cal.
Tibbe Electric Co., Washington, Mo.
Ticonderoga Machine Works, manufacturers of paper mill & mining machinery, Ticonderoga, N.Y.
Tietgen & Falk Co., electrolier manufacturers & fitters, 79, West Van Buren-st., Chicago, Ill.
Tiffin Edison Electric Illuminating Co., Tiffin, Ohio.
Tiffin, Fostoria & Eastern Railway Co., Tiffin, Ohio.
Tiffin & Port Clinton Railway, Tiffin, Ohio.
Time Electric Co., dealers in electrical supplies, 141, White-ave., Cleveland, Ohio.
Tingley, E. M., A.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Tingley, The R. H., Co., electrical contractors, 29, Broadway, New York; & Providence, R.I.
Tipless Lamp Co., electric lamp manufacturers, 256, West 23rd-st., New York. (Telegs.: "Tipless, New York.") H. J. Jaeger, manager & electrician.
Tipton Electric Light Co., Tipton, Ind.
Tipton Lighting & Heating Co., Tipton, Iowa.

Tisdale & Co., installation contractors, Memphis, Tenn.
Titusville Electric Light & Power Co., Titusville, Pa.
Titusville Electric Traction Co., Titusville, Pa.
Toerring, C. J., Co., arc lamp manufacturers, Warden Power-bldg., 19th & Allegheny-ave., Philadelphia, Pa. (Telegrams: "Toerring, Philadelphia." Lieber's Code. Telephone No. 6-41-42.)
Toledo, Bowling Green & Southern Traction Co., Findlay, Ohio.
Toledo Chandelier Manufacturing Co., electric light fixtures, Toledo, Ohio.
Toledo & Chicago Interurban Railway Co., Toledo, Ohio.
Toledo, Fostoria & Findlay Railway Co., Fostoria, Ohio.
Toledo Gas, Electric & Heating Co., Toledo, Ohio.
Toledo & Indiana Railway Co., Toledo, Ohio.
Toledo Railways & Light Co., Toledo, Ohio.
Toledo & Western Railway Co., Sylvania, Ohio.
Toledo & Western Railway Co., Toledo, Ohio.
Tollner, Hugo, jun., installation contractor, 292, Graham-st., Brooklyn, N.Y.
Toman Bros., electrical contractors, 145, North Broad-st., Trenton, N.J.
Tompkins, D. A., Co., engineers, manufacturers & dealers in electrical supplies, Charlotte, N.C.
Toms River & Island Heights Electric Light & Power Co., Toms River, N.J.
Tonawanda Power Co., North Tonawanda, N.Y.
Tonopah Light & Power Co., Tonopah, Nev.
Topeka Edison Co., Topeka, Kansas. (Telegs.: "Edison Co., Topeka." Teleph. No. 369.)
Topeka Railway Co., 113, East 8th-ave., Topeka, Kan. A. M. Patten, superintendent.
Torchio, Philip, M.AM.I.E.E., chief electrical engineer, New York Edison Co., 57, Duane-st., New York.
Toronto Electric Light & Power Co., Toronto, Ohio.
Torrington Electric Light Co., Torrington, Conn.
Tower Electric Light & Telephone Co., Tower, Minn.
Tower-Binford Electric & Manufacturing Co., manufacturers & dealers in electrical supplies, Richmond, Va.
Towle, Stevenson, consulting electrical engineer, 5, East 42nd-st., New York.
Town Hydro-Electric Plant, Harrisonburg, Va.
Townsend, Fitzhugh, A.AM.I.E.E., electrical engineer, 116th-st. & Amsterdam-ave., New York. (Teleph. No. 4578, Broad.)
Townsend, Henry C., A.AM.I.E.E., electrical patent expert & attorney, 141, Broadway, New York.
Townsend & Decker, patent solicitors, 141, Broadway, New York.
Townsend Gas & Electric Co., electric light contractors, Port Townsend, Wash.
Tozewell Electric Light & Power Co., Tozewell, Va.
Tracy, Atlee H., A M.I.E.E., c/o G. Gibbs, 10, Bridge-st., New York.
Traer Electric Co., electrical contractors, Traer, Iowa.
Trafford, E. W., M.AM.I.E.E., electrical engineer, Richmond Passenger & Power Co., Foot of 7th-st., Richmond, Va.
Trafton, W. I., & Son, electrical contractors, Portsmouth, N.H.
Tray Plate Battery Co., storage battery makers, 5-11, Frederick-st., Binghampton, N.Y.
Treadway Electric Co., electrical construction & consulting engineers, 713, Main-st., Little Rock, Ark. (Old Teleph. No. 2419.)
Treadwell, Augustus, jun., A.AM.I.E.E., electrical engineer, 100, Broadway, New York.
Tremaine Electric Co., electrical contractors & fixture dealers, 24, East Elm-st., Brockton, Mass. (Teleph. No. 901.)
Tremont Gas & Electric Light Co., Tremont, Neb.
Tremont & Pine Grove Electric Light, Heat & Power Co., Tremont, Pa.
Trent Tile Co., manufacturers of hard porcelain for electrical purposes, Trenton, N.J.
Trenton Gas Light & Power Co., Trenton, Ill.
Trenton Gas Light & Power Co., Trenton, Mo.
Trenton Porcelain Co., manufacturers of electrical insulators, Trenton, N.J.
Trenton Street Railway Co., Trenton, N.J.
Trevor, John, electrical engineer, 406, 1st-ave. South, Minneapolis, Minn.
Tri-City Electric Co., dealers in electrical supplies, Moline, Ill.
Tri-City Railway Co., Davenport, Iowa.
Tri-County Light & Power Co., Alpha, Ill. (Teleph. No. 7.)
Triest, W. G., contractor for ironwork, 143rd-st., New York. (Telephone No. 3996, Cort.)
Trinidad Electric Railroad Co., Trinidad, Col.
Tripp & Co., manufacturers of electric signs, 111, 5th-ave., Chicago, Ill.
Trippe, C., superintendent Anglo-American Telegraph Co., 68, Broad-st., New York. (Telephone No. 5955, Broad.)
Tritt Electric Co., makers of induction coils, &c., 301, South Division-st., Union City, Ind.
Triumph Electric Co., motors & dynamos, Cincinnati, Ohio. (Cables: "Triumph." Lieber's Code.)

Trolley Supply Co., manufacturers of railway supplies, Canton, Ohio.
Troy Electrical Co., installation contractors, Troy, N.Y.
Troy Engine & Machine Co., builders of high grade vertical steam engines, Troy, Pa. (Telegrams: "Trojan, Troy." Lieber's Code.)
Troy Gas Co., Troy, N.Y.
Troy & New England Railway Co., Troy, N.Y.
Troy Plate Battery Co., makers of accumulators, 5, Frederick-st., Binghamton, N.Y.
Truckee River General Electric Co., electric light & power, Truckee, Cal.
Trumansburg Electric Co., Trumansburg, N.Y.
Trumbull Electric Manufacturing Co., manufacturers of electrical supplies, Plainville, Conn.
Trump Manufacturing Co., turbine & water wheel manufacturers, Springfield, Ohio.
Truswell, Wm., electrical contractor, 16, Cedar-st., New York.
Tschudin Bros., installation contractors, 566, Amsterdam-ave., New York.
Tucke & Parker, electrical contractor, supplies & repairing, 79, Middle-st., Lowell, Mass.
Tucker Electrical Construction Co., electrical constructors & engineers, 35, South William-st., New York.
Tucker, Frank S., & Co., telephone specialities, 1, Hartford-st., Boston, Mass.
Tucker & Vinton, engineers & contractors, 156, 5th-ave., New York.
Tucson Gas, Electric Light & Power Co., Tucson, Ariz.
Tuerk, Albert, & Co., manufacturers of electrical specialties, 39, West Randolph-st., Chicago, Ill.
Tulare Gas Co., Tulare, Cal.
Tullahoma Municipal Electric Light & Water Works, Tullahoma, Tenn. S. Shingleton, superintendent.
Tuolumne County Water & Power Co., Sonora, Cal.
Turbo-Electric Construction Co., installation contractors, 39, Cortlandt-st., New York.
Turner, W. S., M.AM.I.E.E., electrical engineer, J. G. White & Co., 43, Exchange-pl., New York.
Turner Brass Works, Franklin & Michigan-sts., Chicago, Ill. (Telegrams: "Theturner, Chicago." Telephone No. 3224, Main.)
Turner & Seymour Mfg. Co., manufacturers of electric portables, Torrington, Conn.
Turner, Vaughan & Taylor Co., wire & cable covering machinery makers, Cuyahogo Falls, Ohio.
Turnquist, C. M., dealer in electrical supplies, 442, West Van Buren-st., Chicago, Ill.
Tuscaloosa Ice & Light Co., Tuscaloosa, Ala.
Tuscola Water & Light Co., Tuscola, Ill.
Tuxedo Electric Light Co., Tuxedo, N.Y.
Twin City General Electric Co., Ironwood, Mich.
Twin City Rapid Transit Co., Minneapolis, Minn.
Two Rivers Water & Electric Plant, Two Rivers, Wis.
Tyler, Wm., installation contractor, Flushing, N.Y.
Tyler Electric Co., installation contractors, Oakland, Cal.
Tyler Electric Light & Power Co., Tyler, Texas.
Tyndall, William D., patent lawyer & expert, 141, Broadway, New York.
Tyson, Chas. Q., Co., electrical contractors, 26, North Jefferson-st., Dayton, Ohio.

U.S. Battery Co., storage batteries, New Rochelle, N.Y.
U.S. Electric Lighting Co., Washington, D.C.
U.S. Incandescent Lamp Co., incandescent lamp manufacturers, St. Louis, Mo.
U.S. Mica, Mining & Milling Co., mica merchants, Railway Exchange, Chicago, Ill.
Uebelacker, C. F., M.AM.I.E.E., Ford, Bacon & Davis, Hackensack, N.J.
Uhlenhaut, Fritz, jun., M.AM.I.E.E., c/o chief engineer, Pittsburg Railways Co., Pittsburg, Pa.
Ullman, I. W., Co., electrical contractors, 841, East 141st-st., New York.
Ulmer, Gustav W., electric wiring, Newton Centre, Mass.
Ulster Electric Light, Heat & Power Co., Saugerties, N.Y.
Umpqua Water, Light & Power Co., Roseburg, Ore. (Teleph. No. 611, Main.)
Underhill, C. R., A.AM.I.E.E., consulting electrical engineer, 55, Liberty-st., New York.
Underwriters Electric Co., 800, South 1st-ave., Seattle, Wash. (Teleph. Nos.: 4750, Main; & 487, Independent.)
Underwriters Electric Co., installation contractors, 323, Dearnborn-st., Chicago, Ill.
Underwriters National Electric Association, 55, Kilby-st., Boston, Mass. (C. M. Goddard, secretary.)
Union Carbide Co., calcium carbide manufacturers, 157, Michigan-ave., Chicago, Ill. (Telegs.: "Calcar, Chicago." Teleph. No. 1076, Central.)
Union City Electric Light & Water Works, Union, S.C.
Union City Lighting Co., Union City, Ind.

Union City Water & Electric Light Works, Union City, Tenn.
Union College, school of electrical engineering, Schenectady, N.Y.
Union Electric Co., Dubuque, Iowa.
Union Electric & Engineering Co., installation contractors, 104, Market-st., Pittsburg, Pa.
Union Electric Light Co., Franklin, Mass.
Union Electric Light & Power Co., Unionville, Conn.
Union Electric Light & Power Co., 10th & St. Charles-sts., St. Louis, Mo.
Union Elevated Railroad, Chicago, Ill.
Union Elevator & Machine Co., electric elevators, 144, Ontario-st., Chicago, Ill.
Union Gas & Electric Co., Bloomington, Ill.
Union Gas & Electric Co., Waterville, Maine. (Telephone No. 63-2, Waterville.)
Union Glass Co., makers of blanks for cutting, Somerville, Mass.
Union Hardware Co., manufacturers of push-button shells, switch handles, &c., Torrington, Conn.
Union Hardware & Electric Supply Co., electrical supplies, Providence, R.I.
Union Iron Works, manufacturing electricians, 222, Market-st., San Francisco, Cal.
Union Light, Heat & Power Co., 612, N. P.-ave., Fargo, N.D.
Union Manufacturing Co., electric light contractors, St. Anthony Park, Minn.
Union Porcelain Works (C. H. L. Smith), manufacturers of hard porcelain insulators, 300, Eckford-st., Borough, Brooklyn, N.Y. (Telephone No. 70, Greenpoint.)
Union Street Railway Co., New Bedford, Mass.
Union Switch & Signal Co., railway signals, &c., Swissvale, Pa.
Union Traction Co., Santa Cruz, Cal.
Unique Art Glass & Metal Co., art glass for electric lighting, 105, Vanderveer-st., Brooklyn, N.Y. (Teleph. No. 848 J., East N.Y.)
United Electric & Apparatus Co., installation contractors, 200, Summer-st., Boston, Mass.
United Electric Co., electrical supplies, 1811, 2nd-ave., Birmingham, Ala.
United Electric Co., Dennison, Ohio.
United Electric Co., The, Mechanicsburg, Pa.
United Electric Corporation, 652, S. Los Angeles-st., Los Angeles, Cal. (Teleph. Nos.: 4933 & 1819, Home; & 1722, Main.)
United Electric Light Co., Springfield, Mass.
United Electric Light & Power Co., 1170, Broadway, New York.
United Engineering & Contracting Co., electrical engineers, 32, East 33rd-st., New York.
United Gas & Electric Co., Leavenworth, Kan.
United Gas & Electric Co., New Albany, Ind.
United Gas & Electric Co., San José, Cal.
United Gas, Electric Light & Fuel Co., Fort Edward, N.Y.
United Gas, Electric Light & Fuel Co., Sandy Hill, N.Y.
United Hydro Electric Co., Georgetown, Col.
United Illuminating Co., Bridgeport, Conn.
United Illuminating Co., 95, Milk-st., Boston, Mass.
United Illuminating Co., New Haven, Conn.
United Railroads of San Francisco, Rialto-bldg., San Francisco, Cal. Geo. F. Chapman, general manager; S. L. Foster, chief electrical engineer.
United Railways Co. of St. Louis, St. Louis, Mo.
United Railways & Electric Co., Baltimore, Md.
United Railways, Light & Water Co., Philadelphia, Pa.
United States Automatic Telephone Co., 116, Nassau-st., New York. (Telegrams: "Usaphone, New York.") (Elias E. Ries, president & general manager.)
United States Car Lighting Co., 74, Broadway, New York. (Telegs.: "Youeslite, New York." Teleph. Nos. 255 & 256, Rector.)
United States Carbon Co., Cleveland, Ohio.
United States Electric Signal Co., manufacturers of automatic railway signals, 20, Westwood-st., West Newton, Mass.
United States Gas Fixture Co., manufacturers of electric fixtures, 205, Centre-st., New York.
United States Headlight Co., makers of electric headlights, Buffalo, N.Y. (Telegs.: "Headlight, Buffalo.")
United States Mineral Wool Co., manufacturers of mineral wool pipe covering & corrugated copper gaskets, 143, Liberty-st., New York, N.Y.
United Telegraph, Telephone & Electric Co. (J. G. Earle, president; E. P. M. Connell, secretary), 84, Washington-st., Chicago; & 4705, Cottage Grove-ave., Hyde Park, Ill.
United Traction Co., Albany, N.Y.
United Traction Co., Reading, Pa.
Universal Cutter Co., manufacturing electricians, 4567, Scott-ave., St. Louis, Mo.
Universal Electric Stage Lighting Co. (Kliegl Bros.), 1393-1395, Broadway, & 129, West 38th-st., New York. Signaloid Chemical Works: 129, West 38th-st., New York.

Universal Electric Storage Battery Co., makers of accumulators, 1307, Stock Exchange-bldg., Chicago, Ill.
Universal Electric Supply Co., electrical supply dealers, Mattapan, Mass.
Universal Electrical Works, electrical apparatus manufacturers, 673, Mission-st., San Francisco, Cal.
University of Arkansas, Fayatteville, Ark. *See* SCHOOLS.
University of Chicago, cor. 58th-st. & Ellis-ave., Chicago, Ill. (Telephone No. 426, Hyde Park.)
University of Illinois, Urbana, Ill. (Prof. Morgan Brooks, professor of electrical engineering.)
University of Michigan, Ann Arbor, Mich. For professors, *see* SCHOOLS.
University of Minnesota, Minneapolis, Minn.
University of Oklahoma, Norman, Okla. *See* SCHOOLS.
Upper Hudson Electric Co., Coxsackie, N.Y.
Upton, F. R., M.S., M.AM.I.E.E., Edison Laboratory, Orange, N.J.
Upton, Wm. B., consulting electrical engineer, 902, F-st., N.W., Washington, D.C.
Urbana & Champaign Railway, Gas & Electric Co., Champaign, Ill.
Urbana Light Co., Urbana, Ohio.
Urbana Light, Heat & Power Co., Urbana, Ill.
Utah Electrical & Supply Co., installation contractors, Salt Lake City, Utah.
Utah Light & Railway Co., Salt Lake City & Ogden City, Utah.
Utica Armature Works, manufacturing electricians, Utica, N.Y.
Utica Electric Co., Utica, N.Y.
Utica Fire Alarm Telegraph Co. (W. P. Campbell, manager), manufacturers of telephones, fire alarm & police telegraph apparatus, 106–108, Liberty-st., Utica, N.Y.
Utica Gas & Electric Co., Utica, N.Y.
Utica & Mohawk Valley Railroad Co., Utica, N.Y.
Uxbridge & Blackstone Street Railway Co., Uxbridge, Mass.
Uxbridge & Northbridge Electric Co., electric light contractors, North Uxbridge, Mass.

Vacuum Oil Co., manufacturers of oils, 101, Milk-st., Boston, Mass. (Telegs.: "Vacuum, Boston." Teleph. Nos. 6166 & 6167, Main.)
Vacuum Oil Co., manufacturers of lubricants & lubricating appliances, Rochester & Olean, N.Y.
Vail, T. N., M.AM.I.E.E., electrical engineer, 26, Cortlandt-st., New York.
Vail, Wm., & Son, installation contractors, Tuxedo Park, N.Y. (Telephone No. 47.)
Valdosta Ice & Manufacturing Co., Valdosta, Ga.
Valentine Bros. Manufacturing Co., gasoline engine manufacturers, 230–234, 5th-ave., S. Minneapolis, Minn.
Valentine-Clark Co., telegraph poles, 234, La Salle-st., Chicago, Ill.
Vallee, Geo. W., Electric Co., 1533, Atlantic-ave., Atlantic City, N.J.
Valleja Electric Light & Power Co., Valleja, Cal.
Valley Electric Co., New Brighton, Pa.
Valparaiso Light & Fuel Co., Valparaiso, Ind.
Van Brunt Street & Erie Basin Rail Road Co., Brooklyn, N.Y.
Vancouver Electric Light & Power Co., Vancouver, Wash.
Vandalia Electric Light Plant, Vandalia, Mo.
Vandalia Light & Fuel Co., Vandalia, Ill.
Vander Naillen, A., electrical engineer, contractor & supply dealer, 5100, Telegraph-ave., Oakland, Cal. (Teleph. No. 4178.)
Vander Naillen, jun., A., C.E., mining engineer & assayer, 5100, Telegraph-ave., Oakland, Cal. (Teleph. No. 4178.)
Vander Naillen, R. Leo., electrical engineer, 5100, Telegraph-ave., Oakland, Cal. (Teleph. No. 4178.)
Van Dorn-Elliott Electric Co., manufacturers of gears, pinions & electrical repairs, 1796, East Madison-ave., Cleveland, Ohio.
Van Dyke Electric Co., electrical engineers, Asbury Park, N.J.
Van Frank Electric & Manufacturing Co., installation contractors, 609, Ashbury-st., San Francisco, Cal.
Van Houten & Ten Broeck, manufacturers of electrical instruments for medical & surgical use, 300, 4th-ave., New York.
Van Loan, I. S., Co., electrical repairs, 465, Greenwich-st., New York. (Long Distance Telephone No. 1418, Spring.)
Van Nort Bros. Electric Co., electrical contractors, 718, Market-st., St. Louis, Mo.
Van Nort, E. C., Electric Co., electrical contractors, Locust & 11th-sts., St. Louis, Mo.
Van Nostrand, D., Co., publishers of electrical & scientific books, 23, Murray-st., & 27, Warren-st. (P.O. Box 1741), New York. (Telegs.: "Bowline, New York.")
Van Roden, Chas. E., electrical contractor, 3946, Lancaster-ave., Philadelphia, Pa.

Vansize, W. B., M.AM.I.E.E., patent solicitor & expert, 253, Broadway, New York City. (Telegs.: "Vanmam, New York." Teleph. No. 978, Cort.)
Van Trump, C. Reginald, M.AM.I.E.E., superintendent Wilmington City Electric Co., Wilmington, Del.
Van Tuyl, F. F., consulting engineer, Union Trust-bldg., Detroit, Mich.; & Spitzer-bldg., Toledo, Ohio.
Van Wagoner & Linn, electrical contractors, 27, West 24th-st., New York, N.Y.
Van Winkle, Edward, patent electrical engineer, Flat Iron-bldg., New York. (Telegs.: "Evanwink, New York." Teleph. Nos.: 2167, Gramercy; & 279, J. Bergen.)
Varley, Richard, jun., M.AM.I.E.E., president Varley Duplex Magnet Co., Phillipsdale, Providence, R.I.
Varney, F. H., A.AM.I.E.E., superintendent, Electric Stations, San Francisco Gas & Electric Co., 2912, Mission-st., San Francisco, Cal.
Varney, Wm. W., A.M.AM.I.E.E., electrical engineer & patent solicitor, Baltimore, Md.
Varney Electrical Supply Co., manufacturers' agents, electrical supplies, 235, South Meridian-st., Indianapolis, Ind.
Vehicle Equipment Co., makers of electrical vehicles, Borden & Review-aves., Long Island City, N.Y.
Venango Power & Traction Co., Oil City, Pa.
Venino, Fred., electrical engineer & contractor, electrical supplies, 13, Ward-st., Newark, N.J.
Ventura Water, Light & Power Co., Ventura, Cal.
Vergennes Electric Co., Vergennes, Vt.
Vermille, Frank S., electrical contractor, Reading, Mass.
Vernon Light & Power Co., Tallapoosa, Ga.
Vesey Electric Co., installation contractors & electrical supplies, 608, Austin-ave., Waco, Tex. (Teleph. Nos.: 888, Ind; & 514, Southwestern.)
Vesta Accumulator Co., electric bicycle lamps, 266, State-st., Chicago, Ill.
Viaduct Manufacturing Co., makers of telephones & electrical apparatus, Baltimore, Md.
Vicksburg Railway & Light Co., Vicksburg, Miss.
Victor Electric Co., manufacturers of motors & electro-medical apparatus, 55–61, Market-st., Chicago, Illinois.
Victoria Manufacturing Co., electric light contractors, Victoria, Texas.
Vielé, Cooper & Blackwell, consulting engineers, 49, Wall-st., New York. (Telegs.: "Hydroelec, New York.")
Villisca Electric Co., electric light contractors, Villisca, Iowa.
Vilter Manufacturing Co., engine builders for electric light & railway service, Milwaukee, Wis. (Telegrams: "Vilter, Milwaukee." Long Dist. Telephone No. 114 S.)
Vincennes Citizens' Street Railway Co., Vincennes, Ind.
Vincennes City Electric Lighting Co., Vincennes, Ind.
Vincennes Electric Light & Power Co., Vincennes, Ind.
Vinton, Harry E., installation contractor, Hartford, Conn.
Virginia Electric Construction Co., installation contractors, Norfolk, Va.
Virginia Electric Light Co., Virginia, Ill.
Virginia Passenger & Power Co., Richmond, Va.
Voelkner & Reinke Manufacturing Co., electrical engineers, 123, Woodbridge-st., Detroit, Mich.
Vogel, J. C., installation contractor, 714, North 24th-st., Philadelphia, Pa. (Long Dist. Bell Teleph. No. 3884D, Poplar.)
Voltamp Electric Manufacturing Co., batteries, cells & accessories, 406, 408 & 410, Jasper-st., Baltimore, Md. (Cable address: "Voltamp, Baltimore." Long Distance Telephone.)
Voorhees Rubber Manufacturing Co., 18, Bostwick-ave., Jersey City, N.J.
Vosburgh, W. C., Manufacturing Co., Ltd., manufacturers of gas & electric fixtures, 93, Underhill-ave., Brooklyn, N.Y.
Vote-Berger Co., makers of switchboards, telephones & appliances, La Croose, Wis.
Vulcan Electric Heating Co., heating apparatus makers, 71, West Jackson-bldg., Chicago, Ill.
Vulcanized Fibre Co., insulating material manufacturers, Wilmington, Del.
Vulcanus Forging Co., railroad & telephone forgings, 965, Hamilton-st., Cleveland, Ohio. (Telephone No. 3189, Main.)

Wabash Water & Light Co., Wabash, Ind.
Wabaska Electric Co., Wymore, Neb.
Waclark Wire Co., wire manufacturers, 49, Wall-st., New York.
Waco Gas Co., Waco, Tex.
Waddell, Charles E., consulting electrical engineer, Biltmore, N.C.
Waddell, Montgomery, M.AM.I.E.E., consulting electrical engineer, 1, West 101st-st., New York, N.Y.
Wadeford Electric Co., installation contractors, 204, Dearborn-st., Chicago, Ill.
Wadsworth Bros., installation contractors, Covington, Ky.

Wadsworth Light & Power Co., Wadsworth, Nev.

Wagner, Albert, electrical contractor, 364, East 55th-st., Chicago, Ill. (Telephone No. 587, Hyde Park.)

Wagner, H., installation contractor, 518, Sutter-ave., Brooklyn, N.Y.

Wagner, Herbert A., M.AM.I.E.E., consulting engineer, 60, Wall-st., New York.

Wagner, R. V., & Co., manufacturers of electro-medical apparatus, 52, State-st., Chicago, Ill.

Wagner Electric Manufacturing Co., manufacturers of transformers of all types, single-phase motors & instruments, St. Louis, Mo.

Wagoner, Philip Dakin, A.AM.I.E.E., manager Transformer Department, General Electric Co., Schenectady, N.Y.

Wait, Henry H., M.I.E.E., M.AM.I.E.E., M.AM.S.M.E., president Rateau Turbine Co., 215, Wabash-ave., Chicago, Ill.

Waite & Bartlett Manufacturing Co., manufacturers of static machines, X-ray coils & high frequency apparatus, 217, East 23rd-st., New York, N.Y. (Teleph. No. 6023, Gramercy.)

Waite Electrical Co., installation contractors, Los Angeles, Cal.

Wakefield Electric Light Plant, Wakefield, Mass.

Wakeman, J. M., vice-president McGraw Publishing Co., 114, Liberty-st., New York.

Waldo, Dr. Leonard, M.AM.I.E.E., consulting electrical engineer, 49, Wall-st., New York. (Telegrams: "Fugue, New York.")

Walker, A. F., consulting electrical engineer, Austell-bldg., Atlanta, Ga.

Walker Electric Co., 2338, Noble-st., Philadelphia, Pa. (Telephone Nos.: Bell, Locust, 612; Keystone, 195, Race.)

Walker, Henry L., Co., electrical supplies & manufacturers of electric bells, 40, 42 & 44, East Larned-st., Detroit, Mich.

Walker & Kepler, electrical engineers & dealers in electrical supplies, 531, Chestnut-st., Philadelphia, Pa.

Wallace Bros. Co., dealers in electrical fixtures, North 4th & Ferry-sts., Lafayette, Ind.

Wallace Light & Water Co., Wallace, Idaho.

Wallber, Otto F., electrical engineer, Germania-bldg., Milwaukee, Wis.

Wallen, William, electrolier manufacturer & fitter, 81, Chapel-st., Albany, N.Y.

Waller, C. W., A.M.AM.I.E.E., electrical engineer, California Electric Corp., Rialto-bldg., San Francisco, Cal.

Wallichs, Henry L., electrical contractor, Fond-du-Lac, Wis.

Walling, H. A., electrician, Freeport, N.Y.

Wallingford Borough Electric Works, Wallingford, Conn.

Wallkill Transit Co., Middletown, N.Y.

Wallkill Valley Electric Light & Power Co., Walden, N.Y.

Wallmann, Rudolph, electrical contractor, 227, Ellis-st., San Francisco, Cal.

Walmsley, W. N., A.AM.I.E.E., 1002, Harrison-bldg., Philadelphia, Pa.

Walnut Ridge & Hoxie Light & Power & Transit Co., Walnut Ridge, Ark.

Walsh, Owen, Manufacturing Co., manufacturers of electric light fixtures, 78–82, Barclay-st., New York, N.Y.

Walsh, W. J., Co., general electricians, 343, Washington-st., Portland, Ore.

Walter, Harry G., installation contractor, 26, Exchange-pl., Boston, Mass.

Waltham Gas Light Co., Waltham, Mass.

Walther, G. W., & Co., electrical supplies, 208, West Fayette-st., Baltimore, Md.

Walton Electric Light Co., Walton, N.Y.

Walworth Manufacturing Co., manufacturers of iron fittings, brass & iron valves, & supplies, 132, Federal-st., Boston Mass.

Walworth & Neville Manufacturing Co., cross arms & insulator pins, Old Colony-bldg., Chicago, Ill.

Wappler Electric Controller Co., makers of medical apparatus, 177, East 87th-st., New York.

Ward, F. H., installation contractor & supplies, 391, Myrtle-ave., Brooklyn, N.Y. (Teleph. No. 3907 L., Prospect.)

Ward, G. G., M.I.E.E., chairman, vice-president & general manager, Commercial Cable Co., director, vice-president & general manager, Commercial Pacific Cable Co., 253, Broadway, New York. (Local hon. sec. & treasurer for the I.E.E.)

Ward-Leonard Electric Co., manufacturers of rheostats & automatic switches, Bronxville, N.Y. (Telegrams: "Rheostat, Bronxville." Telephone No. 230, Bronxville.)

Warden, J. D., installation contractor, Sheboygan, Wis.

Warder, W. J., jun., A.AM.I.E.E., designing electrical engineer, Roth Bros. & Co., 27, South Clinton-st., Chicago, Ill.

Warner, E. P., M.AM.I.E.E., electrical engineer, Western Electric Co., 259, South Clinton-st., Chicago, Illinois.

Warner, Lewis E., electrical contractor, Northampton, Mass.

Warner, R. F., A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.

Warner, W. F., manufacturer of electric arc lamps, Muncie, Ind.
Warner Arc Lamp Co., arc lamp manufacturers, Muncie, Ind.
Warner Electric Co., manufacturers of pole changers, Muncie, Ind.
Warner Electric Construction Co., installation contractors, 68, Frankfort-st., Cleveland, Ohio.
Warner Elevator Manufacturing Co., makers of electrical elevators, Cincinnati, Ohio.
Warner Instrument Co., manufacturers of electrical instruments, 55, Roosevelt-ave., Beloit, Wis.
Warren, Brookfield & Spencer Street Railway Co., Brookfield, Mass.
Warren, Cortland & Jefferson Traction Co., New England-bldg., Cleveland, Ohio.
Warren Electric Light & Water Works, Warren, Minn.
Warren Electric Manufacturing Co., manufacturers of Warren Induction Alternator, Sandusky, Ohio.
Warren Electric & Specialty Co., manufacturers of incandescent lamps, fan motors & transformers, Warren, Ohio.
Warren Electrical Light Co., Warren, Pa.
Warren Street Railway Co., Warren, Pa.
Warren Water & Light Co., Warren, Ohio.
Warsaw Gas & Electric Co., Warsaw, N.Y.
Warsaw Water Co., Warsaw, Ind.
Warwick Valley Light & Power Co., Warwick, N.Y.
Washburn Electric Light & Power Co., Washburn, Wis.
Washington, Alexandria & Mount Vernon Railway Co., Washington, D.C.
Washington, Arlington & Falls Church Railway Co., Washington, D.C.
Washington & Canonsburg Railway Co., Washington, Pa.
Washington Electric Co., installation contractors, 1215, West Washington-st., Los Angeles, Cal.
Washington Electric Light & Power Co., Washington, Pa.
Washington Fixture & Mantel Co., Inc., electrical contractors & supply dealers, 116, 3rd-ave., Seattle, Wash. (Main Telephone No. 745, Ind.)
Washington Gas & Electric Co., Washington, C.H., Ohio.
Washington Railway & Electric Co., Washington, D.C.
Washington Water Power Co., Spokane, Washington.
Washtenaw Light & Power Co., Ann Arbor & Ypsilanti, Mich.
Wason, Leonard C., consulting engineer, Aberthaw Construction Co., 8, Beacon-st., Boston, Mass.
Wass, D. D., dealer in electrical supplies, 36, East-st., San Francisco, Cal.
Watauga Electric Co., Johnson City, Tenn.
Water & Light Plant, Fitzgerald, Ga.
Water, Light & Transit Co., Carrollton, Mo.
Waterbury & Co., makers of telephone cables, 69, South-st., New York.
Waterloo, Cedar Falls & Northern Railway Co., Waterloo, Iowa.
Waterloo Electric Supply Co., dealers in electrical supplies, Waterloo, Iowa.
Waterman, F. N., M.AM.I.E.E., mechanical & electrical engineer, 100, Broadway, New York, N.Y. (Teleph. No. 2736, Rector.)
Waters Governor Co., manufacturers of Waters' patent engine governor, 34, Oliver-st., Boston, Mass.
Watertown Electric Light Co., Watertown, N.Y.
Watertown Electric Light Co., Watertown, Wis.
Watertown Engine Co., manufacturers of high speed engines, Watertown, N.Y. (Telegrams: "Waterbag, Waterton, N.Y.")
Waterville & Fairfield Railway & Light Co., Waterville, Maine.
Waterville & Oakland Street Railway, Waterville, Maine.
Watkins Electric Light & Power Co., Watkins, N.Y.
Watkins, F. M., Manufacturing Co., makers of gas engines, Cincinnati, Ohio.
Watmough, Pendleton, Jun., consulting electrical engineer, 1, Broadway, New York.
Watrous Manufacturing Co., manufacturers of bells, East Hampton, Conn.
Watseka Electric & Heat Co., electrical contractors, Watseka, Ill.
Watson, J. H., installation contractor, East Orange, N.J.
Watson-Flagg Engineering Co., installation contractors, Atlanta, Ga.
Watsontown Municipal Electric Light, Heat & Power Co., Watsontown, Pa. (T. H. Kisner, secretary & superintendent.)
Watsonville Water & Light Co., Watsonville, Cal.
Watts, J. Fletcher, installation contractor, Jamaica, N.Y.
Watts & Stern, manufacturing electricians, 1303, Buttonwood-st., Philadelphia, Pa.
Waugh, John H., consulting electrical engineer, 336, 2nd-ave., Pittsburg, Pa.
Waupaca Electric Light & Railway Co., Waupaca, Wis.
Wausau Electric Co., Wausau, Wis.
Waverly Electric Light & Power Co., Waverly, N.Y.
Waverly, Sayre & Carthage Traction Co., Waverly, N.Y.
Waverly Telephone Co., Waverly, Ill.

Waxahachie Gas & Electric Co., Waxahachie, Tex.
Waycross Electric Light & Power Co., The, Waycross, Ga.
Wayne County Electric Co., Lyons, N.Y.
Wayne Electric Light Co., Wayne, Pa.
Wayne Engineering & Construction Co., installation contractors, Fort Wayne, Ind.
Wayne & Wabash Valley Traction Co., Logansport, Ind.
Waynesboro Electric Light & Power Co., Waynesboro, Franklin Co., Pa. (J. F. Geiser, electrical engineer & superintendent.)
Weatherly & Pults, electric light fixtures, 97, Pearl-st., Grand Rapids, Mich.
Weaver, W. D., M.AM.I.E.E., editor *Electrical World & Engineer*, 114, Liberty-st., New York.
Weaver, W. R., electrical contractor, Holyoke, Mass.
Weaver, W. T., Power Co., Asheville, N.C.
Webb, Henry Storrs, M.S., A.AM.I.E.E., telephone engineer, International Text Book Co., Scranton, Pa.
Webb, Howard Scott, M.AM.I.E.E., professor of electrical engineering, University of Maine, Orono, Maine.
Weber, Geo., installation contractor, 38, Great Jones-st., New York, N.Y.
Weber, Joseph, electrical expert, Fort Hamilton-ave. & 86th-st., Brooklyn, N.Y. (Teleph. No. 344, Bay Ridge.)
Weber Gas Engine & Gasoline Co., makers of gas engines & gas producers, Kansas City, Mo.
Weber Railway Joint Manufacturing Co., 71, Broadway, New York.
Webster, Dr. Arthur G., professor & director of the physical department, Clark University, Worcester Mass.
Webster, Edwin S., A.AM.I.E.E., electrical engineer, 84, State-st., Boston, Mass. (Cable address: "Electreng, Boston." Telephone No. 6820, Main.)
Webster, Camp & Lane Co., manufacturers of Corliss steam engines, turbine water wheels, &c., Akron, Ohio. (Telegrams: "Webcampco, Akron.")
Webster City Electric Light Plant, Webster City, Iowa.
Webster Electric Co., Webster, Mass.
Webster, Warren & Co., manufacturers of feed-water heaters, Point & Elm-sts., Camden, N.J.
Weeden, Herbert, electrical contractor, Fall River, Mass.
Weeks, Edwin R., M.AM.I.E.E., consulting engineer, Weeks & Kendall, 605, New Nelson-bldg., Kansas City, Mo.
Weeks & Kendall, consulting electrical engineers, New Nelson-bldg., Kansas City, Mo.
Weidenthal-Gosliner Electric Works, installation contractors, 151, Church-st., San Francisco, Cal.
Weiderman, George, Electric Co., Inc., electrical engineers & contractors, 21, New Chambers-st., New York (Teleph. No. 4346, Franklin); & 267, Flatbush-ave., Brooklyn, N.Y. (Teleph. No. 677, Prospect.)
Weir Frog Co., manufacturers of electric railway appliances, Cincinnati, Ohio.
Weise Bros., electrical engineers, Library-bldg., Davenport, Iowa.
Welch, F. L., electrical contractor, Gloversville, N.Y.
Weldon & Kelly Co., electric light fixtures, 305, Wood-st., Pittsburg, Pa.
Wellington City Electric Light Plant, Wellington, Kan.
Wells, A. E., M.AM.I.E.E., construction engineer, 32, Liberty-st., New York.
Wells, George Eugene, A.AM.I.E.E., consulting electrical engineer, Chemical-bldg., St. Louis, Mo.
Wells Water & Electric Light Works, Wells, Minn.
Wellsboro Electric Co., Wellsboro, Pa.
Wellsburg Electric Light, Heat & Power Co., Wellsburg, W. Va.
Wellston & Jackson Belt Railway Co., Wellston, Ohio.
Wellston Municipal Electric Light Plant, Wellston, Ohio.
Wellsville Electric Light Co., Wellsville, Ohio.
Welsh, Jos. F., manufacturing electrician, Norristown, Pa.
Wendell & MacDuffie, electric railway supply agents, 26, Cortlandt-st., New York. (Telegrams: "Wenmac, New York.")
Wennstrom, John, Sons Co., jewels for electric instruments, Suffern, N.Y.
Werner, Jacob, electrical engineer & contractor, 201, East 47th st., New York. (Teleph. No. 1393-38th-st.)
West Bend Roller Mills & Electric Light Plant, West Bend, Wis.
West Chester Street Railway Co., West Chester, Pa.
West Chicago Street R. R. Co., West Chicago, Ill.
West Coast Appliance Co., electrical engineers, San Francisco, Cal.
West Electric Co., electrical supplies, 117, Commerce-st., Montgomery, Ala.
West Penn. Electric Co., Connellsville, Pa.
West Penn. Electric Co, Dawson, Pa. (Teleph. No. 25; Tri-State.)
West Penn. Railway Co., Pittsburg, Pa.
West Point Electric Light & Power Co., West Point, Neb.

West Point Water, Light & Power Co., West Point, Va.
West St. Louis Water & Light Co., West St. Louis, Mo.
Westboro Gas & Electric Co., Westboro, Mass.
Westchester Electric R. R. Co., Mount Vernon, N.Y.
Westchester Electrical Equipment Co., installation contractors, Yonkers, N.Y.
Westchester Lighting Co., Mount Vernon, N.Y.
Westchester Lighting Co., Tarrytown, N.Y.
Westchester Traction Co., Croton-ave., Ossining, N.Y.
Westcott, Geo. F., Power Installation Co., 202, Main-st., Buffalo, N.Y.
Westerly Gas & Electric Light Co., Westerly, Rhode Island.
Western Display Co., electric signs, 321, Robert-st., St. Paul, Minn.
Western Electric Co., electric light contractors, Jamestown, N.D.
Western Electric Co., manufacturers of electrical apparatus & supplies, 259, South Clinton-st., Chicago, Ill.; 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York; 1175, South 7th-st., Denver, Col.; 228, West 5th-st., Kansas City, Mo.; & 171, Queen Victoria-st., London, England. (Telegrams: "Electric.")
Western Electric Works, manufacturing electricians, Portland, Ore.
Western Electrical Co., dealers in electrical supplies, Omaha, Neb.
Western Electrical Supply Co., dealers in electrical supplies, Chemical-bldg., St. Louis, Mo.
Western Electrician (weekly; ann. sub., U.S, $3; P.U., $5 = £1 1s.), 507, Marquette-bldg., Chicago, Ill. (Teleph. No. 1746, Main.)
Western Gasfixture Co., makers of electric fixtures, Toledo, Ohio.
Western Ohio Railway Co., Lima, Ohio.
Western Society of Engineers, Electrical Section, 1737, Monadnock-blk., Chicago, Ill. (J. H. Warder, secretary.)
Western Storage Battery Co., manufacturers of storage batteries, Indianapolis, Ind.
Western Surgical Instrument House, manufacturers of physicians' & hospitals' electrical supplies, 52, Dearborn-st., Chicago, Ill.
Western Telephone Manufacturing Co., telephone apparatus makers, 50, West Jackson-boul., Chicago, Ill.
Western Telephone & Telegraph Co., 243, Washington-st., Jersey City, N.J.; & 76th & Wallace-sts., Chicago, Ill.
Western Union Telegraph Co. General office: 195, Broadway, New York.
Western United Gas & Electric Co., Aurora, Ill.
Westfield Municipal Gas & Electric Plant, Westfield, Mass.
Westinghouse, Geo., president Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa., & British Westinghouse Electric & Manufacturing Co., Ltd., London & Manchester.
Westinghouse Air Brake Co., Pittsburg, Pa.
Westinghouse, Church, Kerr & Co., engineers, 10, Bridge-st., New York; & Boston, Mass.
Westinghouse Electric & Manufacturing Co., manufacturing electrical engineers, East Pittsburgh, Pa.; & at New York; Newark, N.J.; Cleveland, Ohio; & Bridgeport, Conn.
Westinghouse Machine Co., builders of steam engines, gas engines, steam turbines, &c., Pittsburgh, Pa. (Telegrams: "Westing, Pittsburgh." Telephone No. 12, Braddock.)
Westinghouse Traction Brake Co., 111, Broadway, New York.
Westmoreland Light, Heat & Power Co., Greensburg, Pa. (Teleph. No. 396, Bell.)
Weston, Edward, SC.D., LL.D., M.AM.I.E.E., electrician & inventor, 645, High-st., Newark, N.J.
Weston Electric Light, Power & Water Co., Weston, West Virginia.
Weston Electrical Instrument Co., manufacturers of electrical measuring instruments & appliances, Waverley Park, Newark, N.J. (Cables: "Weslec, Newark." A.B.C. Code. Long Distance Teleph. No. 1920, Newark.) London Branch: Audrey House, Ely-pl., Holborn, W.C.
Weston, Wm. H., & Co., manufacturers of switches & switch boards, 1309, Buttonwood-st., Philadelphia, Pa.
Westport Water Co., Westport, Conn.
Westwater, J. M. & W., dealers in electric fixtures, 31, North High-st., Columbus, Ohio.
Wetherbee & Whitney, electrical contractors, 112, Franklin-st., Boston, Mass. (Teleph. No. 3109, Main.)
Wetherill & Co., Robt., manufacturers of Corliss engines, Chester, Pa.
Wetmore & Landsing, consulting electrical engineers, 13–21, Park-row, New York.
Wetzler, Jefferson, M.AM.I.E.E., secretary & treasurer, Electrical Engineer Institute of Correspondence, 240, West 23rd-st., New York.
Wetzler, Joseph, M.AM.I.E.E., president, Electrical Engineer Institute of Correspondence Instruction, 240, West 23rd-st., New York.
Weymouth Light & Power Co., East Weymouth, Mass.
Wharton, Wm., jun., & Co., Incorporated, manufacturers of steam & street railway work, 25th-st. & Washington-ave., Philadelphia, Pa. (Telegs.: "Wilwharton, Philadelphia." Teleph. Nos.: 2–45, Locust; & 20–30, Lombard.)

Whatcom County Railway & Light Co., Bellingham, Wash.
Wheeler, Schuyler Skaats, SC.D., PRESIDENT AM.I.E.E., M.AM.S.C.E., M.AM.S.M.E. (President Crocker-Wheeler Co.), Ampere, N.J. (Telegs.: "Eswheel, Ampere." Teleph. Nos. 500, Branch & Brook.)
Wheeler-Green Electric Co., 57–59, St. Paul-st., Rochester, N.Y.
Wheeler, M. B., Electric Co., electrical contractors, 101, North Ottowa-st., Grand Rapids, Mich.
Wheeler Reflector Co., manufacturers of shades & reflectors, 156, Pearl-st., Boston, Mass.
Wheeling Electric Co., Wheeling, W. Va.
Wheeling & Elm Grove Railway, Wheeling, W. Va.
Wheeling Traction Co., Wheeling, W. Va.
Wheelock, C. E., & Co., electrolier manufacturers & fitters, Peoria, Ill.
Whitaker, S. Edgar, A.AM.I.E.E., electrical engineer, 93, Exchange-st., Portland, Maine.
Whitall Electric Co., electrical supplies, Stonington, Conn. (Teleph. No. 75-2.)
White, Chas. G., PH.D., instructor of physics & chemistry, Lake Linden, Mich.
White, Jas. Gilbert, M.I.E.E., M.AM.I.E.E., 43, Exchange-pl., New York.
White, R. M., electrical constructing, machinery & supplies, 35, West Long-st., Columbus, Ohio.
White, Thos. W., electrical engineer, Elizabeth, N.J.
White, W. F., M.AM.I.E.E., electrical engineer & vice-president North American Co., 30, Broad-st, New York.
White City Electric Co., installation contractors, 355, Dearborn-st., Chicago, Ill.
White Dental Manufacturing Co., The S. S., makers of electrical dental appliances, Philadelphia (Telegs.: "White, Philadelphia." Teleph. Nos.: 3269, Bell, Filbert; & 11-10, Keystone, Race), New York, Boston, Chicago, Brooklyn, Atlanta, Rochester, New Orleans, Berlin, Buenos Ayres, & Toronto, Canada.
White Electric Co., electrical contractors, 166, Allen-st., Buffalo, N.Y.
White, H. P., Co., Ltd., manufacturers of electric switches, Wayne Junction, Philadelphia, Pa.
White, J. G., & Co., Incorporated, engineers & contractors, 43-49, Exchange-pl., New York. (Telegrams: "Whitemoth, New York.")
White & Middleton Gas Engine Co., makers of the White-Middleton gas engine, Baltimore, Md.
White, O. C., Co., manufacturers of adjustable fixtures for incandescent lamps, Worcester, Mass. (Telegs.: "Adjustable, Worcester." Lieber's, Directory & Western Union Codes used. Long Distance Teleph. Connections.)
White, R. M., Electric Co., installation contractors, Columbus, Ohio.
White Star Appliance Co., electrical specialties, 1330–1332, Kenmore-ave., Buffalo, N.Y.
White-Good Steel Co., steel for permanent magnets, 1143, Monadnock-bldg., Chicago, Ill.
Whitehall Electric Co., installation contractors, 32, Park-pl., New York.
Whitehead, J. B., PH.D., A.AM.I.E.E., associate professor of applied electricity, John Hopkins University Baltimore, Md.
Whitehead, J. T., electrical contractor, 1009, 6th-ave., New York, N.Y. (Telephone No. 1140, Columbus.)
Whitehead Machinery Co., machinery merchants & agents, Davenport, Iowa. (Telegs.: "Whitehead, Davenport." Long Distance Teleph. No. 637.)
Whiteley, Alfred, electrical contractor, 52 & 54, John-st., New York.
Whitewater Electric Light Co., Whitewater, Wis.
Whiting, S. E., A.AM.I.E.E., instructor in electrical engineering, Harvard University, Cambridge, Mass.
Whitlock Coil Pipe Co., The, feed water heater, Hartford, Conn.
Whitlock, O. S., & Co., manufacturers of electrical jewels, 243, Watchung-ave., West Orange, N.J.
Whitlow Corporation, electric house & mill work, 158, Purchase-st., New Bedford, Mass. (Telephone No. 526-4.)
Whitlow, S. & S., installation contractors, Taunton, Mass.
Whitmore, A. E., electric light & telephone poles, 230, Lumber Exchange, Minneapolis, Minn.
Whitner, William C., electrical & hydraulic engineer, Richmond, Va.; & Rock Hill, S.C.
Whitney, C. E., A.AM.I.E.E., electrical & mechanical engineer, 123, Liberty-st., New York.
Whitney, L. A., electrical contractor, 65, 5th-ave., New York. (Telephone No. 6037, Gramercy.)
Whitney, A. R., Jun., & Co., electrical & consulting engineers, 135, Broadway, New York.
Whitney, B. S., & Co., manufacturers of Babbitt metal for dynamo & motor bearings, 113, North 4th-st., Troy, N.Y.
Whitney Electrical Instrument Co., makers of electric measuring instruments. Head office: 203, Broadway, New York. (Telegrams: "Weeco, New York." Lieber & A1 Codes.) Factories: Penacook, N.H.; & Sherbrooke, Quebec. (Telegrams: "Volta, Concord, N.H.")
Whitney Glass Works, manufacturers of battery jars, 227, South Front-st., Philadelphia, Pa.
Whitson, W. P., installation contractor, Bloomington, Ind.
Whittemore, Geo. H., electrical contractor, Milford, Mass.
Whittemore, G. W., A.AM.I.E.E., engineer, Bell Telephone Co., 24, West Seneca-st., Buffalo, N.Y.
Whittier Machine Co., electric elevators, Boston, Mass.
Whitton & Eichman, electrical contractors, 661, 6th-ave., New York.
Wichita Gas, Electric Light & Power Co., Wichita, Kan.

Wichita Railway & Light Co., Wichita, Kan.
Wickes Brothers, buyers of & dealers in second-hand electrical plant, 137, Liberty-st., New York.
Wickum, John A. S., installation contractor, 34, South Clark-st., Chicago, Ill.
Widdicombe, R. A., A.M.I.E.E., 55, Erie-st., Chicago, Ill.
Wiegand, Henry H., electrical engineer, 1011, Madison-ave., Baltimore, Md. (Telegs.: "Wiegand, Baltimore." Teleph. No. Mt. Vernon, 6382–M.)
Wiener, Alfred E., M.AM.I.E.E., electrical engineer, 209, Stratford-rd., Brooklyn, N.Y.
Wightman, Merle J., M.AM.I.E.E., electrical engineer, 302, Broadway, New York.
Wightman, W. S., installation contractor, Jacksonville, Fla.
Wilcox, L. M., electrical contractor, 219, Market-st., Newark, N.J.
Wilcox, N. T., M.AM.I.E E., manager Lowell Electric Light Corporation, Lowell, Mass.
Wildman, L. D., A.AM.I.E.E., Captain U.S. Signal Corps, San Francisco, Cal.
Wiley, Geo. Lourie, A.AM.I.E.E., manager Standard Underground Cable Co., 56, Liberty-st., New York.
Wiley, W. H., A.AM.I.E.E., scientific expert, 43, East 19th-st., New York, N.Y.
Wiley, John, & Sons, publishers of electrical & scientific books, 43, East 19th-st., New York.
Wiley & Russell Manufacturing Co., screw plate, stock, die & tap makers, Greenfield, Mass., U.S.A.
Wilhelm, W. L., electrical contractor, York, Pa.
Wilhelm, H., Battery Co., dry batteries, 70, Frost-st., Brooklyn, N.Y.
Wilhelm Telephone Manufacturing Co., telephone & switchboard makers & dealers in electrical supplies, 45, North Division-st., Buffalo, N.Y.
Wilkening, S., electrician, 751, Amsterdam-ave., New York.
Wilkesbarre Gas & Electric Co., Wilkesbarre, Pa.
Wilkes Barre & Wyoming Valley Traction Co., Wilkes Barre, Pa.
Wilkes & Co., installation contractors, 435, 17th-st., Denver, Col.
Wilkinson, A. J., & Co., dealers in electrical supplies, 180, Washington-st., Boston, Mass.
Wilkinson, Jas., & Co., electrical contractors, 51, Franklin-st., Boston, Mass.
Will & Finck Co., electrical contractors, 818–820, Market-st., San Francisco, Cal. (Telegrams: "Willfinck, San Francisco." Telephone No. 1905, Main.)
Willard, E. K., installation contractor, Nantasket, Mass.
Willard, L. M., electrical contractor, Keene, N.H. (Teleph. No. 217–11, 156–3.)
Willard Storage Battery Co., manufacturers of the Willard storage battery, Cleveland, Ohio.
Williams, Arthur, M.AM.I.E.E., general inspector, The New York Edison Co., 55, Duane-st., New York. (Teleph. No. 5100, Franklyn.)
Williams, Ch., jun., A.AM.I.E.E., electrician, 1, Arlington-st., East Somerville, Mass.
Williams, John T., constructing engineer, 27, William-st., New York.
Williams, Jos., electrical contractor, 104, North James-st., Ludington, Mich.
Williams, P. G., manufacturer of electro-medical batteries, 6, Barclay-st., New York. (Telegrams: "Dialbatery, New York.")
Williams, Roger, electric heating apparatus, 25, West 42nd-st., New York City.
Williams, Stephen T., installation contractor, 346, Broadway, New York.
Williams, W. H., A.AM.I.E.E., professor of electrical engineering, University of Illinois, Urbana, Ill.
Williams, C. H., Electric Co., electrical engineers, 908, Monroe-st., Toledo, Ohio.
Williams, E. A., & Son, tempered copper castings & commutator bars, 105, Plymouth-st., Jersey City, N.J.
Williams, E. G., Electric Works, dealers in supplies, 145, Quincy-st., Cleveland, Ohio.
Williams & Gerstto, installation contractors, 44th-st. & 1st-ave., New York.
Williams Telephone & Supply Co., telephone apparatus makers, Cleveland, Ohio.
Williams Valley Light, Heat & Power Co., Lykens, Pa.
Williams-Abbott Electric Co., telephone apparatus makers, 1800, East Madison-ave., Cleveland, Ohio.
Williamson, F. Stuart, consulting engineer, 648, West 149th-st., New York.
Williamson & Cassidy, belting, packing & supplies, 526, Market-st., Philadelphia, Pa.
Williamson, R., & Co., electrical & gas fixtures, 52, Lake-st., Chicago, Ill.
Williamsport Electric Co., dealers in electrical supplies, Williamsport, Pa.
Williamsport Pass Railway Co., Williamsport, Pa.
Williamsport Wooden Pipe Co., underground conduits & culverts, Williamsport, Pa.
Willimantic Gas & Electric Light Co., Willimantic, Conn.
Willing & Yetts, electrical contractors, 153, West 16th-st., New York.
Willis, E. J., M.AM.I.E.E., president Richmond Electric Co., P.O. Box 164, Richmond, Va.
Willmar Electric Light & Water Works, Willmar, Minn.
Willows Water & Light Co., Willows, Cal.
Willyoung, E. G., M.AM.I.E.E., 40, West 13th-st., New York.
Wilmarth, T. W., Co., manufacturers of electric light fixtures, &c., 261, Wabash-ave., Chicago, Ill. (Telephone No. 3362, Harrison.)
Wilmerding, C. H., M.AM.I.E.E., consulting electrical engineer, 1100, Old Colony-bldg., Chicago, Ill.

Wilmington Fibre Specialty Co., insulating material manufacturers, Wilmington, Del.
Wilmington, Newcastle & Southern Railway Co., Newcastle, Del.
Wilson, A. R., dealer in electrical supplies, 30, Arsenal-st., Watertown, N.Y.
Wilson, Charles H., electrical contractor, 53, State-st., Boston, Mass.
Wilson, Charles H., M.AM.I.E.E., general superintendent American Telephone & Telegraph Co., 15, Dey-st., New York.
Wilson, Fremont, M.AM.I.E.E., consulting electrician, 1, Madison-ave., New York.
Wilson, Howard S., M.AM.I.E.E., 1215, West Fayette-st., Baltimore, Md.
Wilson, John J., electrical contractor, 2511, Gilbert-ave., Cincinnati, Ohio.
Wilson, Leonard, A.M.I.E.E., 5, South Church-st., Schenectady, N.Y.
Wilson, Robert Lee, A.AM.I.E.E., superintendent of construction, Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.
Wilson, G. D., Electrical Construction Co., installation contractors, 318, Dearborn-st., Chicago, Ill.
Wilson & Smith, armature discs, iron & steel manufacturers & merchants, 38, Vine-st., Worcester, Mass.
Wilson Trolley Catcher Co., 200, Summer-st., Boston, Mass.
Wilton Junction City Electric Light & Water Plant, Wilton Junction, Iowa.
Winamac City Water & Electric Light Plant, Winamac, Ind.
Winche, A. O., installation contractor, 1400, West Madison-st., Chicago, Ill.
Winchester, A. E., M.AM.I.E.E., designer of steam & electric plants, South Norwalk, Conn. (Telegrams: "Winchester, South Norwalk." Telephone No. 62.)
Winchester Gas & Electric Light Co., Winchester, Va.
Winchester Railway, Light & Ice Co., Winchester, Ky.
Winchester Town Electric Light Plant, Winchester, Tenn.
Windle, R. T., Electrical Works, electrical contractors, 867, 8th-ave., New York.
Windsor Locks Electric Lighting Co., Windsor Locks, Conn.
Wing, L. J., Manufacturing Co., Incorp., manufacturers of fans, motors, &c., 136, Liberty-st., New York. (Telegrams: "Discfan, New York." Telephone No. 2368, Cort.)
Wingard, C. L., electrical supplies, Walla Walla, Wash. (Teleph. No. 897, Main.)
Wingate & Brooks, electrical contractors, 53, Public-sq., Cleveland, Ohio.
Wingrave & McNaughton, dealers in electrical fixtures, 180, Wabash-ave., Chicago, Ill.
Winnebago Traction Co., Oshkosh, Wis.
Winona Railway & Light Co., Winona, Minn.
Winslow, George Herbert, M.AM.I.E.E., electrical engineer, National Tube Co., 1718, Frick-bldg., Pittsburg, Pa. (Long Distance Teleph. No. 1464, Court.)
Winston Electric Construction Co., electrical contractors, 6, North 9th-st., Richmond, Va.
Winters Electric Co., installation contractors, Toledo, Ohio.
Winterset City Electric Light Plant, Winterset, Iowa.
Winthrop Manufacturing Co., electrolier manufacturers, 227, Tremont-st., Boston, Mass.
Wintringham, J. P., A.AM.I.E.E., electrical theorist, 35, Wall-st., New York. (Telegrams: "Atlantic-Scrip, New York." Telephone No. 5870, Broad.)
Wire & Telephone Co. of America, Rome, N.Y.
Wirsching, A., & Sons, makers of printing telegraphs & appliances, 61, Duane-st., New York.
Wirt, Charles, consulting electrical engineer, 44, North 7th-st., Philadelphia, Pa.
Wirt, Herbert C., A.AM.I.E.E., engineer, Supply Department, General Electric Co., Schenectady, N.Y.
Wirt Electric Co., rheostats, controllers, dimmers & dynamo brushes, Philadelphia, Pa. (Telegs.: "Frieswirt, Philadelphia." Teleph. Nos.: 685, Keystone Park; & 4724, Bell Jioga.)
Wisconsin Bridge & Iron Co., manufacturers of poles, brackets, &c., for electric railways, Milwaukee, Wis.
Wisconsin Electrical Construction Co., electrical engineers & contractors, 460, Broadway, Milwaukee, Wis.
Wisconsin Engine Co., makers of all types of Corliss steam engines, Corliss, Wis.
Wisconsin Telephone Co., Milwaukee, Wis.
Wisconsin University, Madison, Wis. For professors, *see* SCHOOLS.
Witherbee Igniter Co., storage batteries, 541, West 43rd-st., New York.
Wittman, G. J., electrical engineer, 120, Water-st., Newburgh, N.Y. (Teleph. No. 269.)
Wittman, Lyman & Co., installation contractors, 331, Grant-ave., San Francisco, Cal.
Wocher, Max, & Son, electro-medical apparatus, 21–23, West 6th-st., Cincinnati, Ohio.
Woehrle, George, & Son, electrical engineers, 2115, 3rd-ave., New York.
Woelfle, Julius E., electrical contractor, 204, East 85th-st., New York.
Wolcott, T., M.AM.I.E.E., electrical engineer, 39, Whitehall-st., New York. (Telephone No. 321f, Broad.)
Wolever Electric Co., installation contractors, Lafayette, Ind.
Wolf Electrical Promoting Co., manufacturers of electric cloth-cutting machines, Cincinnati, Ohio.
Wolfe, Frank F., manufacturing electrician, Evansville, Ind.
Wolfe Lovett Electrical Co., contractors & dealers in electrical supplies, Omaha, Neb.

Wolff, A. R., consulting electrical engineer, 130, Fulton-st., New York.
Wolff, F. A., A.AM.I.E.E., professor of physics & electrical engineering, Columbian University, Washington, D.C.
Wolverine Electric Co., Ltd., electrical contractors & dealers in fixtures, 137, Grand River-ave., Detroit, Mich. (Teleph. No. 4250, Main.)
Wolverton, B. C., M.AM.I.E.E., engineer, N.Y. & Pa. Telephone & Telegraph Co., Syracuse, N.Y.
Wood, George R., consulting electrical engineer, Fulton Bank-bldg., Pittsburg, Pa.
Wood, Harry, installation contractor, Anacapa & Cata-sts., Santa Barbara, Cal.
Wood, Harry I., electrical supplies & construction, 518-520, West Main-st., Louisville, Ky. (Telephone No. 2681, Cum., Main & Home.)
Wood, Harry U., dealer in electrical supplies, electrical installations, 304, Kinsey-st., Richmond, Ind. (Telephone Nos.: 1543, Home; & 1 on 472, Bell.)
Wood, J. J., electrician & factory manager, Fort Wayne Electric Works, Fort Wayne, Ind. (Telegrams: "Woodare, Fort Wayne." A.B.C. & A1 Codes. Telephone No. 57.)
Wood, Chas. V., Electric Co., manufacturing electricians, 246, Summer-st., Boston, Mass.
Woodbourne Electric Light, Heat & Power Co., Sussex, N.J.
Woodill & Hulse Electric Co., electrical contracting & supplies, Los Angeles, Cal.
Woodman, Durand, PH.D., analytical, technical & consulting chemist, 80, Beaver-st., New York, N.Y. (Telegrams: "Durwood, New York." Telephone No. 1413, Broad.)
Woods Electric Co., dealers in electrical supplies, Houston, Tex.
Woods Motor Vehicle Co., motor carriages, 110, East 20th-st., Chicago, Ill.
Woodstock Electric Co., Woodstock, Vt.
Woodsum, H. E., installation contractor, New Orleans, La.
Woodsville Aqueduct Co., electric light & power contractors, Woodsville, N.H.
Woodward, J. E., electrical engineer, Treasury Department, Washington, D.C.
Woodward, J. H., M.D., professor of electro-therapeutics, Cotner University, Seward, Neb.
Woodward, Wm. C., M.AM.I.E.E., electrical engineer, Narragansett Electric Lighting Co., Providence, R.I.
Woodward Governor Co., makers of water-wheel governors, Rockford, Ill.
Woodworth, P. B., A.AM.I.E.E., professor of electrical engineering, Lewis Institute, Chicago, Ill.
Woolf, A. E., A.AM.I.E.E., electrician & inventor, 832, West End-ave., New York.
Woolley, J. C., & Co. (Woolley Hardware Co.), dealers in electrical supplies, 44, Asylum-st., Hartford, Conn.
Woolverton, G. C., manufacturing electrician, 442, Niagara-st., Buffalo, N.Y.
Woonsocket Electric Machine & Power Co., Woonsocket, R.I.
Woonsocket Street Railway Co., Woonsocket, R.I.
Wooster Electric Co., Wooster, Ohio.
Worcester & Blackstone Valley Street Railway Co., Worcester, Mass.
Worcester, C. H., & Co., manufacturers of cedar poles & ties, Marinette, Wis.
Worcester Consolidated Street Railway Co., 15, Market-st., Worcester, Mass.
Worcester Electric Contracting Co., installation contractors, 268, Main-st., Worcester, Mass. (Teleph. No. 2496.)
Worcester Electric Light Co., 66, Faraday-st., Worcester, Mass.
Worcester Electric Manufacturing Co., Worcester, Mass.
Worcester Railways & Investment Co., Worcester, Mass.
Worcester & Southbridge Street Railway Co., Worcester, Mass.
Woronoco Street Railway Co., Westfield, Mass. (Teleph. No. 60.)
Worrall & Sechrist, installation contractors, Lippincott-bldg., Philadelphia, Pa. (Teleph. Nos.: 5210, Bell-Walnut; & 46-29A, Keystone Race.)
Worrell Electric Co., installation contractors, 641, Arch-st., Philadelphia, Pa.
Worstall, A. M., & Co., electrical engineers, 702, Witherspoon-bldg., Philadelphia, Pa.
Worthington, Geo., Co., electrical apparatus dealers, 814-832, St. Clair-ave., Cleveland, Ohio.
Wortley Electric Motor Co., installation contractors, 150, Nassau-st., New York.
Wotton, James A., M.AM.I.E.E., electrician, Southern Bell Telephone & Telegraph Co., P.O. Box 21, Atlanta, Ga.
Wray, J. Glen, A.AM.I.E.E., chief engineer, Chicago Telephone Co., 203, Washington-st., Chicago, Ill.
Wright, Don E., installation contractor, Evanston, Ill.
Wright, Hubert H., electrical engineer & dealer in electrical supplies, Cambridge, Md.
Wright, M. L., dealer in electrical supplies, 614, 2nd-ave., Seattle, Wash.
Wright, Peter, M.AM.I.E.E., president, Virginia Electric Co., Norfolk, Va. (Telephone No. 267.)
Wurts, Alexander Jay, M.AM.I.E.E., professor of applied electricity, Carnegie Technical Institute, Pittsburg, Pa.
Wyman, Arthur L., installation contractor, 545, McClintock-ave., Allegheny, Pa. (Teleph. Nos.: 1100, Cedar; 600, North.)
Wyoming Electrical Co., installation contractors, Cheyenne, Wyo.

Yankton General Electric Co., Yankton, South Dakota.
Yaryan Construction Co., installation contractors, 204, Dearborn-st., Chicago, Ill.
Yates Electric Light & Power Co., Penn Yan, N.Y.
Yazoo City Light, Water & Sewerage Plant, Yazoo, Miss.
Yesbera Manufacturing Co., makers of telephone boothes, Toledo, Ohio.
Yoakum Improvement Co., Yoakum, Tex.
Yoest, J. Z., electrical contractor, 4721, Liberty-ave., Pittsburg, Pa.
Yonkers Electric Light & Power Co., Yonkers, N.Y.
Yonkers Railroad Co., Yonkers, N.Y.
Yonkers Specialty Co., manufacturers of telephone specialties, Yonkers, N.Y.
York & Boothby, electrical contractors, 215, Federal-st., Portland, Maine.
York County Traction Co., York, Pa.
York Light & Heat Co., Biddeford, Maine.
York Light & Power Co., York, Neb.
York Electric & Machine Co., manufacturing electricians, York, Pa.
Yost Electric Manufacturing Co., manufacturing electricians, Toledo, Ohio.
Young, A. B., manufacturer of switch bases & slate for switchboards, &c., Fair Haven, Vt.
Young, C. G., M.AM.I.E.E., A.S.C.E., electrical engineer, J. G. White & Co., 43, Exchange-pl., New York.
Young, Walter Douglass, B.S., M.AM.I.E.E., electrical engineer, B. & O. R. R., Roland Park, Baltimore, Md.
Youngstown Gas & Electric Co., Youngstown, Ohio.
Youngstown Park & Falls Street Railway Co., Youngstown, Ohio.
Youngstown Sharon Railway & Light Co., Youngstown, Ohio.
Yount Electric Co., installation contractors, 612, Main-st., Cincinnati, Ohio.
Yuma Water & Light Co., Yuma, Ariz.

Zalinski, E. L., M.AM.I.E.E., consulting engineer, 201, East 16th-st., New York.
Zamoiski, Jos. M., electrical contractor & supplies, 409, West Lexington-st., Baltimore, Md.
Zanesville Railway, Light & Power Co., Zanesville, Ohio.
Zenker, Fred. A., electrical engineer, 139, East 113th-st., New York.
Zerbe, J. S. & A. J., consulting electrical engineers, 11, Broadway, New York. (Telegs.: "Zerbinia, New York.")
Zero Marx Sign Works, electric signs, 160, East Superior-st., Chicago, Ill.
Ziegler Electric Co., manufacturers of & dealers in electrical & scientific instruments, 141, Franklin-st., Boston, Mass.
Ziegler Marx Co., installation contractors, New Orleans, La.
Zimmerly, F. J., & Co., dealers in electrical supplies, 1025, Calhoun-st., Fort Wayne, Ind. (Teleph. No. 207.)
Zimmerman, L. J., consulting electrical engineer, 106, Centre-st., New York.
Zimmerman, Wm., specialist in electric patent law, Room 1000, 143, Dearborn-st., Chicago, Ill. (Telegrams: "Zimmerman, Chicago." Telephone Nos.: 4985, Central; & 3984, Automatic.)
Zinsser & Co., dealers in insulating varnishes, 197, William-st., New York, N.Y.
Zolinsky, N., electrician, 114, West 135th-st., New York.
Zoller & Craighead, installation contractors, Richmond, Ind.
Zucker, Levett, & Loeb Co., manufacturers of chemicals for electrical purposes, 526, West 25th-st., New York.

UNITED STATES OF AMERICA,

CLASSIFIED SECTION.

Accessories Manufacturers—Electric.

F.—Accessoires pour l'élec.—Fab.
G.—Zubehöre—elek.—Fabr. von.

Accumulators—Makers of.

F.—Accumulateurs d'électricité—Fab. de.
G.—Elektrische Accumulatoren—Fabr. von.

Battery Power Co., Milwaukee, Wis.
Electric Storage Battery Co., 19th-st. & Allegheny-ave., Philadelphia, Pa.
Franklin Electric Co., 28, Market-st., New York.
General Storage Battery Co., 42, Broadway, New York.
Hatch Accumulator Co., 60, State-st., Boston, Mass.
Michigan Storage Battery Co., Detroit, Mich.
Royal Battery Co., 143, Chambers-st., New York.
Tray Plate Battery Co., 5, Frederick-st., Binghampton, N.Y.
Universal Electric Storage Battery Co., 1307, Stock Exchange-bldg., Chicago, Ill.

Agents—Electrical.

F.—Agents d'électricité.
G.—Agenten—Elektr.

Bangs, Chas. R., A.AM.I.E.E., American Telephone & Telegraph Co., 15, Dey-st., New York.
Bedford, A., 43, Milk-st., Boston, Mass.
Blackall, Frederick S., Crocker-Wheeler Co., P.O. Box 267, New York.
Corey, R. B., 39, Cortlandt-st., New York.
Giles, A. F., Empire-bldg., Atlanta, Iowa.
Knox, Chas. A., 210, Pearl-st., Hartford, Conn.
Machado & Roller, 203, Broadway, New York.
Martin, John, 33, New Montgomery-st., San Francisco, Cal.
Schoonmaker, A. G., Co., 143, Liberty-st., New York.
Searles, A. M., 1315, Old Colony-bldg., Chicago, Ill.
Whitman & Couch, 192–202, Sumner-st., Boston, Mass.
Young, W. W., 26, Cortlandt-st., New York.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.

F.—Avertisseurs électriques—voleurs, incendie, navires, trains, &c.
G.—Elektrische Alarm-Apparate—Dieb, Feuer, Schiff, Eisenbahn u. s. w.

American Watchman Time Detector Co., 234, 235, Broadway, New York.
Bankers Electric Protection Co., Chicago, Ill.
Boston Automatic Fire Alarm Co., 104, Milk-st., Boston, Mass.
Chicago Electric Protective Co., 151, 5th-ave., Chicago, Ill.
Copenhagen Automatic Fire Alarm Co., Sheboygan, Wis.
Darche Electric Works, 12, West 13th-street, Chicago, Ill.
Gamewell Auxiliary Fire Alarm Co., 178, Devonshire-st., Boston, Mass.
Ghegan Manufacturing Co., 210, Garside-st., Newark, N.J.
Hall, William, 14, West 2nd-st., Dayton, Ohio.
Jakobson, M., & Co., 1125, Lexington-ave., New York.
Kells, C. E., jun., Medical-bldg., New Orleans, Louisiana.
Kelly, John E., 429, Spruce-st., Camden, N.J.
McGunnigle, P., & Son, New York.
Michigan Auxiliary Fire Alarm Co., 41, Telephone-bldg., Detroit, Mich.
National Fire Appliance Co., 161, Franklin-st., Boston, Mass.
Police Telephone & Signal Co., Chicago, Ill.
Rousseau, David, 310, Mott-ave., New York.
Utica Fire Alarm Telegraph Co., 106, Liberty-street, Utica, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Alternate Current Motors.

E.—Moteurs pour courant alternatif.
G.—Wechselstrom-Motoren.

Aluminium Manufacturers & Merchants.

F.—Aluminium—Fab. et March. d'.
G.—Aluminium—Fab. & Händler von.

Pittsburgh Reduction Co., 522, Smith-blk., Pittsburgh, Pa.

Ammeters—Makers of.

F.—Ampèremètres—Fab. d'.
G.—Ammeter—Fab. von.

Robert Instrument Co., 56, Shelby-st., Detroit, Mich.
Talmont Electric Engineering Co., 88-90, Centre-st., New York.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.
Whitney Electrical Instrument Co., Penacook, N.H.; & Sherbrooke, Quebec.

Ammonia Manufacturers.

F.—Ammoniaque—Fab. d'.
G.—Ammonia—Fab. von.

Klipstein, A., & Co., 122, Pearl-st., New York.

Annunciators—Makers of.

F.—Tables indicateurs—Fab. de.
G.—Anzeiger—Fab. von.

Heath Electric Co., 336, Grand River-ave., Detroit, Mich.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Annunciators (Electric)—Makers of.

F.—Tables indicateurs électriques—Fab. de.
G.—Anzeiger (Electr.)—Fab. von.

Carl Electric Co., Akron, Ohio.
Holtzer-Cabot Electric Co., The, Boston, Brookline, Mass. (Telegs.: "Holtzer, Boston.")
Moon Manufacturing Co., 49, South Canal-st., Chicago, Ill.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Anti-Friction Metal.

F.—Metal Anti-Friction.
G.—"Anti-Friction"-Metall Fabrikanten.

Graphite Lubricating Co., Bound Brook, New Jersey.

Anti-Induction Cables—Makers of.

F.—Cables Anti-Inducteurs—Fab. de.
G.—Anti-Inductions Kabel—Fab. von.

Standard Underground Cable Co., Westinghouse-bldg., Pittsburg, Pa.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Apparatus for Lighting Gas—Electric.

F.—Appareils électriques pour allumer le gaz.
G.—Apparate zum Anzünden des Gases—Elektrische.

Igniter Appliance Co., Cleveland, Ohio.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Apparatus Makers—Electrical.

F.—Appareils électr.—fab. d'.
G.—Apparate Elektr.—Fab. von.

Archer & Pancoast Co., 12, East 33rd-st., New York.
Baillard, E. V., Fox-bldg., New York.
Barnes, W. F. & Jno., Co., Rockford, Ill.
Blasier, M. E., & Co., 9, Charlotte-st., Utica, New York.
Bliss, E. W., Co., 12, Adams-st., Brooklyn, New York.
Bogue, Chas. J., Electric Co., 213, Centre-st., New York.
California Gas Fixture Co., 515-519, Mission-st., San Francisco, Cal.
Central Electric Heating Co., 617-620, Havemeyer-building, 26-28, Cortlandt-st., New York.
Cope, T. J., 8, North 6th-st., Philadelphia, Pennsylvania.
Crown Electric Manufacturing Co., Bridgeport, Conn.; & at 18, Cortlandt-st., New York.
Doyle, John, 14, Ann-st., New York.
Dressler, Charles E., & Co., 143-147, East 23rd-st., New York.
Electric Experimental & Developing Co., 44, Broad-st., New York.
Electric Selector & Signal Co., 72, Trinity-pl., New York, N.Y.
Electrical Equipment Co., Wheldon-blk., Pittsfield, Mass.
Fuller, Seth W., Co., 185, Devonshire-st., Boston, Mass.
Fuller Co., The, cor. Russell-st. & Grand Boulevard, Detroit, Mich.
Graton & Knight Manufacturing Co., Worcester, Mass.

Apparatus Makers—Electrical—*continued.*

Greiner, Emil, Co., 45, Cliff-st., New York.
Harvard Electric Co., 60, West Van Buren-st., Chicago, Ill.
Hollings, R., & Co., 39, Bedford-st., Boston, Mass.
Klein, Mathias & Sons, 87 & 89, West Van Buren-st., Chicago, Ill.
Knott, L. E., Apparatus Co., Boston, Mass.
Long Arm System Co., Cleveland, Ohio.
McCarthy Bros. & Ford, 41, East Eagle-bldg., 45, North Division-st., Buffalo, N.Y.
McEvoy Electric Construction & Supply Co., Jersey City, N.J.
McKibbin, G. N., Manufacturing Co., Day-st., South Norwalk, Conn.
Manion & Co., New Orleans, La.
Maryland Mfg. & Construction Co., 340, North-st., Baltimore, Md.
Menominee Electric Manufacturing Co., Menominee, Mich.
Miamisburg Electric Co., Miamisburg, Ohio.
Oelschlaeger Bros., 42, East 23rd-st., New York.
Pacific Electric Co., 125, Main-st., La Cross, Wis.
Porter, Stephen, & Co., 384, Atlantic-ave., Boston, Mass.
Rich, C. F., & Co., Telephone-bldg., Detroit, Mich.
Ridlon, Frank, & Co., 180, Summer-st., Boston, Mass.
Robinson Co. (Incorporated), 315, Dearborn-st., Chicago, Ill.
Rose Electric Co., 202, South 3rd-st., St. Louis, Mo.
Shaw Electrical Co., 632, Arch-st., Philadelphia, Pa.
Stanley, G. I., Electric Manufacturing Co., Pittsfield, Mass.
Technic Electrical Works, 214–218, New-st., Philadelphia, Pa.
Ulary, W. A., 4176, Germantown-ave., Philadelphia, Pa.
Unique Art Glass & Metal Co., Brooklyn, New York.
United States Headlight Co., Buffalo, N.Y.
Universal Electrical Works, 673, Mission-st., San Francisco, Cal.
Western Electric Co., 259, South Clinton-st., Chicago, Ill. (Telegrams: "Electric, Chicago"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Arc Lamp Fittings.

F.—Accessoires pour lampes à Arc.
G.—Bogenlampen Einrichtungen.

Ajax Line Material Co., 12 & 14, South Jefferson-st., Chicago, Ill.

Arc Lamp Manufacturers—Electric.

F.—Lampes électriques à Arc—Fab. de.
G.—Bogen Lampen—Elektrische.

Anderson Tool Co., Anderson, Ind.
Beck Flaming Lamp Co., 58, West 15th-st., New York.
Brooklyn Electric & Novelty Lamp Co., 278, Fulton-st., Brooklyn, N.Y.
Colt, J. B., & Co., 23, Barclay-st., New York.
Electric Construction & Supply Co., 27, Thames-st., New York, N.Y.
Excello Arc Lamp Co., The, 24, East 21st-st, New York.
Fox, A. W., 83, Schermerhorn-st., Brooklyn, New York.
Hamburger, Felix, 78, 5th-ave., New York.
Jandus Electric Co., Cleveland, Ohio.
Kester Arc Lamp & Manufacturing Co., Chicago, Ill.
Osborn Mfg. Co., Cleveland, Ohio.
Standard Electric Co., 111–113, West 3rd-st., Cincinnati, Ohio.
Suffolk Electric Mfg. Co., Boston, Mass.
Toerring, C. J., Co., Warden Power-bldg., 19th & Allegheny-ave., Philadelphia, Pa.
Turbayne Electric Specialty Co., 66, E. Fort-st., Detroit, Mich.
Union Brass Manufacturing Co., The, 123–127, Ontario-st., Chicago, Ill.
Warner, W. F., Muncie, Ind.
Warner Arc Lamp Co., Muncie, Ind.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Asbestos Manufacturers & Merchants.

F.—Amiante—Fab. et March. d'.
G.—Asbest—Fabrikanten und Händler.

Johns-Manville, H. W., Co., 100, William-st., New York, N.Y.
Keasbey, Robt. A., 54, Warren-st., New York.
New Jersey Asbestos Co., 52, Dey-st., New York.

Assayers.

F.—Essayeurs.
G.—Anrichter.

Automatic Electric Signalling Apparatus —Makers of.

F.—Appareils électr. de signaux automat—Fab. d'.
G.—Automatische Elektr. Signal Apparate—Fab. von.

General Railway Signal Co., 1738–1756, Elmwood-ave., Buffalo, N.Y.
Gill-Alexander Electric Manufacturing Co., 213, East 15th-st., Kansas City, Mo.

Automatic Electric Signalling Apparatus —Makers of—*continued.*

Jordan Automatic Signal Co., Inc., 74, Beekman-st, New York.
National Electric Signaling Co., 8th & Water-sts., Washington, D.C.
U.S. Electric Signal Co., 20, Westwood-st., West Newton, Mass.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Automatic Regulators—Makers of.

F.—Régulateurs autom.—Fab. de.
G.—Automatische Regulatoren—Fab. von.

Balance (Induction)—Makers of.

F.—Balance (Induction)—Fab. de.
G.—Waagen Fabrikanten (Induction).

Bowsher, N. P., Co., South Bend, Ind.
D'Este, Julian, & Co., 24, Canal-st., Boston, Mass.

Batteries—Dry.

F.—Piles—Sèches.
G.—Batterien—Trockene.

Delta Manufacturing Co., Bloomfield, N.J.
Dow Portable Electric Co., 218, Formont-st., Boston, Mass.
Empire State Dry Battery Co., 55, Dey-st., New York.
Hard, J. Randolph, 2 & 4, Howard-st., New York, N.Y.
Howard Electric Novelty Co., Incorp., 224, West 43rd-st., New York.
Improved Dry Battery Co., 82, Center-st., New York.
Montreal Dry Battery Co., Montreal, Canada.
North American Electric Co., Chicago, Ill.
Nungesser Electric Battery Co., Cleveland, Ohio.
Pacific Carbon & Battery Co., San Francisco, Cal.
Pile Bloc Co., The, 253, Broadway, New York.
Roche, Wm., 52, Park-pl., New York City, N.Y.
Semi-Dry Battery Co., Harrison (Newark), N.J.
Strobel & Wilkin Co., 591, Broadway, New York, N.Y.
Wilhelm, H., Battery Co., 70, Frost-st., Brooklyn, N.Y.

Batteries—Galvanic.

F.—Piles galvaniques—Fab. de.
G.—Batterien—Galvanische.

Bradbury-Stone Electric Storage Co., 5, 7, & 9, Grand-street, Lowell, Mass.
Edison Manufacturing Co., 31, Union-sq., New York.

Batteries—Galvanic—*continued.*

Glass, Dr. James, 1210, Gilbert-street, Philadelphia, Pa.
Hirlemann, Chas. J., 17, Laight-st., New York, N.Y.
Ingersoll-Sergeant Drill Co., 11, Broadway, New York.
Law Battery Co., Cranford, N.J.
Leclanche Battery Co., 111-117, East 131st-st. New York, N.Y.
Lee Co., J. Ellwood, Conshohocken, Pa.
McIntosh Battery & Optical Co., 39 & 41, West Randolph-st., Chicago, Ill.
Pine, D. J., 10, North 17th-st., St. Louis, Mo.
Rendrock Powder Co., 23, Park-place, New York, N.Y.
River & Rail Electric Light Co., 45, Broadway, New York, N.Y.
S. S. White Dental Co., Philadelphia, Pa.; New York, N.Y.; Boston, Mass.; Chicago, Ill.; Brooklyn, N.Y.; & Atlanta, Ga.
Scheenberg, R. A., & Co., 344, Columbus-ave., New York, N.Y.
Stien, August K., 149, Rhine-st., Chicago, Illinois.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.
Williams, P. G., 6, Barclay-st., New York.
Wocher, Max, & Son, 21-23, West 6th-st., Cincinnati, Ohio.

Batteries—Portable.

F.—Piles Portatives.
G.—Batterien—Tragbare.

Chloride of Silver Dry Battery Co., 407 & 409, North Paca-st., Baltimore, Md.
Voltamp Electric Manufacturing Co., 406, 408 & 410, Jasper-st., Baltimore, Md.

Batteries—Primary.

F.—Piles électriques—primaires.
G.—Batterien—Primäre.

Brooklyn Dry Cell Battery Co., 991, Madison-st., Brooklyn, N.Y.
Challenge Manufacturing Co., 365, Market-st., Newark, N.J.
Farnsworth, Arthur J., 27, Thames-st., New York.
Gordon Battery Co., 439-445, East 144th-st., New York.
Hirlimann, C. J., 17, Laight-st., New York.
Jones, Robert R., 11, Market-sq., Harrisburg, Pennsylvania.
Leclanché Battery Co., 111-117, East 131st-street, New York.
North American Electric Co., Chicago, Ill.
Pullen, L. W., Philadelphia, Pa.

Batteries—Primary—*continued.*

Rock Island Battery Co., 9th & Sycamore-sts., Cincinnati, Ohio.
Van Houten & Ter Broeck, 620, Atlantic-ave., Boston, Mass.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Batteries—Storage.

F.—Accumulateurs—Fab. d'.
G.—Batterien—Accumulator.

American Battery Co., 174, South Clinton-st., Chicago, Ill.
Buffalo Battery Co., 30, State-st., Buffalo, New York.
Chicago Battery Co., 1421, Michigan-ave., Chicago, Ill.
Dayton Manufacturing Co., Dayton, Ohio.
Edison Storage Battery Co., Orange, N.J.
Electric Supply & Battery Co., 7510, Woodland-ave. S.E., Cleveland, Ohio.
Gould Storage Battery Co., 1, West 34th-st., New York.
Halt Electric Storage Co., 1227, Callowhill-st., Philadelphia, Pa.
Haschke Compound Storage Battery Co., 87–89, Ashland-boul., Chicago, Ill.
Helios Manufacturing Co., Bridesburg, Philadelphia, Pa.
Leecol Storage Battery Co., Chicago, Ill.
McRae, Hector, Baltimore, Md.
National Battery Co., 368–382, Massachusetts-ave., Buffalo, N.Y.
North-western Storage Battery Co., 280, Michigan-st., Chicago, Ill.
Patent Tray Plate Storage Battery, 5, Frederick-st., Binghamton, N.Y.
Porter Battery Co., Monadnock-bldg., Chicago, Illinois.
Rubay, L., 140, West 38th-st., New York.
Smith Storage Battery Co., Zoar, Ohio.
Storage Battery Supply Co., 239, East 27th-st., New York.
Tafel, H. C., 254 & 256, West Jefferson-st., Louisville, Ky.
Tray Plate Battery Co., 5–11, Frederick-st., Binghampton, N.Y.
U.S. Battery Co., New Rochelle, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.
Western Storage Battery Co., Indianapolis, Indiana.
Willard Storage Battery Co., Cleveland, Ohio.
Witherbee Igniter Co., 541, West 43rd-st., New York, N.Y.

Bell Fitters & Contractors—Electric.

F.—Sonneries électriques—Poseurs et Entrepreneurs.
G.—Elektrische Glocken—Einrichter und Unternehmen.

Atkinson, T. W., Rochester, N.Y.
Boston Electric Co., 123, Dorrance-st., Providence, R.I.
Chadwick, G. B., Portsmouth, N.H.
Clark, E. H., 19, Washington-st., Long Branch, N.J.
Eclipse Electrical Co., 209, North 11th-st., St. Louis, Mo.
Fagerberg, Emil, 367, Rush-st., Chicago, Ill.
Hopkins, F. B., Garrettsville, Ohio.
Johnson Safe Automatic Electric Co., P.O. Box 239; & 1115, East Main-st., Richmond, Va.
Joslin, Wm. B., Maline, Ill.
Reilly & Guy, 26, Whitehall-st., New York City.
Schmidt, Mackey, & Co., 92, Euclid-ave., Cleveland, Ohio.
Smith, Arthur C., 41, Bedford-st., New Bedford, Mass.
Springer, C. A., 516, Spruce-st., Washington, D.C.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Bell Founders—Electric.

F.—Sonnettes électriques—Fondeurs de.
G.—Glocken-giesser—Elektr.

Gong Bell Manufacturing Co., East Hampton, Conn.

Bell Manufacturers—Electric.

F.—Sonneries électriques—Fab. de.
G.—Elektrische Glocken-Fabrikanten.

Andreas, C., & Son, 416, North 3rd-street, St. Louis, Mo.
Bevin Bros. Manufacturing Co., East Hampton, Conn.
Brower, H. C., & Son, 317, East Genesee-street, Syracuse, N.Y.
Dole, Charles E., Bangor, Maine.
Electric Novelty Co., 43, Monroe-st., Memphis, Tenn.
Holtzer-Cabot Electric Co., The, Boston, Brookline, Mass. (Telegs.: "Holtzer, Boston.")
Schwarze Electric Co., 324, Dearborn-st., Chicago, Ill.
Smith, Thomas H., 1730, Champa-st., Denver, Col.
Starr Bros. Bell Co., East Hampton, Conn.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Blasting Apparatus Makers—Electric.

F.—Appareils électriques pour l'etirage à la poudre.
G.—Sprengapparate (Elektr.)—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Boiler Composition Makers.

F.—Compositions pour joints de chaudières à vapeur.
G.—Kesselstein—Fab. von. Chemikalien für Verhinderung von.

Port Chester Electric Co., Port Chester, Pa.

Boiler Makers.

F.—Chaudières—Fab. de.
G.—Dampfkessel—Fab. von.

Abendroth & Root Manufacturing Co., 99, John-street, New York, N.Y.
Allen, Wm., Sons Co., Worcester, Mass.
Babcock & Wilcox Co., 85, Liberty-st., New York.
Bromich, Joseph, 119, Jefferson-st., Topeka, Kan.
Hawley Down Draft Furnace Co., 714, Monadnock-bldg., Chicago, Ill.
Kendall, Edward, & Sons, Cambridgeport, Massachusetts.
Mohr, J., & Sons, 32-42, Illinois-st., Chicago, Illinois.
Morrin Climax Boiler Co., Smith, Lorraine, Court & Creamer-sts., Brooklyn, N.Y.
O'Brien, John, Boiler Works, 11-13, Mullanphy & Howard-sts., St. Louis, Mo.
Phœnix Iron Works Co., Meadville, Pa.
Rohan, John, & Son Boiler Works Co., Lewis & Biddle-sts., St. Louis, Mo.
Stirling Co., 606, Pullman-bldg., Chicago, Ill.
Syracuse Boiler Works, 511, East Water-street, Syracuse, N.Y.

Boiler & Steam Engine Fittings Mfrs.

F.—Chaudières et Machines à vapeur—fab. d'accessoires de.
G.—Teile für Dampfmaschinén und Kessel.

American Steam Gauge & Valve Manufacturing Co., New York.
Barber & Ross, 11th & G-sts., N.W., Washington, D.C.
Casey & Hedges Manufacturing Co., Chattanooga, Tenn.
Dillon, D. M., Fitchburg, Mass.
Galligan & Mulqueen Manufacturing Co., 39, West Washington-st., Chicago, Ill.
Jarvis Engineering Co., 61, Oliver-st., Boston, Mass.
Keeler, E., Co., Williamsport, Pa.
Pennsylvania Iron Works, 1306, Land Title-bldg., Philadelphia, Pa.
Stewart & Son, Worcester, Mass.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Boulons, Ecrous, vis—Fab. de.
G.—Bolzen, Schrauben, Muttern—Fab. von.

Porter, H. K., 66, Beverley-st., Boston, Mass.

Brackets & Pendants.

See ELECTROLIERS.

Braiding Machines for Covering Wire.

F.—Machines à couvrir fil électrique.
G.—Wirkerstühle zum Bespinnen von Drähten.

New England Butt Co., Providence, R.I.
Payne, Geo. W., & Co., 102, Broad-street, Pawtucket, R.I.

Brass Founders & Manufacturers to the Electrical Trades.

F.—Bronze Fond. et Fab. de.
G.—Messing Giesser & Fab.

Cabinet Work—Electric.

F.—Ebénisterie—électrique.
G.—Holzarbeiter—elektrische.

Cable Machinery (Electric)—Makers of.

F.—Cables électr.—Fab. de machines pour.
G.—Elektr. Kabel Maschinen—Fab. von.

Cable Manufacturers.

F.—Cables—Fab. de.
G.—Kabel Fabrik.

Bishop Gutta-Percha Co., 420-430, East 25th-street, New York, N.Y.
Chadwick Boston Lead Co., Boston, Mass.
Montauk Fire Detecting Wire Co., 100, William-st., New York.
Mountain State Electrical Co., Wheeling, W. Va.
Standard Underground Cable Co., Westinghouse-bldg., Pittsburg, Pa.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Cable Manufacturers—Electric Light.

F.—Cables pour la lumière électrique—Fab. de.
G.—Kabel für Elektrisches Licht—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Carbon Brushes.

F.—Balais de charbon.

G.—Kohlen—Bürsten.

Hart & Co., Inc., Monadnock-bldg., Chicago, Ill.
Le Valley Vitae Carbon Brush Co., 683, Tremont-ave., New York, N.Y.

Carbon Makers & Suppliers.

F.—Charbons électr.—Fab. et March. de.

G.—Kohlen—Fab. und Lief. von.

American Carbon Co., Noblesville, Ind.
Binney & Smith Co., 81–83, Fulton-st., New York.
Carrier, A. E., 220, Broadway, New York.
Consumers' Carbon Co., Lancaster, Ohio.
Crouse-Tremaine Carbon Co., Fostoria, Ohio.
Dickey Sutton Carbon Co., Lancaster, Ohio.
Eastern Carbon Works, Jersey City, N.J.
Elliptical Carbon Co., Union League Club, Chicago, Ill.
Frorop, L. E., 232, Greenwich-st., New York.
Laclede Carbon & Electric Co., Kokomo, Ind.
Marsily, F. A., & Co., 22, Produce Exchange, New York.
National Carbon Co., Cleveland, Ohio.

Carbon Rods & Battery Plates.

F.—Verges à charbon et plaque à piles.

G.—Kohlen Stange u. Platten für Batterien—Fabr. von.

International Acheson Graphite Co., Niagara Falls, N.Y.

Castings for Dynamos, &c.

F.—Fonte à Dynamos.

G.—Giessereien für Dynamos.

Detroit Steel Casting Co., Detroit, Mich.
Eureka Tempered Copper Works, North East, Pa.
Robbins & Myers Co., Springfield, Ohio.
Sessions Foundry Co., Bristol, Conn.
Sipp Electrical & Machine Co., Mill-st., Paterson, N.J.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Ceiling, Desk & Exhaust Fans.

Diehl Manufacturing Co., Elizabeth, N.J.

Central Stations.

F.—Stations centrales d'eclairage élec.

G.—Elektricitätswerke—Elektr. Beleuchtung.

See LIGHT, POWER & TRACTION COMPANIES—ELECTRIC.

Central Stations—Contractors for the Construction & Maintenance of.

F.—Stations centrales—Entrepreneurs de construction et d'entretien.

G.—Elektricitätswerke—Untermehmer zur Errichtung u. Aufrechterhaltung von.

Chemical Glass & Apparatus Manufacturers.

F.—Verrerie et Appareil de chimie.

G.—Chemisches Glas & Apparate—Fab. von.

Eimer & Amend, cor. 18th & 3rd-aves., New York.

Chemical Manufacturers, Merchants & Agents.

G.—Produits chimiques—Fab. March. et Agents de.

F.—Chemikalien—Fabr. Handler u. Agenten.

Kalbfleisch, F. H., Co., Broadway & 16th-st., New York.
Massachusetts Chemical Co., 170, Summer-st., Boston, Mass.
National Chemical Co., Chestnut Hill, Philadelphia, Pa.
Niagara Electro-Chem. Wks., Niagara Falls, N.Y.
Roessler & Hasslacher Chemical Co., 100, William-st., New York, N.Y.
Zucker, Levett, & Loeb Co., 526, W. 25th-st., New York, N.Y.

Chemists—Analytical.

F.—Chimistes analytiques.

G.—Chemiker—Analytiker.

Deavitt, H. M., 1126, National Life-bldg., 159, La Salle-st., Chicago, Ill.

Chemists—Consulting.

F.—Chimistes—Consultants.

G.—Chemiker—Beratende.

Dudley, Chas. B., Penn. R. R. Co., Altoona, Pennsylvania.
Jarecki Chemical Co., Sandusky, Ohio.

Chemists—Electro.

F.—Electro-Chimistes.

G.—Electro-Chemiker.

Kenan, Wm. R., jun., Lockport, N.Y.
McKenna, C. F., 221, Pearl-st., New York.
Woodman, Durand, 80, Beaver-st., New York.

Clock Wheels, Pinions, &c.—Makers of.

F.—Roues d'horlogerie.

G.—Uhrräder—Fabriken.

Hausburg, E. O., 45, Maiden-lane, New York, N.Y.

Clocks & Synchronization—Electric.

F.—Horloges et synchronisation—électrique.
G.—Elektrische Uhren und Zeitmesser.

American Clock Co., Chicago, Ill.
Blodgett Clock Co., 141, Franklin-st., Boston, Mass.
Connecticut Time & Electric Co., 247, Pearl-street, Hartford, Conn.
Darche Electric Clock Co., 830, South Halsted-st., Chicago, Ill.
Frick, Fred., Clock Co., Waynesboro, Pa.
Self-Winding Clock Co., 161, Grand-ave., Brooklyn, N.Y.

Clutch Manufacturers.

F.—Griffes de transmission.
G.—Kuppelungen.

Blevney, John C., 216, High-st., Newark.
Fairbanks, Morse & Co., Chicago, Ill.
Hunter, J., Machine Co., North Adams, Mass.

Coils—Medical & Intensity.

F.—Bobines—Médicine et intensité.
G.—Spulen Medicinische & Intenzität.

American Coil Co., 30, Newburn-st., Somerville, Mass.

Commutator Segments—Makers of.

F.—Segments de Commutateur.
G.—Commutator Segmenten.

Commutator Co., 119–121, 1st-st. North, Minneapolis, Minn.
Forest City Electric Co., 111, Windsor-ave., Cleveland, Ohio.
Homer Commutator Co., 108, Mason-st., Cleveland, Ohio.
Jefferson Brass Foundry, Brooklyn, N.Y.
Mansfield Tempered Copper Co., Mansfield, Ohio.

Condensers—Makers of.

F.—Condensateurs—Fab. de.
G.—Condensatoren—Fab. von.

Heine, Wm. A., Corcoran-bldg., Washington, D.C.

Conduit Sytems of House Wiring.

F.—Systèmes conduites de fil electrique (pour des maisons).
G.—Draht Leitung für Häuser—Systeme.

Alphaduct Co., 136, Cator-ave., Jersey City, N.J.
American Conduit Manufacturing Co., New Kensington, Pa.
Rittenhouse-Miller Co., 923, Witherspoon-bldg., Philadelphia, Pa.

Conduits (Underground) & Culverts.

F.—Conduits—Souterrains—Fab. de.
G.—Untergrund. Röhren—Fab. von.

American Circular Loom Co., Chelsea, Mass.
American Conduit Co., 170, Broadway, New York.
American Vitrified Conduit Co., 170, Broadway, New York.
Camp, H. B., Co., Aultman, Ohio.
Eppinger & Russell Co., Long Island City, New York.
Griffen, John D., A.AM.I.E.E., 82, Wall-st., New York.
Ley, Fred T., & Co., Springfield, Mass.
McRoy Conduits, Rookery, Chicago, Ill.
Michigan Pipe Co., Bay City, Mich.
Osburn Flexible Conduit Co., 21, Park-row, New York.
Potomac Terra Cotta Co., Washington, D.C.
Safety Armorite Conduit Co., Rankin Station, Pa.
Standard Vitrified Conduit Co., 39, Cortlandt-st., New York.
Steel City Electric Co., 3rd-st. & Penn-ave., Pittsburgh, Pa.
Williamsport Wooden Pipe Co., 44, Broad-st., New York; & Williamsport, Pa.

Contractors—Electric Light & Power.

F.—Eclairage électrique—Entrepreneurs d'.
G.—Elektrisches Licht—Unternehmer.

Ardmore Ice, Light & Power Co., Ardmore, Indian Territory.
Arrowsmith Electric Co., Harrisburg, Pa.
Baker Light & Power Co., Baker City, Ore.
Ballard Electric Co., Ballard, Wash.
Baxter, A. C., Newton, Mass.
Bellman & Sanford, 149, Broadway, New York.
Bisbee Improvement Co., Bisbee, Ariz.
Bridgton Water & Electric Co., Bridgton, Maine.
Buchel Power & Irrigation Co., Cuero, Tex.
Cataract Power & Conduit Co., Buffalo, N.Y.
Catawba Power Co., Rock Hill, S.C.
Centerville Milling Co., Centerville, S.D.
Chicago Edison Co., 139, Adams-st., Chicago, Ill.
Cloquet Electric Co., Cloquet, Minn.
Concord Electric Light Plant, Concord, Mass.
Connecticut Railway & Lighting Co., Fairfield-ave., Bridgeport, Conn.
Consolidated Electric Co., Greenwich, N.Y.
Crested Butte Light & Water Co., Crested Butte, Col.
Deposit Electric Co., Deposit, N.Y.
Eagle Electric Works, Washington, Ill.
Eau Claire Lighting & Power Co., Eau Claire, Wis.
Fremont Yaryan Co., Freemont, Ohio.
Gray's Harbor Electric Co., Aberdeen, Wash.
Hillsboro Gas & Electric Co., Hillsboro, Tex.
Hudson River Electric Power Co., Mechanicsville, N.Y.
Kentucky Electric Co., Ludlow, Ky.
Kittredge, F. A., 365, Broadway, Everett, Mass.

Contractors—Electric Light & Power— *continued.*

Kratz Bros., Evansville, Ind.
Laclede Power Co., St. Louis, Mo.
Lafayette-Louisville Electric Co., Lafayette, Col.
La Junta Electric Co., La Junta, Col.
Lake City Electric Co., Lake City, Iowa.
Lancaster Electric Light, Heat & Power Co., Lancaster, Pa.
Latrobe Electric Co., Latrobe, Pa.
Lawton-Beattie Electric Co., Cincinnati, Ohio.
Le Roy Hydraulic Electric Co., Le Roy, N.Y.
Litchfield Gas & Electric Co., Litchfield, Ill.
Livingston, Johnston, jun., & Co., 113, East 22nd-st., New York.
Meyer, L. A., & Co., 450, East Water-st., Milwaukee, Wis.
Middletown Electric Lighting & Power Co., Middletown, Ohio.
Mount Whitney Power Co., Visalia, Cal.
Mutual Light & Water Co., Brunswick, Ga.
Mystic Electric & Gas Light Co., Mystic, Conn.
Oberlin Gas & Electric Co., Oberlin, Ohio.
Ohio Valley Electric Co., Bellevue, Pa.
Oxnard Light & Water Co., Oxnard, Cal.
Paxton Electric Co., Paxton, Ill.
People's Electric Light & Power Co., Silver Creek, N.Y.
Perry Electric Light Co., Perry, N.Y.
Piedmont Electric Light & Power Co., Piedmont, W. Va.
Pineville Electric Light Co., Pineville, Ky.
Pittsfield Electric Co., Pittsfield, Ill.
Platteville Electric Light & Power Co., Platteville, Wis.
Port Deposit Electric Co., Port Deposit, Md.
Pottsville Union Traction Co., Pottsville, Pa.
Princeton Light & Power Co., Princeton, Ind.
Safety Car Heating & Lighting Co., 106, Broadway, New York, N.Y.
St. Marys Electric Co., St. Marys, Pa.
Shawnee Lighting Co., Shawnee, Okla.
Shawneetown Electric Co., Shawneetown, Ill.
Standard Electric Co., San Francisco, Cal.
Steamboat Springs Electric Co., Steamboat Springs, Col.
Superior Water, Light & Power Co., Superior, Wis.
Townsend Gas & Electric Co., Fort Townsend, Wash.
Union Electric Co., Dubuque, Iowa.
Union Mfg. Co., St. Anthony Park, Minn.
United Electric Gas & Power Co., Santa Barbara, Cal.
United Gas & Electric Co., Dover, N.H.
Uxbridge & Northbridge Electric Co., North Uxbridge, Mass.
Villisca Electric Co., Villisca, Iowa.
Wagner, A., 364, East 55th-st., Chicago, Ill.
Washington Water Power Co., Spokane, W. Va.
Watseka Electric & Heat Co., Watseka, Ill.
Wilson, J. J., 2511, Gilbert-ave., Cincinnati, O.
Yazoo Improvement Co., Yazoo, Miss.

Contractors—Installation.

F.—Installation—Entrepreneurs d'.
G.—Unternehmer—Einsetzung.

A.W.R. Electric Construction Co., 204, East 123rd-st., New York.
Acme Electric Co., Knoxville, Tenn.
Acme Electric Co., 1627, Park-ave., New York.
Aetna Electric Stage Lighting Co., 305, East Division-st., Chicago, Ill.
Agutter-Griswold Electric Co., Seattle, Wash.
Albrecht Bros., 30, Creighton, Boston, Mass.
Alloway Electric Co., Marquette-bldg., Chicago, Ill.
American Electric Appliance Co., 136, Liberty-st., New York.
American Electric Co., 48, Woodward-ave., Detroit, Mich.
American Electrical Equipment Co., Masonic Temple, Chicago, Ill.
American Electrical Repair Co., 941, Liberty-st., Pittsburg, Pa.
American Elevator & Electric Co., 520, Camp-st., New Orleans, La.
Ampere Electric Co., 3682, Park-ave., New York.
Anderson Electric Co., 942, E.-st., N.W., Washington, D.C.
Archbold-Brady Co., Syracuse, N.Y.
Archer & Co., 313, State-st., Milwaukee, Wis.
Arkansas Electric Co., Little Rock, Ark.
Ashland Electric Co., 975, Milwaukee-ave., Chicago, Ill.
Atkins Electric Co., Newport News, Va.
Atkinson, G. H., & Co., 15, Exchange-pl., Jersey City, N.J.
Atlas Contract & Supply Co., Rialto-bldg., San Francisco, Cal.
Atwood-Stocker Co., Taunton, Mass.
Aubrey, B. W., Malone, N.Y.
B. & C. Electric Construction Co., 228, Bleeker-st., Utica, N.Y.
Bachman, J. B., Provo City, opposite P.O., Utah.
Banner Electric Co., 1418, Chouteau-ave., St. Louis, Mo.
Barr & Creelman, 24, Exchange-st., Rochester, N.Y.
Barré, Joseph, & Co., 25, Fulton-st., New York.
Barrell & Tresham, 1292, Fulton-st., Brooklyn, N.Y.
Baseler, B., 43, North 10th-st., Philadelphia, Pa.
Batley, W. J., Electric Co., 207, Indiana-ave., Indianapolis, Ind.
Bay-Shore Electrical Construction Co., 6, Mission-st., San Francisco, Cal.
Beck Electrical Repair Co., Columbus, Ohio.
Beiluss, Hermann A., Electric Co., 3705, Armour-ave., Chicago, Ill.
Bell, Thomas H., 485, Hamilton-st., Albany, N.Y.
Bell Electric Co., 2532, Nicolet-ave., Minneapolis, Minn.
Benton, T. P., & Son, La Crosse, Wis.
Bernet & Co., 2923, Cottage Grove-ave., Chicago, Ill.
Berry, D. E., & Co., Evansville, Ind.
Berstein, N. A., Co., 3, School-st., Boston, Mass.

Contractors—Installation—*continued.*

Bidstrup, J. F., & Co., 32, Frankfort-st., NewYork, N.Y.
Bijou Electric Co., 18, Washington-ave. North, Minneapolis, Minn.
Blackall & Baldwin Co., 39, Cortlandt-st., New York.
Blake & Williams, 211, West 20th-st., New York.
Blanchard, F., Montpelier, Vt.
Blomkun Electric Co., 151, Reed-st., Milwaukee, Wis.
Bloomfield Equipment Co., Bloomfield, N.J.
Boardman Electric Construction Co., Memphis, Tenn.
Bodine Electric Co., 72, S. Canal-st., Chicago, Ill.
Boehm, W. D., Sterling, Ill.
Boise Electrical Supply Co., Boise, Idaho.
Bridegam, W. E., Reading, Pa.
Brosius Electric Co., Belleville, Ill.
Brown, I. B., 1413, G.-st., Washington, D.C.
Brown Electric Co., 108, E. Long-st., Columbus, O.
Brown, S. A., & Co., 126, Liberty-st., New York.
Brown-Ryan Electric Co., 27, Deshler-blk., Columbus, Ohio.
Bruce Electric Co., 14, North Front-st., Columbus, Ohio.
Buckelew, Albert H., 136, Liberty-st., New York.
Buffalo Electric Contracting Co., 62, Niagara-st., Buffalo, N.Y.
Buffalo Electric Supply Co., 15, West Mokawk-st., Buffalo, N.Y.
Buffington Electric Co., 112, Michigan-st., Chicago, Ill.
Burns, E. Z., Niagara Falls, N.Y.
Burt & Co., 364, Halsey-st., Newark, N.J.
Butler Electric Co., New Britain, Conn.
C. O. D. Electric Works, Los Angeles, Cal.
Cain, C. D., Rantoul, Ill.
California Electric Construction Co., San Francisco, Cal.
Calvert Electric Co., Calvert-bldg., Baltimore, Md.
Camden & Co., 714, Market-st., Parkersburg, W. Va.
Cameron & Barkley Co., Charlestown, S.C.
Campis Electrical Works, 1003, Mission-st., San Francisco, Cal.
Campbell, B. F., 1454, Court-pl., Denver, Col.
Campbell Bros., 146, Front-st., Traverse City, Mich.
Cannell, J. J., & Co., Everett-sq., Everett, Mass.
Capital Electric Co., Richmond, Va.
Carpenter, D. K., 27, Belmont-st., Brockton, Mass.
Carroll Electric Co., 14th-st. & New York-ave., Washington, D.C.
Carter Electric Co., Pittsburgh, Pa.
Carter, F. C., & Co., 719, Walnut-st., Philadelphia.
Cascade Fixture & Electric Co., Seattle, Wash.
Cedar Rapids Electric Supply Co., Cedar Rapids, Pa.
Central Electric Co., Altoona, Pa.
Central Electric Co., Colorado Springs, Col.
Central Electric Co., Greensboro, N.C.
Central Electric Co., 115, South 16th-st., Omaha, Neb.

Contractors—Installation—*continued.*

Central Electric Co., 124, Miami-ave., Detroit, Mich.
Central Electric Co., South Bend, Ind.
Central Electric Co., Waco, Tex.
Central Electrical Supply Co., 29, West 15th-st., New York.
Century Electric Co. of San José, 20, South Market-st., San José, Cal.
Century Electric Corp., 28, 2nd-st., San Francisco, Cal.
Champaign Gas & Electric Supply Co., Champaign, Ill.
Charm Electric Co., 115, Leverett-st., Boston, Mass.
Chemung Electric Co., Elmira, N.Y.
Cheyne, F. H., Electric Co., Indianapolis, Ind.
Chipman, W. E., & Co., 62, Sudbury-st., Boston, Mass.
Chippewa Electric Co, Sault Ste. Marie, Mich.
Choquette, A. E., Sherbrooke, Que., Canada.
Chriswell-Mills Electric Co., 49, Niagara-st., Buffalo, N.Y.
Church, L. H., Stamford, Conn.
City Electric Co., 713, S. Broadway, Los Angeles, Cal.
City Electrical Co., 753, Main-st., Hartford, Conn.
Clark & Hyde, Marietta, Ohio.
Claypool Electric Co., 134, East Long-st., Columbus, Ohio.
Clayton Electric Co., 6223, Penn-ave., Pittsburg, Pa.
Coast Electric Co., 312, San Pablo-ave., Oakland, Cal.
Coffin, H. A., 13, Clifton-st., Malden, Mass.
Collins Construction Co., 92, La Salle-st., Chicago, Ill.
Columbia Construction Co., Colby & Abbott-bldg., Milwaukee, Wis.
Columbia Electric Co., Harrisburg, Pa.
Columbus Electrical Works, Columbus, Ohio.
Comfort Electric Co., 918, Poydras-st., New Orleans, La.
Commercial Construction Co., 114, East 28th-st., New York.
Commercial Electric Co., New Orleans, La.
Commercial Electric Co., 2279, Washington-ave., Ogden, Utah.
Commercial Electric Co., Painesville, Ohio.
Commercial Electric Co., 302, East 3rd-st., Los Angeles, Cal.
Connecticut Electric Equipment Co., Meriden, Conn.
Consolidated Electric Co., Byrne-bldg., Los Angeles, Cal.
Consolidated Electric Co., Nashville, Tenn.
Consolidated Electrical Co., Incorp., Norfolk, Va.
Contractos Electrical Co., 7, East 42nd-st., New York.
Cook, Arthur E., Morse & Cook-bldg., Meriden, Conn.
Cook, W. H., Farmington, Maine.
Cook Electric Co., 342, Vernon-ave., Long Island City, N.Y

Contractors—Installation—*continued.*

Cooke-Wilson Electric Supply Co., Penn-ave. & 3rd-st., Pittsburg, Pa.
Cooligan, J. J., Fort Wayne, Ind.
Copeland, C. A., Bradbury-bldg., Los Angeles, Cal.
Corrao, Wm. A., Electric Co., 1101-02, Chemical-bldg., St. Louis, Mo.
Cottle & Murphy, 260, Dover-st., Boston, Mass.
Coulson-McDonnell Electric Co., 9, Cornhill, Boston, Mass.
Courtney, A. C., 730, North Eutaw-st., Baltimore, Md.
Coward, F. E., Springfield, Mass.
Cox, L. D., Sheridan, Ind.
Crasker, Ernest, Co., 649, Columbus-ave., New York.
Crawley Electric Co., Duluth, Minn.
Criner Electric Co., 3908, 5th-ave., Pittsburg, Pa.
Crosby, C. H., & Co., 170, Summer-st., Boston, Mass.
Crown Electrical Co., 105, North Gay-st., Baltimore, Md.
Culbert, E. H., 1337, Susquehanna-ave., Philadelphia, Pa.
Currier, E., 8519, Germantown-ave., Philadelphia, Pa.
D. K. Electric Co., 222, Chestnut-st., St. Louis, Mo.
Dalton, E. C., Oakland, Cal.
Dalton Electrical Co., Meridian, Miss.
Daly, T. I., Cambridge, Mass.
Daubert & Schrecker, 1006, 3rd-st., Louisville, Ky.
Davis, Lewis S., 221, West 116th-st., New York.
Davis, S., 14, West 29th-st., New York.
Davis Bros. Electric Co., Alton, Ill.
Davis Electric Co., Easton, Pa.
Dawes, F. B., Hudson, Mass.
Dean, Thos. A., Lancaster, Pa.
Dean, S., & Co., 24, Province-st., Boston, Mass.
Decker Electric Co., 519, Main-st., Cincinnati, O.
Deebank, F., Kankakee, Ill.
Demara & Classon, Addison, N.Y.
Denver Electric Wiring Co., Denver, Col.
Dexter, J. Boyd, Annapolis, Md.
Dickinson, A. T., 55, Prospect-st., Rockville, Conn.
Didwalis, J., 507, S. Main-st., Wilkes Barre, Pa.
Diener, E. H., 30, North Water-st., Philadelphia, Pa.
Dillon, T. L., 344, 4th-ave., New York.
Dittrich & Co., 113, West 125th-st., New York.
Dominion Electric Co., 206, Grand-ave., Milwaukee, Wis.
Donahoo, J. F., Bond-bldg., Washington, D.C.
Dorlan, P. S., Troy, N.Y.
Doty, C. E., & Co., 88, Washington-st., Chicago, Ill.
Dotzert, A. J., & Co., 27, Westminster-st., Providence, R.I.
Downes, E. S., Syracuse, N.Y.
Doylestown Electric Co., Doylestown, Pa.
Drake Cycle & Electric Co., Huntingdon, Pa.
Dublin, J. W., Altoona, Pa.

Contractors—Installation—*continued.*

Durbrow & Hearne Manufacturing Co., 12, Wooster-st., New York.
Durdin & Weil, 15, North Clinton-st., Chicago, Ill.
E. & M. Construction Co., 1012, Wood-st., Pittsburg, Pa.
E.M.F. Electric Co., Colorado Springs, Col.
Eagle Electrical Co., Elizabeth, N.J.
Ecklund, A. E., 3405, Bates-st., Pittsburg, Pa.
Edison Electric Construction Co., San Francisco, Cal.
Edstrom, A., 1476, West Madison, Chicago, Ill.
Elder, Herbert, 204, North 2nd-st., Harrisburg, Pennsylvania.
Electric Co., McKeesport, Pa.
Electric Construction Co., Old South-bldg., Boston, Mass.
Electric Construction & Machinery Co., Moline, Ill.
Electric Construction & Supply Co., Oswego, N.Y.
Electric Equipment Co., Erie, Pa.
Electric Installation & Equipment Co., 218, Grand-st., New York.
Electric & Machine Construction Co., 6014, Center-ave., Pittsburg, Pa.
Electric Novelty & Appliance Co., Richmond, Va.
Electric Power & Equipment Co., 219, West 125th-st., New York.
Electric Service Co., South Bend, Ind.
Electric Supply Co., 348, North Calvert-st., Baltimore, Md.
Electric Supply & Construction Co., Knoxville, Tenn.
Electric Supply & Construction Co., West Park-st., Franklin, Pa.
Electric Supply & Construction Co., 317, Joplin-st., Joplin, Mo.
Electric Supply & Plumbing Co., Lake City, Fla.
Electric Wiring & Repairing Co., 49, Beaufort-st., Providence, R.I.
Electrical Constructing Co., 131, East Long-st., Columbus, Ohio.
Electrical Construction Co., 423, Richmond-ter., New Brighton, N.Y.
Electrical Construction Co, 312, West 6th-st., Los Angeles, Cal.
Electrical Construction Co., 120, Miami-ave., Detroit, Mich.
Electrical Construction & Manufacturing Co., 25, 3rd-ave., New York.
Electrical Construction & Supply Co., Alton, Ill.
Electrical Engineering Co., 125, West Mohawk-st., Buffalo, N.Y.
Electrical Material & Construction Co., 115, East van Buren-st., Chicago, Ill.
Electrical Supply & Construction Co., Wilmington, N.C.
Electrical Supply & Mfg. Co., Scranton, Pa.
Electro Construction Co., Arcade-bldg., Philadelphia, Pa.
Electro Mechanical Co., 132, Prince-st., New York.
Electro Sign Co., 182, Dearborn-st., Chicago, Ill.
Ellis, A. S., 269, Dearborn-st., Chicago, Ill.

Contractors—Installation—*continued.*

Elvington, F. A., Wabash, Ind.
Elwell, Wm. P., 36, Main-st., Peabody, Mass.
Emergency Electrical Co., 37, Wiloby-st., Brooklyn, N.Y.
Emmons Electric Construction Co., 84, La Salle-st., Chicago, Ill.
Empire Electric Co., 1317, 2nd-ave., New York.
Empire Electric Sign Co., 162–164, East 118th-st., New York.
Engelhardt Electric Co., 172, Fox-st., Buffalo, N.Y.
Enterprise Electric Co., 194, West Broadway, New York.
Enterprise Electrical Co., Middletown, N.Y.
Enterprise Electrical Co., 1225, Euclid-ave., Cleveland, Ohio.
Equitable Electric Co., 1808, Belle Glade, St. Louis, Mo.
Erickson Electric Equipment Co., 117, West 28th-st., New York.
Erikson Electric Co., 280, Devonshire-st., Boston, Mass.
Eureka Electrical Construction Co., 1374, Montezuma, Pittsburg, Pa.
Eureka Electrical Engineering & Supply Co., Altoona, Pa.
Evans, Admirall, & Co., 281, Water-st., New York.
Evans, G. T., & Co., 115, 9th-st., Pittsburg, Pa.
Excelsior Electric Maintenance Co., 162, West 29th-st., New York.
Eyges, C., 14, Ashland-st., Boston, Mass.
Fajans, Isidor, 54, Lexington-ave., New York.
Farnham Co., 140, Dearborn-st., Chicago, Ill.
Favor, S. S., Gloucester, Mass.
Felkin, A. C. & M. L., Co., 4, India-sq., Boston, Mass.
Flatbush Electric Co., 722, Coney Island-ave., Brooklyn, N.Y.
Fleming Electric Co., 408, North Greene-st., Baltimore, Md.
Floy, Henry, 220, Broadway, New York.
Flucker & Keedwell, 503, 5th-ave., New York.
Foreman Bros., Paducah, Ky.
Foster, M. B., Electric Co., Fuller-bldg., New York; & 54, Batterymarch-st., Boston, Mass.
Foulkes, T., Braly-bldg., Los Angeles, Cal.
Francis & Dewey Electric Co., Yonkers, N.Y.
Frankel, A. M., Rockaway Beach, N.Y.
Franklin Electric Co., 224, South Clinton-st., Chicago, Ill.
Franklin Electric Supply & Repair Co., Chambersburg, Pa.
Frels Electric Co., 114, East 8th-st., Kansas City, Mo.
French Electric & Supply Co., Park Way & Sandusky-st., Allegheny, Pa.
Frey, F. A., 106, Fulton-st., New York.
Frizzell, Mars H., Baltimore, Md.
Fuller, V. B., Indianapolis, Ind.
Fuller Construction Co., 949, Broadway, New York.
Fuller Sprague Electric Co., 80, South Front-st., Columbus, Ohio.

Contractors—Installation—*continued.*

Gans Bros., 155, N. Main-st., Los Angeles, Cal.
Gant Electric Co., Greenfield, Ind.
Garden City Electrical Co., San José, Cal.
Gates, J. Holt, & Co., Monadnock-blk., Chicago.
Gaylord, Blick & Vore, Pasadena, Cal.
Gee, Edwin, Co., 2, Wall-st., New York.
General Elec. Construction Co., Rochester, N.Y.
General Electric Maintenance Co., 422, West 49th-st., New York.
General Electric Wiring Co., 32, 6th-ave., New York.
Giegerich, A. P., 2108, Center-ave., Pittsburg, Pa.
Gillen Electric Co., Cleveland, Ohio.
Globe Electric Co., 419, West 42nd-st., New York.
Globe Electric Co., 6340, Stony Island-ave., Chicago, Ill.
Goodrich, C. E., Baltimore, Md.
Gordon Minthorne, T., Stapleton, N.Y.
Gotham, Ward P., 84, West Chippewa-st., Buffalo, N.Y.
Gould Bros., 183, Freeport-st., Boston, Mass.
Gould Coupler Co., 1, West 34th-st., New York.
Grand Electric Co., Omaha, Neb.
Grand Electric Co., 795, Woodward-ave., Detroit, Mich.
Gray Bros. Electric Co., 160, Cass-ave., Detroit, Mich.
Gray, G. R., & Co., 39, Vesey-st., New York.
Graybill, John E., & Co., York, Pa.
Groswith Electric Co., 52nd & Lancaster-ave., Philadelphia, Pa.
Grove, G. F., Dayton, Ohio.
Guarantee Elec. Co., 1630, Park-ave., New York.
Guyton Electric Co., Dayton, Ohio.
Hahn & Hahn, Bridgeton, N.J.
Hall, Wm., Electric Co., Dayton, Ohio.
Hanlon & Murphy, 280, Asylum-st., Hartford, Conn.
Hanrette & Bentley, 41, West 24th-st., New York.
Hanson Electric Co., Jamestown, N.Y.
Harper Electric Co., Fort Wayne, Ind.
Harris Electric Co., 214, North Calvert-st., Baltimore, Md.
Hartford Electrical Supply Co., 212, Asylum-st., Hartford, Conn.
Hartig & Hellier, Century-bldg., Minneapolis, Minn.
Hatfield Electric Co., 36, South Meridian-st., Indianapolis, Ind.
Hattisburg Electric Supply Co., Hattisburg, Miss.
Havill's Electrical Works, 78, Dearborn-st., Chicago, Ill.
Hazazer & Hoag, 12, 14 & 16, John-st., New York.
Hazelton, H. H., 103, Court-st., Boston, Mass.
Heiss, H. L. W., Lancaster, Pa.
Held & Wendal, Hazelton, Pa.
Hellmund Collbohm Electric Co., 150, Nassau-st., New York.
Henry, J. E., & Co., 503, North Paca-st., Baltimore, Md.
Hermann Electric Construction Co., 411, Ames-st., Saginaw, Mich.

Contractors—Installation—*continued.*

Hersh, E. W., Electric Co., 54, West 28th-st., New York.
Herstein, L. A., & Co., 328, North Eutaw-st., Baltimore, Md.
Hickey Bros. & Co., 1906, Park-ave., New York.
Hicks, M. A., Springfield, Vt.
Higbie Griffin Electric Co., 1523, Glenarm-st., Denver, Col.
Higley, I. M., Salt Lake City, Utah.
Hild, Gereon L., 969, North 10th-st., Philadelphia.
Hill, M. W., Co., 405, Courtland-st., Baltimore, Md.
Hills, Jr., Electric Co., Sam W., 238, East 4th-st., Cincinnati, Ohio.
Hinman Telephone & Electric Jay A. Co., 190, Main-st., Milwaukee, Wis.
Hoffman, H., 1636, Western-ave., Cincinnati, O.
Hoffman, J., 127, East 23rd-st., New York.
Holabird-Reynolds Electric Co., 116, East 5th-st., Los Angeles, Cal.
Holcomb, D. S., 60, Centre-st., New York, N.Y.
Holland, C. A., 454, 28th-ave., Los Angeles, Cal.
Hollis Electric Co., 311, 2nd-ave. South, Minneapolis, Minn.
Home Electric Co., 205, West Market-st., Louisville, Ky.
Houillion, E., 1021, Marshall-ave., Cincinnati, O.
Houser, D. E., 200, Nelson-st., Fort Wayne, Ind.
Houston Electric Co., 31, E. 3rd-st., Cincinnati, O.
Huber, Otto, Forth & Main-sts., Cincinnati, O.
Hudson, Wm., 831, Elton-ave., New York, N.Y.
Hudson Valley Electric Supply Co., Albany, N.Y.
Hueter's Electrical Works, 2857, Folsom-st., San Francisco, Cal.
Hurlburt-Still Electric Co., Houston, Tex.
Hutchins, C. A., & Co., Watertown, N.Y.
Huth, Wm., 635, Grand-st., Brooklyn, N.Y.
Hutton Electrical Co., Inc., Scranton, Pa.
Hyam, P. C., jun., 918, F.-st., N.W., Washington, D.C.
Ibena Electrical Supply Co., New Ibena, La.
Ideal Electric Contracting Co., 1133, Broadway, New York, N.Y.
Ideal Electric Motor Co., 26th-st. & Broadway, New York.
Ideal Electric Works, 15th & Howards-sts., San Francisco, Cal.
Independent Electrical Construction Co., 381, Fulton-st., San Francisco, Cal.
Independent Electrical Supply Co., 302, West Broadway, New York.
Inland Electric Co., Spokane, Wash.
Interborough Electric Service Corp., 138, Liberty-st., New York.
Interurban Electric Equipment Co., 147, Lawrence-st., Brooklyn, N.Y.
Invincible Electric Construction Co., 113, East 59th-st., New York.
Ithaca Electric Contracting Co., 112, North Aurora-st., Ithaca, N.Y.
Jackson, L. H., 1552, W. Adams-st., Chicago, Ill.
Jacobs, G. L., Fairbury, Ill.
Jamestown Electric Co., Jamestown, N.Y.

Contractors—Installation—*continued.*

Jandons Electric Equipment Co., 510, 6th-ave., New York.
Jeffries Electric Co., 1071, Dennison-ave., Columbus, Ohio.
Jersey City Electric Co., Jersey City, N.J.
Johnson Electric Co., 421, St. Paul-st., Baltimore, Md.
Jones, G., Vineland, N.J.
Jones Electric Co., 1625, West 25th-st., Cleveland, Ohio.
Jones Electric Co., County Bank-bldg., Buffalo, N.Y.
Jordan, A., 109, West 29th-st., New York.
Joyce & Adams, New Orleans, La.
K. R. Electric Construction Co., 110, 6th-ave., New York.
Kabat, H. H., 302, West Broadway, New York.
Karas Electric Co., 218, La Salle-st., Chicago, Ill.
Karstaedt, Henry, 40, South Main-st., Dayton, Ohio.
Kastner, G. C., 42, Union-sq., New York.
Kearney Electric Co., 30, Miami-st., Detroit, Mich.
Keelyn Electric Co., 133, Sycamore-st., Milwaukee, Wis.
Kehoe, J. E., 2257, 3rd-ave., New York.
Kelley, W. V., 1123, Broadway, New York.
Kelley Electric Co., 409, Elm-st., Cincinnati, O.
Kelly, T. T., & Co., 2, Columbia-st., Boston, Mass.
Keough Bros. & Co., 79, North-st., Boston, Mass.
Kettenberg, Geo. W., 1206, Penn-ave., Pittsburg, Pa.
Kimball Electrical Construction Co., 42, East 23rd-st., New York.
Kimble Electric Co., 72, West Lake-st., Chicago, Ill.
Kinetic Electric Co., 16, South Schell-st., Philadelphia, Pa.
Klein, H. C., Janesville, Wis.
Klein, N., 218, Grand-st., New York.
Klie Plumbing, Heating & Electrical Co., 61, East Long-st., Columbus, Ohio.
Kuehn Electric Co., Canton, Ohio.
Kunz, J. J., & Bro., 5095, Minerva-ave., St. Louis, Mo.
Kunzig, H. I., 1372, Beach-st., Philadelphia, Pa.
L. & H. Electrical Co., 814, Fred-ave., St. Joseph, Mo.
Lancaster Electric Supply & Construction Co., Lancaster, Pa.
Lanigan & Rosemont Electric Co., 6, West 3rd-st., New York.
Leadville Novelty Plumbing & Electric Co., 312, Harrison-ave., Leadville, Col.
Lehigh Electric Co., Allentown, Pa.
Leonhardt, F. W., 502, 12th-st., N.W., Washington, D.C.
Levi, Morris, & Co., 920, 3rd-ave., New York.
Lewman & Co., Louisville, Ky.
Liberty Electric Co., 6013, Center-ave., Pittsburg, Pa.
Lindsley & Allen Electric Co., Inc., 257-259, Eddy-st., Providence, R.I.

Contractors—Installation—*continued.*

Lion Electric Co., 123, E. 4th-st., Los Angeles, Cal.
Locke Engineering Co., 1800, Vermont-ave., Los Angeles, Cal.
Long, B. J., 900, 12th-st., N.W., Washington, D.C.
Longstreth, C. L., Los Angeles, Cal.
Longstreth Electric Co., 221, Stimson-blk., Los Angeles, Cal.
Lorain Electrical Construction Co., Lorain, Ohio.
Loveday, Claude, Santa Barbara, Cal.
Lucas, J. C. M., 1307, Continental-bldg., Baltimore, Md.
Lucas, J. H., 4217, Delmar-boul., St. Louis, Mo.
Lucas, F. A., & Co., Jamestown, N.Y.
Lund & Miller, 52, Water-st., New York.
McClay Electric Co., 3908, 5th-ave., Pittsburg, Pa.
McCollough, G., Richmond, Ind.
McCormick, D. A., 142, Grand River-ave., Detroit, Mich.
McDonough, L. R., jun., New Haven, Conn.
MacIntosh Electric Co., 114½, East 5th-st., Los Angeles, Cal.
McIntyre, H. C., Mount Vernon, N.Y.
McIntyre, W. H., Auburn, Ind.
MacMasters & Fletcher, Columbus, Ohio.
McNerney Electric Co., 372, Colonial Arcade, Cleveland, Ohio.
McWilliams & Co., Louisville, Ky.
Maddocks, W. S., 96, South Washington-ave., Scranton, Pa.
Maintenance Co., 54, Franklin-st., New York.
Marble, A. R., Terre Haute, Ind.
Marine Electric Co., 36, East-st., San Francisco, Cal.
Marrs Tanner Electric Co., Danville, Ill.
Martland Electric Co., 12th-st., nr. Mission-st., San Francisco, Cal.
Mather, L. R., Utica, N.Y.
Mathews-Scott Electric Co., Bryant-bldg., Kansas City, Mo.
Mattfield, J. A., 418, Tompkins-ave., Brooklyn, N.Y.
Matthews Electric Co., Shukert-bldg., Kansas City, Mo.
May, S., 636, 5th-ave., New York.
May, C. H., & Co., Lowell, Mass.
Mayhew, F. A., 3127, Reading-rd., Cincinnati, Ohio.
Merchants' Electric Co., La Fayette, Ind.
Merchants' Electric Co., 182, State-st., Chicago, Ill.
Messner, Chas. W., 3704, North Broad-st., Philadelphia, Pa.
Meter Electrical Construction Co., Oshkosh, Wis.
Metropolitan Electric Works, 2922, California-st., San Francisco, Cal.
Meyer Electric Co., Butte, Mont.
Milks Electric Co., Binghamton, N.Y.
Miller, John A., 804, E.-st., N.W., Washington, D.C.
Miller Electric Co., Miller, S. Da.
Miller-Hoppin Electric Co., 1721, Champa-st., Denver, Col.

Contractors—Installation—*continued.*

Miller-Seldon Electric Co., Detroit, Mich.
Minneapolis Electric Motor Co., 240, 1st-ave. North, Minneapolis, Minn.
Mitchell, R. R., Augusta, Ga.
Mix, S., New Orleans, La.
Model Electric Co., Burlington, Iowa.
Modern Electric Co., Burlington, Iowa.
Modern Electric & Engineering Supply Co., 418, Morgan-st., St. Louis, Mo.
Morrison Electrical Engineering Co., Amsterdam, N.Y.
Mosley Haigler Electric Co., Montgomery, Ala.
Muenzberg, E. G., 682, 31st-st., Milwaukee, Wis.
Myers, N. A., 708, Fulton-st., Brooklyn, N.Y.
N.J. Electrical Construction Co., Newark & Montclair, N.J.
N.Y. Electric Supply Co., Taunton, Mass.
National Electric Co., 455, Sutter-st., San Francisco, Cal.
National Electric Contracting & Constructing Co., 219, Heed-bldg., Philadelphia, Pa.
National Electric Supply Co., Eagle Hotel-bldg., Grand Rapids, Mich.
National Electric Works, 316, South Los Angeles-st., Los Angeles, Cal.
National Electrical Supply Co., 2171, 7th-ave., New York.
Nebraska Electrical Co., Omaha, Neb.
Nelson, J. V., 61, West 55th-st., New York.
Nelson Electric & Manufacturing Co., Huron-st., Grand Rapids, Mich.
Nelson Electrical Co., 1823, Michigan-ave., Chicago, Ill.
Newbery, F. E., & Co., 642, Century-bldg., St. Louis, Mo.
Nigh, O. I., & Co., 7th & D.-sts., N.W., Washington, D.C.
Nimis & Nimis, 314, Madison-ave., New York.
Noll, Augustus, 1, East 17th-st., New York.
North Electric Co., 518, High-st., Buffalo, N.Y.
Northern Electric Co., Burlington, Vt.
Northwestern Electric Co., 71, West Washington-st., Chicago, Ill.
Novelty Electric Works, 262, Yamhill, Portland, Ore.
Novelty Wiring Co., Ayer, Mass.
Nusbaum, Elias, & Bro., 1519, Moravian-st., Philadelphia, Pa.
Oakland Electric Co., 3908, 5th-ave., Pittsburg, Pa.
Ober, Wm. E., West Medford, Mass.
O'Neil Electric Works, 268, 31st-st., Chicago, Ill.
Orr & Howe Electric Co., 237, 4th-ave., Pittsburg, Pa.
O'Toole Electric Co., Hamilton, Ohio.
Ott Electric Supply Co., Laramie, Wyo.
Palmer, W. B., 416, East 3rd-st., Los Angeles, Cal.
Pan Electric Service & Appliance Co., 117-119, Market-st., St. Louis, Mo.
Paradice, G. E., 408, 15th-st., Denver, Col.
Parker, J. E., 44, West Cheten-ave., Philadelphia.
Parker-Hamer Electric Co., Palmer, Mass.

Contractors—Installation—*continued.*

Parsons & Wolever Electric Co., Lafayette, Ind.
Patterson, J. M., 1409, New York-ave., N.W., Washington, D.C.
Pazak, F. J., Crossley-bldg., San Francisco, Cal.
Peake, E. W., Pensacola, Fla.
Peck, E. E., Batavia, N.Y.
Peltyn Electric Construction Co., 82, 3rd-ave., New York.
Pennsylvania Electric Equipment Co., 12th & Chestnut-sts., Philadelphia, Pa.
Pennsylvania Electric Equipment Co., American-bldg., Baltimore, Md.
Penn. Electric Works, 105, North 2nd-st., Philadelphia, Pa.
Perry Electric Co., Columbia, S.C.
Petersen, H. A., Electric Co., 1326, Roscoe-st, Chicago, Ill.
Philadelphia Electrical Construction Co., 1215, Filbert-st., Philadelphia, Pa.
Phillips, C. C., Lynn, Mass.
Phœnix Electric Co., 513, West German-st., Baltimore, Md.
Piedmont Electric Co., Asheville, N.C.
Pierson Electric Co., 64, Dearborn-st., Chicago, Ill.
Pittsburg Electric Repair Co., 941, Liberty-ave., Pittsburg, Pa.
Plummer Electric Co., 200, Summer-st., Boston, Mass.
Plymouth Electric Co., 120, Liberty-st., New York.
Prather, M. E. & H. W., 1100, Clendenin-st., Baltimore, Md.
Pratt, W. F. B., 25, West Broadway, New York.
Premier Electric Co., 364, Wabash-ave., Chicago, Ill.
Premier Electrical Co., Troy, N.Y.
Pruden, W. E., Hardware Co., 866, 8th-ave., New York.
Provident Electric Co., Waco, Tex.
Radford Electric Co., Los Angeles, Cal.
Raphael, H., 143, Washington-st., Pittsburg, Pa.
Ravenswood Electric Co., 1239, West Ravenswood Park, Chicago, Ill.
Ray, F. O., & Co., Nashua, N.H.
Raymond Electric Co., 501, Chestnut-st., Philadelphia, Pa.
Rayner, G. O., 118, Marietta-st., Atlanta, Ga.
Read, H. M., Hancock, N.Y.
Redding, J. H., 31, Exchange, Boston, Mass.
Reed, E. M., Electrical Co., 717, Delaware-st., Kansas City, Mo.
Register, A. L., & Co., 112, North Broad-st., Philadelphia, Pa.
Reid, B. H., Elkhart, Ind.
Reis & O'Donovan, 1123, Broadway, New York.
Reliance Electric Co., 254, Ogden-ave., Chicago, Ill.
Reliance Electric & Manufacturing Co., 832, West 6th-st., Cincinnati, Ohio.
Reliance Electrical Works, Portland, Ore.
Rensselaer Electric Co., Troy, N.Y.
Reynolds Electric Co., Marion, Ind.

Contractors—Installation—*continued.*

Richardson Engineering Co., Ford-st., Hartford, Conn.
Ritter, J. S., Allentown, Pa.
Robb, D., 124, West 50th-st., New York.
Robb & Blackmer, 129, Pearl-st., Boston, Mass.
Roberts & Fry, Wells Fargo Express-bldg., San Francisco, Cal.
Rochdale Electric Co., San Francisco, Cal.
Rockford Electric Novelty Co., Rockford, Ill.
Rogers & Hilton, Syracuse, N.Y.
Rose, A. E., Decatur, Ind.
Ross, E. L., 614, East 138th-st., New York.
Ross, F. C., 255, Greenwich-st., New York.
Ross, Olof, Everett, Mass.
Ross & Co., 9, Cornhill-st., Boston, Mass.
Rougtell Electric Co., 816, Olive-st., St. Louis, Mo.
Royal Electric Co., 25, South 16th-st., Philadelphia, Pa.
Russell Electric Co., 500, 5th-ave., New York.
Ruth & Kochmann, Mount Vernon, N.Y.
Ryan Electric Co., 60, East Spring-st., Columbus, Ohio.
Ryan Electric Construction Co., 133, East Market-st., Indianapolis, Ind.
S. S. Electric Co., 214, 15th-st., Denver, Col.
Safford, W. W., Sunapee-st., Newport, N.H.
St. Louis Electric & Machine Co., 218, North 2nd-st., St. Louis, Mo.
Salzer, I. J., 452, St. Clair-st., Cleveland, Ohio.
Saunders, C. L., Co., 4, South Water-st., Cleveland, Ohio.
Savage, A. H., Germanion Life-bldg., St. Paul, Minn.
Sawyer, E. G., & Co., 12, Province-ct., Boston, Mass.
Saylor Electric Co., 127, 4th-ave., Pittsburg, Pa.
Sayre & Co., 1229, Cambridge-st., Cambridge, Mass.
Schaefers Electric Construction Co., 370, Pearl-st., Brooklyn, N.Y.
Schaeffel, W. A., 34, West 18th-st., New York.
Schaff, J. G., Electric Co., Chambersburg, Pa.
Schill, Chas. A., 750, South 4th-st., St. Louis, Mo.
Schimetshek, M., 549, Hayes-st., San Francisco, Cal.
Schneider Electrical Co., 1181, Jefferson-ave., Detroit, Mich.
Schoedinger Electric Co., 61, South Front-st., Columbus, Ohio.
Schoenberg, R. A., & Co., 906, 6th-ave., New York.
Schroeter, H., 54, Gratiot-ave., Detroit, Mich.
Seabord Electric Co., Norfolk, Va.
Seabord Electric Equipment Co., 26, Cortlandt-st., New York.
Selleck, G. H., & Co., 66, West 132nd-st., New York.
Sherrill Moore Electric Co., Burlington, Iowa.
Shields, E. T., 30, Wesley-ave., Boston, Mass.
Shuh, J. F., 207, East Washington-st., Ann Arbor, Mich.
Sieder, A. L., Newark, N.J.

Contractors—Installation—*continued.*

Silver State Electric Co., 214, 15th-st., Denver, Col.
Simmons, G. H., 315, Orchard-st., New Haven, Conn.
Singer-Geiser Electric Co., Waynesboro, Pa.
Smith, H. H. C., Allentown, Pa.
Smith, H. M., Berkeley, Cal.
Smith, J. H., Hartford, Conn.
Smith, L. J., 844, Maple-ave., Los Angeles, Cal.
Smith, S. H., 45, West State-st., Trenton, N.J.
Smith, S. W., 725, Temple-ct., Minneapolis, Minn.
Smith-Thompson Electric Co., 237, 4th-ave., Pittsburgh, Pa.
South Shore Electric Co., 9220, Commercial-ave., Chicago, Ill.
Southern California Electric Co., 121½, West 3rd-st., Los Angeles, Cal.
Southern Electric Co., Jacksonville, Fla.
Southern Electric Co., Wilmington, N.C.
Southern Electrical Co., San Diego, Cal.
Southern Electrical Co., Hennen-bldg., New Orleans, La.
Southern Supply & Electric Co., Atlanta, Ga.
Southwest Electric Co., Redlands, Cal.
Southwestern Electric Co., 24, South 10th-st., St. Louis, Mo.
Spokesfield, F. A., 1887, Dorchester-ave., Boston, Mass.
Springfield Electric Co., Springfield, Mass.
Sproul & Johnson, 5809, Penn-ave., Pittsburg, Pa.
Spruill, J. B., 97, Main-st., North Adams, Mass.
Squire Electric Co., 614, Wyandotte-st., Kansas City, Mo.
Standard Electric Co., 199, North Main-st., Barre, Vt.
Standard Electric Co., 104, Randolph-st., Detroit, Mich.
Standard Electric Co., 820, Church-st., Nashville, Tenn.
Standard Electric Co., Norfolk, Va.
Standard Electric Equipment Co., 275, Greenwich-st., New York.
Standard Engineering Co., Garfield-bldg., Cleveland, Ohio.
Stanton, L. B., Poughkeepsie, N.Y.
Star Electric Co., Kalamazoo, Mich.
Starr Electric Co., 208, West Worthington-st., Springfield, Mass.
State Electric Co., Atlanta, Ga.
Staunton, A. R., Thibaudaux, La.
Staylor Electric Co., 21, East West-st., Baltimore, Md.
Stecker Electric & Machine Co., 32, Larned E.-st., Detroit, Mich.
Steinholtz, H. M., 172, Pearl-st., Hartford, Conn.
Steinmetz Electric Co., 88, La Salle-st., Chicago, Ill.
Sterling Electric Co., Troy, N.Y.
Sterling Hardware & Electrical Co., 1003, Mission-st., San Francisco, Cal.
Sterner, Edwin, Co., Flint, Mich.
Sterns Electric Equipment Co., 316, Pearl-st., Buffalo, N.Y.

Contractors—Installation—*continued.*

Stevens, C. F. W., 60, Norfolk-st., Boston, Mass.
Stevens, Wm., Joliet, Ill.
Stewart, J. A., & Son, 221, Park-ave., Baltimore, Md.
Stonington Electric & Engineering Co., Stonington, Conn.
Straight Electric Co., Des Moines, Iowa.
Stratton, E. E., Hinsdale, N.H.
Sullinger, Park, 335, Broadway, New York.
Sunset Electric Supply Co., Portland, Ore.
Sweetser, F. C., 72, North Raymond-ave., Pasadena, Cal.
Sweetser, S. G., & Co., Harrisburg, Pa.
Syracuse Electric Co., Syracuse, N.Y.
Talbot, R., 52, William-st., New York.
Tank Electric Co., 324, Dearborn-st., Chicago, Ill.
Telford, C. S., Galesburg, Ill.
Thames Electric Co., 50, State-st., New London, Conn.
Thayer, W. N., Co., 784, 6th-ave., New York.
Tholen Bros., Leavensworth, Kan.
Thompson, O. C., 107, East Main-st., New Albany, Ind.
Thompson, S. B., Lake City, Fla.
Thomson Electric Co., 315, Dearborn-st., Chicago, Ill.
Throop, W. E., Bristol, Conn.
Tingley, The R. H., Co., 29, Broadway, New York; & Providence, R.I.
Tollner, Hugo, jun., 292, Graham-st., Brooklyn, N.Y.
Traer Electric Co., Traer, Iowa.
Trafton, W. I., & Son, Portsmouth, N.H.
Troy Electrical Co., Troy, N.Y.
Truswell, Wm., 16, Cedar-st., New York.
Turbo Electric Construction Co., 39, Cortlandt-st., New York.
Tyler Electric Co., Oakland, Cal.
Tyson, Chas. Q., Co., 26, North Jefferson-st., Dayton, Ohio.
Ullman, I. W., Co., 841, East 141st-st., New York.
Ulmer, G. W., Newton, Mass.
Underwriters Electric Co., 323, Dearborn-st., Chicago, Ill.
Union Electric & Engineering Co., 104, Market-st., Pittsburg, Pa.
United Electric & Apparatus Co., 200, Summer-st., Boston, Mass.
Valentine Bros. Manufacturing Co., 230–234, 5th-ave. South, Minneapolis, Minn.
Van Frank Electric & Manufacturing Co., 609, Ashbury-st., San Francisco, Cal.
Van Nort, E. C., Electric Co., Locust & 11th-sts., St. Louis, Mo.
Van Roden, Chas. E., 3946, Lancaster-ave., Philadelphia, Pa.
Van Wagoner & Linn, 27, West 24th-st., New York.
Vermille, F. S., Reading, Mass.
Vesey Electric Co., Waco, Tex.
Vinton, H. E., Hartford, Conn.
Wadeford Electric Co., 204, Dearborn-st., Chicago, Ill.

Contractors—Installation—*continued.*

Wadsworth Bros., Covington, Ky.
Wagner, H., 518, Sutter-ave., Brooklyn, N.Y.
Waite Electrical Co., Los Angeles, Cal.
Wallich, H. L., Fond-du-Lac, Wis.
Wallmans, R., 227, Ellis-st., San Francisco, Cal.
Walter, H. G., 26, Exchange-pl., Boston, Mass.
Warner, L. E., Northampton, Mass.
Washington Electric Co., 1215, West Washington-st., Los Angeles, Cal.
Watson-Flagg Engineering Co., Atlanta, Ga.
Weaver, W. R., Holyoke, Mass.
Weeden, Herbert, Fall River, Mass.
Weidenthal-Gosliner Electric Works, 151, Church-st., San Francisco, Cal.
Weiderman, Geo., Electric Co., 21, New Chambers-st., New York.
Welch, F. L., Gloversville, N.Y.
Westcott, Geo. F., Power Installation Co., 202, Main-st., Buffalo, N.Y.
Wetherbee & Whitney, 112, Franklin-st., Boston, Mass.
White City Electric Co., 355, Dearborn-st., Chicago, Ill.
White, Hayes & Swinford, 1022, Arch-st., Philadelphia, Pa.
White, R. M., Electric Co., Columbus, Ohio.
Whitehall Electric Co., 32, Park-pl., New York.
Whitehead, J. T., 1009, 6th-ave., New York.
Whiteley, A., 52, John-st., New York.
Whitlow, S. & S., Taunton, Mass.
Whitney, L. A., 65, 5th-ave., New York.
Whittemore, G. H., Milford, Mass.
Whitton & Eichman, 661, 6th-ave., New York.
Wightman, W. S., Jacksonville, Fla.
Wilcox, L. M., Newark, N.J.
Wilhelm, W. L., York, Pa.
Wilkinson, Jas., & Co., 51, Franklin-st., Boston, Mass.
Will & Finck Co., 818–820, Market-st., San Francisco, Cal.
Williams, Jos., 104, North James-st., Ludington, Mich.
Willing & Yetts, 153, West 16th-st., New York.
Wilson, Chas. H., 53, State-st., Boston, Mass.
Wilson, G. D., Electrical Construction Co., 318, Dearborn-st., Chicago, Ill.
Winche, A. O., 1400, W. Madison-st., Chicago, Ill.
Windle, R. T., Electrical Works, 864, 8th-ave., New York.
Wingate & Brooks, 53, Public-sq., Cleveland, O.
Winters Electric Co., Toledo, Ohio.
Wittman, Lyman & Co., 331, Grant-ave., San Francisco, Cal.
Wolverine Electric Co., Ltd., Detroit, Mich.
Worcester Electric Contracting Co., 268, Main-st., Worcester, Mass.
Worrall & Sechrist, Lippincott-bldg., Philadelphia, Pa.
Worrell Electric Co., 641, Arch-st., Philadelphia, Pa.
Wortley Electric Motor Co., 150, Nassau-st., New York.

Contractors—Installation—*continued.*

Wright, Don E., Evanston, Ill.
Wyman, A. L., 545, McClintock-ave., Allegheny, Pa.
Wyoming Electrical Co., Cheyenne, Wyo.
Yoest, J. Z., 4721, Liberty-ave., Pittsburg, Pa.
York & Boothby, 215, Federal-st., Portland, Maine.
Yount Electric Co., 612, Main-st., Cincinnati, O.

Copper Merchants.

F.—Cuivre—March. de.
G.—Kupfer—Händler.

Coe Brass Manufacturing Co., Torrington, Conn.
Eureka Tempered Copper Co., North East, Pa.

Cranes—Makers of.

F.—Grues—Fab. de.
G.—Krähne—Fab. von.

Case Manufacturing Co., Columbus, Ohio.
Fay, J. A., & Egan Co., Cincinnati, Ohio.
Franklin Portable Crane & Hoist Co., Franklin, Pa.
Maris Bros., South 56th-st., Philadelphia, Pa.
Moore & Wyman, corner Granite & Richard-sts., South Boston, Mass.
Morse, Williams, & Co., 32, South Bend-st., Philadelphia, Pa.; 108, Liberty-st., New York; & at Boston, Mass., &c.
Pawling & Harnischfeger, Milwaukee, Wis.
Sellers, W., & Co., 1600, Hamilton-st., Philadelphia, Pa.
Sprague Electric Elevator Co., Postal Telegraph-bldgs., 17, Battery-pl., New York.
Stokes & Parrish Elevator Co., 702, Bullitt-bldg., Philadelphia, Pa.
Whittier Machine Co., Boston, Mass.

Creosote Manufacturers.

F.—Creosote—Fab. de.
G.—Kreosot—Fab. von.

Lehigh Valley Creosoting Co., 11, Broadway, New York.

Crucible Manufacturers.

F.—Creusets—Fab. de.
G.—Schmelztiegel—Fab. von.

Chrome Steel Works, Chrome, N.J.
McCullough-Dalzell Crucible Co., Pittsburgh, Pa.

Cut-Outs—Makers of.

F.—Coupe-circuits fusibles.
G.—Strom-Unterbrecher & Schmelzbare Sicherheitungen.

Crescent Electrical Manufacturing Co., 5, Prospect-st., Rochester, N.Y.
Hulings Electric Co., East Liverpool, Ohio.
Live Wire Cut Out Co., 35, Warren-st., New York.

Designers & Draughtsmen.

F.—Dessinateurs.
G.—Zeichner.

Dick, W. A., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Fortescue, C. Le G., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Thomson, D. P., General Electric Co., Schenectady, N.Y.
Zabel, M. W., A.AM.I.E.E., c/o John A. Brown & Cragg, 1450, Monadnock-bldg., Chicago, Ill.

Distributers & Suppliers of Electricity.

F.—Electricité—Fournisseurs et distributeurs d'.
G.—Elektricität—Verteilung und Lieferung von.

Electrical Storage Supply Co., San Francisco, Cal.

Door Openers—Electric.

F.—Ouvre-portes électr.
G.—Elektr. Thür Oeffner.

Schmeider, John V., Long Island City, N.Y.

Driving Band Makers—Indiarubber & Gutta-Percha.

F.—Courroies de transmission — Caoutchouc et Gutta Percha.
G.—Maschinenriemen—Gummi u. Gutta Percha.

Alexander Bros., 410 & 412, North 3rd-st., Philadelphia, Pa.
Allen, W. D., & Co., 151, Lake-st., Chicago, Ill.
American Tool & Machine Co., 199, Beach-st., Boston, Mass.
Atkins, E. C., & Co., Memphis, Tenn.
Bickford & Francis Belting Co., Buffalo, N.Y.
Boston Belting Co., 256, Devonshire-street, Boston, Mass.
Butler Hard Rubber Co., 33, Mercer-street, New York, N.Y.
Chicago Belting Co., 67 & 69, South Canal-st., Chicago, Ill.
Jewell Belting Co., 15, Trumbull-st., Hartford, Conn.
Main Belting Co., 1219–1235, Carpenter-st., Philadelphia, Pa.; & 55, Market-st., Chicago, Ill.
Norwich Belt Manufacturing Co., 33, North Canal-street, Chicago, Ill.
Page Belting Co., Concord, N.H.
Sharp, Joseph, Belting & Supply Co., 457, E. Front-st., Cincinnati, Ohio.

Driving Band Makers—Leather.

F.—Courroies de transmission—Cuir.
G.—Maschinenriemen—Leder.

Arny, C. W., & Sons, 228–230, North 3rd-street, Philadelphia, Pa.
Hide Leather & Belting Co., 227, South Meridian-st., Indianapolis, Ind.

Driving Band Makers—Leather—*contd.*

Hunt, Henry C., Co., 32, Oliver-st., Boston, Mass.
Ladew, E. R., 200, William-st., New York, N.Y.
McMahon, G. P., & Co., 9, Morgan-street, St. Louis, Mo.
Munson Belting Co., Chas., 36, S. Canal-st., Chicago, Ill.
Providence Belting Co., 37–39, Charles-street, Providence, R.I.
Schieren, Charles A., & Co., 30, Ferry-st., New York, N.Y.
Shultz Belting Co., St. Louis, Mo.; & 113, Liberty-st., New York.

Dynamo Brushes.

F.—Balais de dynamos.
G.—Dynamo Bürsten.

Besly, C. H., & Co., 15–21, Clinton-st., Chicago, Ill.
Chapin, Chas. E., 27, Thames-st., New York.
Crown Woven Wire Brush Co., Salem, Mass.
Fleming, Wilfrid H., 393, Pearl-st., New York City; & Bayonne, N.J.
Holmes Fibre Graphite Manufacturing Co., 5155, Wakefield-st., Germantown, Philadelphia.
International Trading & Electric Co., 40, Cortlandt-st., New York.
Karoly Electrical Construction Co., E. S., 1425, Monadnock-block, Chicago, Ill.
McMurtry, Jas., & Co., 749, North Park-ave., Chicago, Ill.
Ohio Electric Specialty Manufacturing Co., Troy, Ohio.
Perfection Supply Co., 621, Broadway, New York.
Wirt Electric Co., Philadelphia, Pa.

Dynamo & Electric Machine Manufacturers.

F.—Machines Dynamo et magneto électriques—Fab. de.
G.—Dynamo-Maschinen—Fab. von.

Akron Electrical Manufacturing Co., Akron, Ohio.
Allis-Chalmers Co. (Electrical Department: Bullock Electric Manufacturing Co.), Cincinnati, Ohio.
Bartz, Wygant & Brown, Inc., Hornellsville, N.Y.
Bidstrup & Graham, 35, Frankfort-st., New York.
Bishop, W. S., New Haven, Conn.
Boissier Electric Co., 478, Pearl-st., New York.
Browning Manufacturing Co., Milwaukee, Wisconsin.
Burke Electric Co., Erie, Pa.
C. & C. Electric Co., 149, Broadway, New York, N.Y.
Clark Electric Co., 253, Broadway, New York.
Commercial Electric Co., Boston, Mass.
Commercial Electric Co., Indianapolis, Indiana.
Consolidated Electric Manufacturing Co., 355, Congress-st., Boston, Mass.

Dynamo & Electric Machine Manufacturers—*continued.*

Cushman Electric Co., Concord, N.H.
Diehl Manufacturing Co., Elizabeth, N.J.
Duplex Electric Manufacturing Co., Ltd., Corry, Pa.
Eagle Electric Works, 124, S. Jefferson-ave., Peoria, Ill.
Elbridge Electrical Manufacturing Co., Elbridge, N.Y.
Electric Machinery Co., Bayonne, N.J.
Electro-Dynamic Co., Philadelphia, Pa.
Elliott Bros. Electric Co., 940, Hamilton-st., Cleveland, Ohio.
Ellison, Wm., & Sons Manufacturing Co., 1018, North 6th-st., St. Louis, Mo.
Elwell-Parker Co. of America, 4222, Hamilton-ave., Cleveland, Ohio.
Emerson Electric Manufacturing Co., St. Louis, Mo.
Fidelity Electric Co., Lancaster, Conn.
Fisher Electrical Works, Detroit.
G. & E. Electric Co., Binghampton, N.Y.
Gough, W. H., Syracuse, N.Y.
Goughnour Electric Manufacturing Co., Canton, Ohio.
Hanson & Van Winkle Co., 92, William-st., New York, N.Y.
Henricks Novelty Co., 130, Capitol-ave.-South, Indianapolis, Ind.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass.
Homer, F. E., & Co., 440, Belden-st., Cleveland, Ohio.
Ideal Electric & Manufacturing Co., Mansfield, Ohio.
Jenney Electric Manufacturing Co., Indianapolis, Ind.
"K. & K." Engineering Co., 144, High-st., Boston, Mass.
Kester Electric Co., 1106, South 14th-st., Terre Haute, Ind.
Kohlbusch, Herman, sen., 194, Broadway, New York, N.Y.
Lincoln Electric Co., 49, Wood-st., Cleveland, Ohio.
Lovell Manufacturing Co., Ltd., Erie, Pa.
Mayer, Maxwell M., 98, Liberty-st., New York.
Motsinger Device Manufacturing Co., Pendleton, Ind.
National Electric Co., Milwaukee, Wis.
New England Motor Co., Lowell, Mass.
Ney, R.W., Mechanic-st., Hartford, Conn.
Noxon, C. P. L., 500, East Water-st., Syracuse, N.Y.
O'Reilly, M., 120, North 11th-st., Lincoln, Neb.
Palmer Bros., Miamus, Conn.
Phœnix Brass Foundry Co., Hartford, Conn.
Phœnix Electric Manufacturing Co., Mansfield, Ohio.
Pittsburg Gage & Supply Co., 309-311, Water-st., Pittsburg, Pa.
Power & Mining Machinery Co., 52, William-st., New York.

Dynamo & Electric Machine Manufacturers—*continued.*

Reek, John, Camden, Mich.
Richter & Eschler, Camden, N.J.
Ridgway Dynamo & Engine Co., Ridgway, Pa.
Sprague Electric Co., 527, West 34th-st., New York.
Standard Electric Co., Ltd., 424, Camp-st., New Orleans, La.
Star Dynamo Co., Jefferson City, Mo.
Stucky & Heck Manufacturing Co., 35, N. J. R. R.-avenue, Newark, N.J.
Wagner Electric Manufacturing Co., St. Louis, Mo.; & 26, Cortlandt-st., New York.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Electricians.

F.—Électriciens.
G.—Elektriker.

Aaron Electric Co., 140, South Clinton-st., Chicago, Ill.
Acheson, E. G., International Acheson Graphite Co., Niagara Falls, N.Y.
Allison, J. H., Elkhart, Ind.
Ash, W. V., A.AM.I.E.E., Raritan Copper Works, Perth-Auboy, N.J.
Balsley, Abe, M.AM.I.E.E., Terre Haute Electric Co., 1503, South 7th-st., Terre Haute, Ind.
Barnes, Chas. R., M.AM.I.E.E., Rochester, N.Y.
Barnes Electric Co., Sudbury-bldg., Boston, Mass.
Bauer, H. N., A.AM.I.E.E., Postal Telegraph Cable Co., Hasbrouck Heights, N.J.
Bell, T. H., jun., Port Chester, N.Y.
Bellmer, E. F., & Co., 36, Beaver-st., New York.
Blades, H. H., Detroit, Mich.
Bliss, D. M., Engineering Specialty Co., 143, Liberty-st., New York.
Blodget Bros. & Co., 301, Congress-st., Boston, Mass.
Board of Electrical Control for the City of New York, 1266, Broadway, New York.
Braddell, Alfred E., electrical inspector Underwriters' Association (middle department), 316, Walnut-street, Philadelphia, Pa.
Burkart, J., 1123, Broadway, New York.
Burleigh, C. B., General Electric Co., 200, Summer-st., Boston, Mass.
Carhart, Henry S., LL.D., Physical Laboratory, University of Michigan, Ann Arbor, Mich.
Carley, A. J., Drytown, Cal.
Carroll, Wm., City Hall, Chicago, Ill.
Cecil, Thos., M.AM.I.E.E., Broadway & 35th-st., New York.
Central Electric Co., 264, 5th-ave., Chicago, Ill.
Chapman, Geo. M., & Co., 43, East Main-st., Waterbury, Conn.
Chesapeake Construction Co., Norfolk, Va.
Chesney, C. C., M.AM.I.E.E., Stanley Electric Manufacturing Co., Pittsfield, Mass.

Electricians—*continued.*

Chetwood, R. E., jun., M.AM.I.E.E., New York Telephone Co., 22, Thames-st., New York.
Christesen, C. A., 452, Amsterdam-ave., New York.
Churchward, Alex., Fort Wayne Electric Corporation, 115, Broadway, New York.
Clark, C. M., A.AM.I.E.E., Clark & MacMullen, 20–22, Broad-st., New York, N.Y.
Clark, Le Roy, M.AM.I.E.E., Safety Insulated Wire & Cable Co., 114, Liberty-st., New York.
Cleveland & Ryan, 26, Cortlandt-st., New York.
Colvin, Frank R., Western Electric Co., 57, Bethune-st., New York.
Comstock, H. P., 3552, Cottage Grove-avenue, Chicago, Ill.
Cowie Electric Co., 1413, Grand-ave., Kansas City, Mo.
Crabe, Wm., Erie, Pa.
Cross, Chas. R., Boston, Mass.
Currie, H. A., N.Y., C. & H. R.R. Co., 335, Madison-ave., New York.
Dawson, J. H., 1047, Main-st., Joplin, Mo.
Dean, W. T., A.AM.I.E.E., Illinois Steel Co., Chicago, Ill.
De Coster, H. F., 35, West 21st-st., New York.
Doolittle, Clarence E., Roaring Fork Electric Light Co., Aspen, Col.
Edison, Thos. A., Orange, N.J.
Egbert, F. W., 93, Nassau-st., New York, N.Y.
Engle, Robert H., 226, S. Fifth-st., Philadelphia, Pa.
Farrell, J., New Rochelle, N.Y.
Ferris & Salisbury, 54, North Main-st., Providence, R.I.
Fielding, Frank E., Virginia City, Nev.
Finn, J. J., 3, West Broadway, New York.
Fisher, Henry W., M.AM.I.E.E., Standard Underground Cable Co., Pittsburg, Pa.
Fisher Electric Co., Toledo, Ohio.
Fleron, C. A., 95, Van Houten-st., Paterson, N.J.
Flood, J. F., Steubenville Traction & Light Co., Steubenville, Ohio.
Fog, C. F., A.AM.I.E.E., General Electric Co., Lynn, Mass.
Ford, Wm. S., American Telegraph & Telephone Co., 4, Howard-st., Boston, Mass.
Freedman, William H., 54, St. Nicholas-ave., New York, N.Y.
Frey, J. C., 134, South Highland-ave., Pittsburg, Pa.
Friedlaender, Eugene, Carnegie Steel Co., Braddock, Pa.
Fromholz, A. J., A.AM.I.E.E., United States Navy Yard, Brooklyn, N.Y.
Fuller, Frank G., A.AM.I.E.E., Meriden, Connecticut.
Gerry, M. H., jun., M.AM.I.E.E., M.AM.S.C.E., Missouri River Power Co., Helena, Mont.
Gilman, H. L., & Co., Waterville, Maine.
Gorton, W. S., Standard Welding Co., Cleveland, Ohio.

Electricians—*continued.*

Gott, Clarence P., A.AM.I.E.E., 83, Washington-pl., New York, N.Y.
Grower, G. G., Coe Brass Manufacturing Co., Ansonia, Conn.
Guinan, P., & Co., 329, Cumberland-st., Brooklyn, N.Y.
Hadley, Arthur L., M.AM.I.E.E., c/o Fort Wayne Electric Works, Fort Wayne, Indiana.
Hardy, C. E., U.S. Navy Yard, Norfolk, Virginia.
Harris, W. C., jun., Harris & Williamson, Birmingham, Ala.
Helfer, P., 1557, 3rd-ave., New York.
Herzog, F. Benedict, PH.D., 51, West 24th-st., New York.
Higgins, A. M., 116, Liberty-st., Plainfield, New Jersey.
Hoag, G. M., 113, City Hall, Cleveland, Ohio.
Hochhausen, Wm., Excelsior Electric Co., 74, Hanson-pl., Brooklyn, N.Y.
Jaeger, Ch. L., Maywood, N.J.; & 132, Mulberry-st., New York.
James, John N., Naval Observatory, Washington, D.C.
Jones, W. R., & Bro., Atlanta, Ga.
Jordan Bros., 74, Beekman-st., New York.
Judson, Wm. Pierson, Albany, N.Y.
Kimball, A. S., Worcester Polytechnic Institute, Worcester, Mass.
Kreidler, W. A., Suite 507, Marquette-bldg., Chicago, Ill.
Lange, Philip A., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Lemp, Hermann, jun., 186, Allen-ave., Lynn, Mass.
Lloyd, Robert M., M.I.E.E., M.AM.I.E.E., Church-ave. & 37th-st., Brooklyn, N.Y.
McGunnigle & Son, 822, 6th-ave., New York.
McKittrick, F. J. A., A.AM.I.E.E., 624, Western-ave., Lynn, Mass.
McMurtry, A. L., Belmont, Mass.
McNalley, John, jun., 390, Center-st., Jamaica Plains, Mass.
Malia, James P., c/o Armour & Co., 5316, Union-ave., Chicago, Ill.
Malpass, Henry, 1932, Callowhill-st., Philadelphia, Pa.
Mason, Harry C., Portland, Maine.
Miller, J., 145, East 23rd-st., New York.
Milliken, G. F., 19, Pearl-st., Boston, Mass.
Muralt & Co., 25, Pine-st., New York.
Nichols, Edward L., PH.D., Cornell University, Ithaca, N.Y.
Ninns, Albert A., A.AM.I.E.E., B. Altman & Co., 175, 3rd-ave., New York.
O'Dea, M., University of Notre Dame, Notre Dame, Ind.
O'Reilly, A. J., Fire Prevention Bureau, Century-bldg., & 1507, Papin-st., St. Louis, Mo.
Orne Electric Construction Co., 111 & 113, W. Harrison-st., Chicago, Ill.
Perry, J. W., A.AM.I.E.E., H. W. Johns Manville Co., 100, William-st., New York.

Electricians—*continued.*

Poole, W. C., 227, Lewis-ave., Brooklyn, N.Y.
Powell, R. A., 131, East 5th-st., St. Paul, Minn.
Price, A. B., 1820, Washington-street, Des Moines, Iowa.
Rankin, J. R., 88, Broad-st., Elizabeth, N.J.
Reed, Henry, c/o Bishop Gutta-percha Co., 420, East 25th-st., New York.
Rice & Baldwin Electric Co., 214, Pearl-st., Hartford, Conn.
Richardson, W. G., 130, East 34th-st., New York, N.Y.
Rogers, Nelson W., A.AM.I.E.E., Cooper-Hewitt Laboratory, Madison-sq., Garden Town, New York City, N.Y.
Rowe, W. W., 30, Cornhill, Boston, Mass.
Rushmore, David B., M.AM.I.E.E., Ganley Electric Manufacturing Co., Pittsfield, Mass.
Ryerson & Keyes, 2, West Broadway, New York.
Salter, R. L., Burnet-st., Maplewood, N.J.
Saward, W. J., & Son, 140, Dupont-st., Buffalo, N.Y.
Schimpf, Alfred, 59, Washington-ave., Albany, N.Y.
Schmidt, J. G., & Son, 209, Main-street, Memphis, Tenn.
Schoen, Allen M., South Eastern Tariff Association, Equitable-bldg., Atlanta, Ga.
Schopper, F. D., & Co., 512, Race-st., Cincinnati, Ohio.
Sehorn, Allen M., South-Eastern Tariff Association, Filten-bldg., Atlanta, Ga.
Sheddy, J. H., Renovo Edison Light, Heat & Power Co., Renovo, Pa.
Sheldon, Samuel, A.M., PH.D., Polytechnic Institute, & 198½, Schermerhorn-st., Brooklyn, New York.
Sleight, J. E., jun., 433, Bainbridge-st., Brooklyn, N.Y.
Smith, W. E., A.AM.I.E.E., United States Navy Department, Midvale Steel Works, Philadelphia, Pa.
Southern Electrical Co., Nashville, Tenn.
Standard Electric Co., Syracuse, N.Y.
Standard Electric Co., Portland, Ore.
Stevens & Foote, Middletown, Conn.
Stirling, C. C., 66, State-st., Hartford, Conn.
Strauss, L. E., 13, East 125th-st., New York.
Sutton, Edwin G., 1205, W. 7th-st., Wilmington, Del.
Thomas, Benjamin F., Columbia State University, Columbus, Ohio.
Thomas, J. A., 44, E. Main-st., Meriden, Connecticut.
Thomson, Prof. Elihu, General Electric Co., Lynn, Mass.
Union Electric Co., Muncie, Ind.
Walling, H. A., Freeport, N.Y.
Walsh, W. J., Co., 343, Washington-st., Portland, Ore.
Waterman, M. B., A.AM.I.E.E., Consolidated Telegraph & Electrical Subway Co., 55, Duane-st., New York.
Watts, J. Fletcher, Jamaica, N.Y.

Electricians—*continued.*

Webster, Dr. Arthur G., Clark University, Worcester, Mass.
Weston, Edward, SC.D., LL.D., M.AM.I.E.E., Western Electrical Instrument Co., Waverley Park, N.J.
Wheeler, Schuyler Skaats, Ampere, N.J.
Wilkenning, S., 751, Amsterdam-ave., New York.
Wintringham, J. P., 35, Wall-st., New York.
Wood, J. J., Fort Wayne Electric Works, Fort Wayne, Ind.
Woolf, A. E., 832, West End-ave., New York.
Wotton, James A., Southern Bell Telephone & Telegraph Co., P.O. Box 543, Atlanta, Ga.
Young, C. G., c/o J. G. White & Co., 43, Exchange-pl., New York.
Zolinsky, N., 114, West 135th-st., New York.

Electricians—Consulting.

F.—Électriciens—Consultants.
G.—Elektriker—Beratende.

Brackett, C. F., A.M., M.D., LL.D., Princeton University, Princeton, N.J.
Dare, B. A., 120, Liberty-st., New York.
Field, Hinchmann & Smith, Washington Arcade-bldg., Detroit, Mich.
Hague, Chas. A., 52, Broadway, New York.
Hill, N. S., jun., 100, William-st., New York.
Reed & Bro., 160, West Tioga-st., Philadelphia, Pa.
Reid, Thorburn, 150, Nassau-st., New York.
Thompson, E. P., & Anthony, 5, Beekman-st., New York, N.Y.
Treadway Electric Co., 713, Main-st., Little Rock, Ark.
Weston, Wm. H., & Co., 1309, Buttonwood-st., Philadelphia, Pa.
Wilson, Fremont, 1, Madison-ave., New York.

Electricians—Domestic.

F.—Électriciens—Inst. de maisons, &c.
G.—Elektriker für Hausanlagen.

Electricians—Experts.

F.—Électriciens—Experts.
G.—Elektriker—Fachkundige.

Aylsworth, J. W., M.AM.I.E.E., Edison Laboratory, East Orange, N.Y.
Barnes, Edward A., Fort Wayne Electric Works, Fort Wayne, Ind.
Böhm, L. K., PH.D., 280, Broadway Stewart-bldg., New York.
Bossert Electric Construction Co., Utica, N.Y.
Bunce, Theodore D., Storage Battery Supply Co., 239, E. 27th-st., New York.
Davis, A. G., General Electric Co., Schenectady, N.Y.
Fowler, G. W., 136, Liberty-st., New York.
Freeman, Dr. Frank L., 1756, N.-st., Washington, D.C.

Electricians—Experts—*continued.*

Hart, W. J., Saginaw, Mich.
Townsend, H. C., 141, Broadway, New York.
Vose, Ralph, 25, Sunnyside-st., Hyde-park, Mass.
Walton & Co., Washington, D.C.

Electricians—Manufacturing.

F.—Électriciens—Constructeurs.
G.—Elektriker—Fabr.

Amber Electric Manufacturing Co., 60–62, West Monroe-st., Chicago, Ill.
American Electric Novelty & Manufacturing Co., 308, Hudson-st., New York.
Auto-Marine Electrical Co., Watkins, N.Y.
Ball Electric Co., 65, Clymer-st., Brooklyn, N.Y.
Barriett Electric Manufacturing Co., 327, East 6th-st., Cincinnati, Ohio.
Beattie Electrical Co., 332, West 4th-st., Cincinnati, Ohio.
Berks Electric Co., 13, South 4th-st., Reading, Pa.
Bidwell Electric Co., 133, South Clinton-st., Chicago, Ill.
Bielefeld & Burke Electrical Works, New Orleans, La.
Blake Electric Co., 91, Oliver-st., Boston, Mass.
Boyd, H. J., West Diamond-st., Allegheny, Pa.
Bradford, Thos., & Son, Danielson, Conn.
Bronson & Davis, Blue Island, Ill.
Burgess Electric Co., 312, West 1st-st., Duluth, Minn.
California Electrical Works, 642, Folsom-st., San Francisco, Cal.
Cameron & Co., 294, Dearborn-st., Chicago, Ill.
Cameron Electric Manufacturing Co., Ansonia, Conn.
Campbell Time Switch, Lynn, Mass.
Central Machine Co., Niagara Falls, N.Y.
Chase-Shawmut Co., Newburyport, Mass.
Chattanooga Armature Works, Chattanooga, Tenn.
Chester, Wm. S., 129, 4th-ave., New York.
Cincinnati Electric Motor Co., 327, East 6th-st., Cincinnati, Ohio.
Cleland, H. W., Wilkinsburg, Pa.
Colorado Novelty & Electric Co., Denver, Col.
Curran, Jas., Elevator Co., 114, West 2nd-st., Cincinnati, Ohio.
Dayton Electrical Manufacturing Co., Dayton, Ohio.
Deem Electric Construction Co., Reading, Pa.
Dittrich & Jordan, 1821, Lorain-st., Cleveland, O.
Eagle Electric Works, Peoria, Ill.
Eastern Electric Co., 281, Franklin-st., Boston, Mass.
Eaton, S. E., & Co., 660, Hudson-st., New York.
Economy Electric Corporation, South Bend, Ind.
Einbigler & Adler, 56, New-st., New York, N.Y.
Electric Appliance Manufacturing Co., Easton, Pa.
Electric Construction Co., Lebanon, Pa.
Electric Construction Co., 713, 14th-st. N.W., Washington, D.C.

Electricians—Manufacturing—*continued.*

Electric Motor & Equipment Co., Newark, N.J.
Electrical Apparatus Co., Eldridge, N.Y.
Electrical Appliance Co., Cincinnati, Ohio.
Electrical Appliance Co., Denver, Col.
Electrical Appliance Co., Portland, Ore.
Electrical Engineering & Supply Co., Mobile, Ala.
Electrical Supply Co., Sacramento, Cal.
Electrical Tool Co., 650–652, Evans-st., Cincinnati, Ohio.
Elliott, S. K., 322–324, Champlain-ave., Cleveland, Ohio.
Elmira Electric Works, Elmira, N.Y.
Emery, I. C., Rochester, N.Y.
Engberg's Electric & Mechanical Works, St. Joseph, Mich.
Essex Electrical Co., 14th-ave. & Bergen-st., Newark, N.J.
Ford Oliver Electric & Manufacturing Co., Compton-ave. & Papin-st., St. Louis, Mo.
Galvano-Faradic Manufacturing Co., 312, East 22nd-st., New York.
Gardam, William, & Son, 45, Rose-st., New York.
Gunton, Richard E., 122, Water-st., Cleveland, Ohio.
Harrison Electric Manufacturing Co., 169, South-st., New York.
Hertner Electric Co., 707, Frankfort-ave., Cleveland, Ohio.
Hinds, Charles H., cor. 652, Hudson-st., New York, N.Y.
Hisey-Wolf Machine Co., Spring Grove-ave., Cincinnati, Ohio.
Holland Machine Co., 51, Cliff-st., New York.
Holt Electric Co., 285, Virginia-st., Milwaukee, Wis.
Illinois Maintenance Co., 1625, Marquette-bldg., Chicago, Ill.
Imperial Electrical Repair Co., 1527, Chestnut-st., St. Louis, Mo.
Interstate Electric Co., Connellsville, Pa.
Iowa Electric Co., Davenport, Iowa.
Jackson, H., 79, Franklin-st., Boston, Mass.
Jones, G. M., 321, Dix Court, Scranton, Pa.
Keystone Electric & Manufacturing Co., Allegheny City, Pa.
King Electrical & Machine Works, Osgood, Ind.
La Roche, F. A., Co., 652, Hudson-st., New York.
Law & Hauxhurst, Providence, R.I.
Lebanon Electric Co., Ltd., Lebanon, Pa.
McIntire, C., & Co., 13–15, Franklin-st., Newark, N.J.
MacLeer & Co., 169, South-st., New York.
Maloney Electric Works, 7th & Hickory-sts., St. Louis, Mo.
Manufacturers' & Inventors' Electric Co., 82 & 84, Nassau-st. Works: 96–98, Fulton-st., New York.
Marlboro Electric Machine & Lamp Co., Marlboro, Mass.
Marvin Electric Drill Co., Binghampton, N.Y.
Melhorne & Co., Allegheny, Pa.
Michel, Arion, 656, Broadway, New York, N.Y.
Midland Electric Co., Des Moines, Iowa.

Electricians—Manufacturing—*continued.*

Miloney Electrical Co., 6, North 12th-st., St. Louis, Mo.
Missouri Electrical Construction Co., 1215, Pine-st., St. Louis, Mo.
N. & S. Electric Co., Seattle, Wash.
National Brake & Electric Co., Milwaukee, Wis.
National Elevator & Machine Co., Honesdale, Pa.
Northwestern Manufacturing Co., Clinton & Madison-sts., Milwaukee, Wis.
Pearce, Fredk., Co., 18, Rose-st., New York.
Peerless Electric Co., Chicago, Ill.
Peerless Electric Co., 130, West 25th-st., New York.
Pennsylvania Armature Works, Wilkesbarre, Pa.
Pignolet, Louis M., 78, Cortlandt-st., New York.
Pittsburgh Armature Co., cor. Main & Wabash-ave., Pittsburg, Pa.
Reedy, H. J., Co., 11, 13 & 15, West 2nd-st., Cincinnati, Ohio.
Ricard Boiler & Engine Co., Toledo, Ohio.
Richmond Electric Co., Richmond, Va.
Ritter, Wm. F., 208, East 2nd-st., Cincinnati, Ohio.
Russell Electric Co., Denver, Col.
St. Louis Electric Manufacturing Co., 7th & Hickory-sts., St. Louis, Mo.
Scheidel, W., Coil Co., 171, Randolph-st., Chicago, Ill.
Slayton, E. R., 132, Water-st., Cleveland, Ohio.
Smith & Co., Tacoma, Wash.
Somoff, J. L., 149, Centre-st., New York, N.Y.
Standard Electric & Machine Co., Allegheny, Pa.
Standard Electrical Co., Charlotte, N.C.
Standard Machinery & Equipment Co., 410, Electric-bldg., Cleveland, Ohio.
Sullivan, G. W., & Co., 118, Longworth-st., Cincinnati, Ohio.
Syracuse Armature Works, Syracuse, N.Y.
Thayer & Lynn, 350, Dearborn-st., Chicago, Ill.
Thompson, C. A., Co., 143, Liberty-st., New York.
Thompson Electric Works, 346, Wabash-ave., Chicago, Ill.
Thomson-Houston Electric Co., 42, Center-st., Lynn, Mass.
Union Iron Works, 222, Market-st., San Francisco, Cal.
Universal Cutter Co., 4567, Scott-ave., St. Louis, Mo.
Utica Armature Works, Utica, N.Y.
Watts & Stern, 1303, Buttonwood-st., Philadelphia.
Welsh, Jos. F., Norristown, Pa.
Western Electric Co., 259, South Clifton-st., Chicago, Ill. (Telegrams: "Electric, Chicago"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.
Western Electric Works, Portland, Ore.
Wieland Electric Co., Duluth, Minn.
Wolfe, F. F., Evansville, Ind.

Electricians—Manufacturing—*continued.*

Wood, C. V., Electric Co., 246, Summer-st., Boston, Mass.
Woolverton, G. C., 442, Niagara-st., Buffalo, N.Y.
Yost Electric Manufacturing Co., Toledo, Ohio.

Electricians—Medical.

F.—Électriciens—Médicine.
G.—Elektrotherapie.

Herdman, Dr. W. J., Michigan University, Michigan.
Heuel, Dr. Emil, 2040, 7th-ave., New York.
Kellogg, Dr. J. H., Battle Creek, Mich.
Massey, Dr. G. Betton, 1831, Chestnut-st., Philadelphia, Pa.

Electricians—Medical Manufacturing.

F.—Appareils électro-medicaux—Fab. de.
G.—Elektrotherapeutische Instrumente—Fabr. von.

Allentown Electric Constructing & Supply Co., Allentown, Pa.
American Vibrator Co., St. Louis, Mo.
Betz, Frank S., & Co., 90, Wabash-ave., Chicago, Ill.
Cahn Electric Co., Denver, Col.
Egan Electric Massage Vibrator Co., Petersburg, Ill.
Electro Surgical Instrument Co., Rochester, N.Y.
Electro-Therapeutic Manufacturing Co., 26, W. Maryland-st., Indianapolis, Ind.
Flemming, Otto, 1025, Arch-st., Philadelphia, Pa.
Horton Electric Obtunding Co., 368, Colonial Arcade, Cleveland, Ohio.
Keystone Electric Co., 135, South 10th-st., Philadelphia, Pa.
Kidder, Jerome, Manufacturing Co., Bible House-bldg., New York, N.Y.
Ruprecht Electric Co., Cleveland, Ohio.
Shelton Electric Co., 511, Atlas-blk., Chicago, Ill.
Stendiche & Volkmer, 61, Fulton-st., New York.
Star Medical & Electrical Supply House, 328, Calhoun-st., Fort Mayne, Ind.
Wagner, R. V., & Co., Chicago, Ill.
Wappler Electric Controller Co., 177, East 87th-st., New York.
Western Surgical Instrument House, 52, Dearborn-st., Chicago, Ill.
Whitney Electrical Instrument Co., Penacook, N.H.; & Sherbrooke, Quebec.

Electricians' Tools—Makers of.

See MACHINE TOOL MAKERS.

Electricity Meters—Makers of.

F.—Compteurs d'électricité.

G.—Elektricitäts Zähler—Fab. von.

Diamond Meter Co., Peoria, Ill.
Duncan Electric Manufacturing Co., La Fayette, Ind.
Stanley Instrument Co., Great Barrington, Mass.

Electroliers, Brackets & Pendants.

F.—Lustres et appliques.

G.—Candelaber, Konsole u. Hängelampen.

Albert Gas Fixture Co., 1317, 3rd-ave., New York.
Aneshaensel, C., & Co., Indianapolis, Ind.
Babcock, Hinds & Underwood, Binghamton, N.Y.
Bailey-Reynolds Gas Fixture Co., 1208, Main-st., Kansas City, Mo.
Baldinger & Kupferman, 433, Broadway, Brooklyn, N.Y.
Barnes, G. H., Chandelier Co., Detroit, Mich.
Beardslee Chandelier Manufacturing Co., 176 & 178, South Clinton-st., Chicago, Ill.
Braun, David J., Manufacturing Co., 135, West Washington-st., Chicago, Ill.
Breen Bros., Utica, N.Y.
Brenner Bros. Mfg. Co., Waterbury, Conn.
Brown, F. P., & Co., 43, North 6th-st., Philadelphia, Pa.
Bryant, G. W., & Co., 35, Hartford-st., Boston, Mass.
Burtchaell, J. W., 316, Post-st., San Francisco, Cal.
Bush & Mallett Co., 3060-62-64, 17th-st., San Francisco, Cal.
California Artistic Metal & Wire Co., San Francisco, Cal.
Caldwell, E. F., & Co., 38, West 15th-st., New York.
Campbell, John, Co., 75, Hudson-st., New York.
Carpenter, H. T., & Co., Providence, R.I.
Consolidated Chandelier Co., 231-233, Broadway, New York.
Consolidated Gas Fixture Works, 194, Lewis-st., New York.
Craig & Craig, Springfield, Mass.
Crock, H. S., & Co., 320, West Mulberry-st., Baltimore, Md.
Crooker-Mantel & Tile Co., 230, Weybosset-st., Providence, R.I.
Dale Co., 9th-ave. & Hudson-st., New York.
Elliott-Leach Co., 143, Grand River-ave., Detroit, Mich.
Evans, Chas. I., Great Barrington, Mass.
Farrell, J. S., & Co., Indianapolis, Ind.
Findlay, Robert, Manufacturing Co., 349, Adams-st., Brooklyn, N.Y.
Forve-Pettibone Co., 515, South Broadway, Los Angeles, Cal.
Gaites, Peace & Co., 665, Manhattan-ave., Brooklyn, N.Y.

Electroliers, Brackets & Pendants—*contd.*

Gough & Davis, Burnsville, W. Va.
Hanchett, C. G., Syracuse, N.Y.
Hevener-Mier Co., Sacramento, Cal.
Horn & Brannen Manufacturing Co., 427-433, North Broad-st., Philadelphia, Pa.
Hufshmidt, L. A., Manufacturing Co., 586, McAillster, San Francisco, Cal.
Hunnicutt & Co., Atlanta, Ga.
Ideal Gas & Electric Fixture Co., 144, Worth-st., New York.
Irvine & Walterspergen, 1167, Jefferson-ave., Detroit, Mich.
Kirkpatrick, C. C., 1200, South Main-st., Los Angeles, Cal.
Kraushaar Brass Manufacturing Co., 2507, North Broadway, St. Louis, Mo.
Lau, Willy H., 12, East Adams-st., Chicago, Ill.
Leavett-Bartholomew Co., 620, Spring-st., Los Angeles, Cal.
Lundin Electric & Machine Co., 176, Federal-st., Boston, Mass.
McGowan & Collins, 62, South 2nd-st., Memphis, Tenn.
McManamy & Rodman, Binghampton, N.Y.
Malane, D. J., 88, State-st., Binghampton, N.Y.
Meikel, C. W., Indianapolis, Ind.
Merle Co., San Francisco, Cal.
Mitchell-Vance Co., 836, Broadway, New York.
Moran & Hastings Manufacturing Co., 63, East Washington-st., Chicago, Ill.
Moran & Van Fossen, 42, Wabash-ave., Chicago, Ill.
Mylander, A. C., & Bro., Baltimore, Md.
Nichols Gas Fixture Manufacturing Co., 1100, Myrtle-ave., Brooklyn, N.Y.
Pellegrini, A., & Co., 155, West 29th-st., New York.
People's Gas Fixture Co., 523, Main-st., Cincinnati, Ohio.
Polacheck, C., & Bros. Co., 182, 3rd-st., Milwaukee, Wis.
Retherford Bros., Muncie, Ind.
Roberts Manufacturing Co., 641, Mission-st., San Francisco, Cal.
Roeser & Sommer, 386, 2nd-ave., New York.
Ross, L. C., Co., 1023, Girard-ave., Kansas City, Mo.
Sellner Gas & Electric Fixture Manufacturing Co., 703, Locust-st., St. Louis, Mo.
Shannon, H. L., 729, 15th-st., Denver, Col.
Shaw, Geo. W., & Co., 1020, Walnut-st., Philadelphia, Pa.
Smith, F. R., 507, Linden-st., Scranton, Pa.
Sutherland Manufacturing Co., 516, Main-st., Cincinnati, Ohio.
Terre Haute Gas Fixture Co., Terre Haute, Ind.
Tietgen & Falk Co., 79, West Van Buren-st., Chicago, Ill.
United States Gas Fixture Co., 205, Centre-st., New York.
Wallen, Wm., 81, Chapel-st., Albany, N.Y.

Electroliers, Brackets & Pendants—*contd.*

Walworth & Neville Manufacturing Co., Old Colony-bldg., Chicago, Ill.
Willingham, E. G., 789, East 4th-street, Chattanooga, Tenn.
Winthrop Manufacturing Co., 227, Tremont-st., Boston, Mass.
Wisconsin Bridge & Iron Co., Milwaukee, Wis.

Electrolytic Carbons.

F.—Charbons électrolytiques.
G.—Elektrolytische Kohlen.

Electro-Plating & Depositing Machine Manufacturers.

F.—Machines pour dorure, argenture et galvanoplastie—Fab. de.
G.—Maschinen für Galvanoplastik.

BOGUE, CHAS. J., ELECTRIC CO., 213-215, Centre-st., New York, N.Y.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")

Engine Makers—Gas.

(*See also* MOTORS.)

F.—Machines à Gas—Fab. de.
G.—Gas-Maschinen—Fabr. von.

Advance Manufacturing Co., Hamilton, Ohio.
American Diesel Engine Co., 11, Broadway, New York.
Charter Gas Engine Co., Sterling, Ill.
Columbus Machine Co., Columbus, Ohio.
Foos Gas Engine Co., Springfield, Ohio.
Marinette Gas Engine Co., Chicago Heights, Ill.
Mietz, A., 87, Elizabeth-st., New York.
New Era Gas Engine Co., cor. 2nd & Dale-ave., Dayton, Ohio.
Olds Gasoline Engine Works, Chestnut-st., Lansing, Mich.
Otis Brothers & Co., 38, Park-row, New York, N.Y.
Otto Gas Engine Works, Philada Bourse; & 23rd & Walnut-sts., Philadelphia.
Pohl, George D., Manufacturing Co., Vernon, N.Y.
Warden, Henry, 1806, Allegheny-avenue, Philadelphia, Pa.
Watkins, F. M., Mfg. Co., Cincinnati, Ohio.
Weber Gas Engine & Gasoline Co., Kansas City, Mo.
White & Middleton Gas Engine Co., Baltimore, Md.

Engine Makers—Steam (Electrical Purposes).

(*See also* MOTORS.)

F.—Machines à Vapeur pour l'électricité—Fab. de.
G.—Dampf-Maschinen für elek. Zwecke.

Ames Iron Works, Oswego, N.Y.
Atlas Engine Works, Indianapolis, Ind.
Ball Engine Co., Erie, Pa.
Bass Foundry & Machine Works, Ft. Wayne, Ind.
Brown, C. H., Engine Co., Inc., Fitchburg, Mass.
Buckeye Engine Co., 5, Franklin-ave., Salem, O.
Buffalo Forge Co., Buffalo, N.Y.; & New York & Chicago.
Chandler & Taylor Co., Indianapolis, Ind.
Clark Bros., Belmont, N.Y.
Cooper, C. & G., & Co., Mount Vernon, Ohio.
Davenport Foundry & Machine Co., Davenport, Iowa.
Erie City Iron Works, Erie, Pa.
Harris, W. A., Steam Engine Co., Providence, R.I.
Harrisburg Foundry & Machine Works, Harrisburg, Pa.
Hooven, Owens & Rentschler Co., Hamilton, Ohio.
Lane & Bodley Co., Cincinnati, Ohio.
Lansing Boiler & Engine Works, Lansing, Mich.
McIntosh, Seymour & Co., Auburn, N.Y.
McLauthlin, Geo. T., Co., 120, Fulton-st., Boston, Mass.
Morris Machine Works, Baldwinsville, N.Y.
Murray Iron Works Co., Burlington, Iowa.
New Britain Machine Co., New Britain, Conn.
Philadelphia Engineering Works, Ltd., Mifflin-street, Philadelphia, Pa.
Providence Engineering Works, 521, South Main-street, Providence, R.I.
Putnam Machine Co., Fitchburg, Mass.
Racine Engine Machinery Co., Racine, Wis.
Reeves Engine Co., 85, Liberty-st., New York.
Rochester Machine Tool Works, Ltd., 3, Frank-street, Rochester, N.Y.
Sinker-Davis Co., Indianapolis, Ind.
Skinner Engine Co., Erie, Pa.
Southwark Foundry & Machine Co., Washington-avenue & 5th-street, Philadelphia, Pa.
Stearns Manufacturing Co., Erie, Pa.
Stedman's Foundry & Machine Works, Aurora, Ind.
Sturtevant, B. F., Co., Boston, Mass.
Vilter Manufacturing Co., Milwaukee, Wis.
Webster, Camp & Lane Co., Akron, Ohio.
Westinghouse Machine Co., Pittsburg, Pa.
Wetherill, Robt., & Co., Chester, Pa.

Engine Makers, Steam—High Speed.

F.—Machines—à grande vitesse—fabr. de.
G.—Dampfmaschinenfab.—Grosse Schnelligkeit.

American Engine Co., Bound Brook, N.J.
Brownell & Co., Dayton, Ohio.
Burlingame, A., & Co., 22, Cypress-st., Worcester, Mass.

Engine Makers, Steam—High Speed—*continued.*

Davenport Foundry & Machine Co., Davenport, Iowa.
Fishkill Landing Machine Co., Fishkill-on-Hudson, N.Y.
Fitchburg Steam Engine Co., Fitchburg, Mass.
Frick Co., Waynesboro, Pa.
Payne Co., Elmira, N.Y.
Russell Engine Co., Massillon, Ohio.
Straight Line Engine Co., Syracuse, N.Y.
Troy Engine & Machine Co., Troy, Pa.
Watertown Engine Co., Watertown, N.Y.

Engineers—Civil.

F.—Ingénieurs—Civil.
G.—Ingenieure—Civil.

American Society of Civil Engineers, 220, West 57th-st., New York.
Gorton, Charles, A.AM.I.E.E., Belmont, N.Y.
Lamb, R., 136, Liberty-st., New York.

Engineers—Consulting.

F.—Ingénieurs consultants.
G.—Ingenieure—Beratende.

Allen, A. M., A.AM.I.E.E., 1130, Schofield-bldg., Cleveland, Ohio.
Allen, Wyatt H., 202, California-st., San Francisco, Cal.
Atkins, C. G., Pratt & Atkins, Chicago, Ill.
Atkins, H. B., 80, William-st., New York.
BADT, F. B., R.E., M.AM.I.E.E., 1504, Monadnock-blk., Chicago, Ill.
Betts, Philander, Potomac Power Co., Washington, D.C.
Birdsall, E. T., A.AM.I.E.E., 26, Cortlandt-st., New York.
Bissell, G. W., M.E., Ames, Iowa.
Bradley, Chas. S., & Sons, Room 810, 41, Park-row, New York.
Brownell, H. G., 1630, Longest-ave., Louisville, Ky.
Bullock, M. C., 1187, Washington-boulevard, Chicago.
Cahoon, J. B., 42, Broadway, New York.
Carman, C. W., & Co., 9, East Jackson-boul., Chicago, Ill.
Cason & Barrett, 209, Dwight-bldg., Kansas City, Mo.
Clark & MacMullen, 20, Broad-st., New York.
Cloos, Jacob, 605, Matthews-bldg., Milwaukee, Wis.
Cole, J. A., 1580, Old Colony-bldg., Chicago, Ill.
Curran & Hussey, 232, 5th-ave., Pittsburg, Pa.
Darlington, Wayne, PH.B., M.E., 1139, Real Estate Trust-bldg, Philadelphia, Pa.
Easterbrook, J. F., M.AM.I.E.E., 82, York-sq., New Haven, Conn.
Emerson, Harrington, 12, West 31st-st., New York.

Engineers—Consulting—*continued.*

Engstrom, Axel H., Bullitt-bldg., Philadelphia.
Ford, O., 710, Security-bldg., St. Louis, Mo.
Gale, Horace B., Natick, Mass.
Gotshall, W. C., M.AM.I.E.E., 76, William-st., New York.
GRAHAM, GEORGE W., 1733, Monadnock-bldg., Chicago, Ill.
Hallberg, J. H., A.AM.I.E.E., 45, Broadway, New York.
Hamerchlag, A. A., 41, Liberty-st., New York.
Hobart, J. T., Room 85, Times-bldg., New York.
Hunt, A. M., A.AM.I.E.E., 331, Pine-st., San Francisco, Cal.
Jackson, Dugald C., M.AM.I.E.E., Madison, Wis.
Janney, T. G., 1140, Real Estate Trust-bldg., Philadelphia, Pa.
JOHNSON, WALLACE C., M.A., B.S., M.A.S.C.E., M.A.S.M.E., A.M.AM.I.E.E., Niagara Falls, N.Y.; & 43-49, Exchange-pl., New York City.
Kennedy, J. J., M.AM.I.E.E., 52, Broadway, New York.
Langton, J., 99, John-st., New York.
Lundie, J., A.AM.I.E.E., 52, Broadway, New York.
Mattice, A. M., 60, Wall-st., New York.
Mershon, R. D., M.AM.I.E.E., 60, Wall-st., New York.
Meyer, Julius, 19, Liberty-st., New York.
Monrath, Gustave, 5-7, East 42nd-st., New York.
Moore, J. R., 156, 5th-ave., New York.
Moses, Percival R., M.AM.I.E.E., 320, 5th-ave., New York, N.Y.
Nistle, G. W., A.AM.I.E.E., Manhattan-bldg., Chicago, Ill.
Peirce, W. H., Baltimore Smelting & Rolling Co., Keyser-bldg., German & Calvert-sts., Baltimore.
Penniman & Fairley, 416, Marine Bank-bldg., Baltimore, Md.
Roberts, E. P., M.AM.I.E.E., Schofield-bldg., Cleveland, Ohio.
Robinson, H. A., 1409, Manhattan-bldg., Chicago, Ill.
Rondinella, L. F., 728, Stephen Girard-bldg., Philadelphia, Pa.
Rondinella, L. T., 705, Chestnut-st., Philadelphia.
Sands, H. S., 1153, Market-st., Wheeling, West Va.
Scott, Chas. F., M.AM.I.E.E., M.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Sellers, Dr. Coleman, 1301, Stephen Girard-bldg., Philadelphia, Pa.
Seymour & Whitlock, 43, Lawrence-street, Newark, N.J.
Shepard, G. R., 5, Dutch-st., New York.
Sherman & Willis, Board of Trade-bldg., Boston, Mass.
Simpson, G. T., Pioneer Press-bldg., St. Paul, Minn.
Southard, C. J., 1274, Bergen-st., Brooklyn, N.Y.
Spencer, E. J., 400, Merchants-Laclede-bldgs., St. Louis Mo.
Spruance, W. C., jun., Equitable-bldg., Wilmington, Del.
Summers, L. L., The Rookery, Chicago, Ill.

Engineers Consulting—*continued.*

Thompson, Thos. Perrin, Neff & Thompson, Withers-bldg., Norfolk, Va.
Thompson & Phillips, 1535, Broadway, New York.
Vielé, Cooper & Blackwell, 49, Wall-st., New York.
Wagner, H. A., M.AM.I.E.E., 60, Wall-st., New York.
Waterbury Traction Co., 57, Bank-st., Waterbury, Conn.
Weeks, E. R., M.AM.I.E.E., Weeks & Kendall, 605, New Nelson-bldg., Kansas City, Mo.
Western Electric Construction Co., Kansas, Mo.
Whitney, A. R., Jun., & Co., 135, Broadway, New York.
Williamson, F. Stuart, 648, West 149th-st., New York.
Wise, Clift, New York, N.Y.

Engineers—Electric Light.

See CONTRACTORS—INSTALLATION.

Engineers—Electrical.

F.—Ingénieurs—Électriciens.
G.—Elektrotechniker.

A. B. Electric Co., 1103, Pine-st., St. Louis, Mo.
Abbot, W. L., Chicago Edison Co., 139, Adams-st., Chicago, Ill.
Abbott, Arthur V., Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Acker, C. E., Acker Process Co., Niagara Falls, N.Y.
Acker, J. L., Sheboygan, Wis.
Ackermann, A. H., Electric Storage Battery Co., 100, Broadway, New York.
Adam, Frank, Electric Co., 904, Pine-st., St. Louis, Mo.
Addis, Ch. A., 126, North 8th-st., Allentown, Pa.
Agnew, C. R., 16, William-st., New York.
Ahlm, C. E. F., M.AM.I.E.E., 1327, Williamson-bldg., Cleveland, Ohio.
Albrecht & Heick, 242, Jefferson-st., Louisville, Ky.
Albright, H. F., New York, N.Y.
Alexander, Harry, M.AM.I.E.E., A.S.M.E., 25, West 34th-st., New York.
Allen, E. W., General Electric Co., Schenectady, N.Y.
Allen, G. C., M.AM.I.E.E., N.Y. Telephone Co., 15, Dey-st., New York.
Allen, T. S., Bullock Electric Manufacturing Co., Cincinnati, Ohio.
Allen, W. C., District-bldgs., Washington, D.C.
Allentown Electric Construction & Supply Co., Allentown, Pa.
Almon, G. H., M.AM.I.E.E., Montpelier, Vt.
American Bell Telephone Co., 125, Milk-st., Boston, Mass.
Anderson Electric Co., Anderson, Ind.
Andrews, G. E., & Co., 41, Bridgham-st., Providence, R.I.
Angier, G. M., Co., 185, Franklin-st., Boston, Mass.

Engineers—Electrical—*continued.*

Anson, F. R., 52, Broadway, New York.
Armstrong, Albert H., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Armstrong, J. R. C., A.AM.I.E.E., N.Y.C. & H.R.R. Co., 335, Madison-ave., New York.
Arndt Electrical Works, 317–319, Mission-st., San Francisco, Cal.
Arnold Co., Marquette-bldg., Chicago, Ill.
Arrowsmith Electric Co., 446, Penn-st., Reading, Pa.
Associated Engineering Co., Empire-bldg., Pittsburg, Pa.
Atkinson, W. S., University Power Co., Princeton, N.J.
Austin, Chas. H., Nashua, N.H.
B. B. Electric Co., 216, Greenwich-st., New York, N.Y.
Baden, M. W., Winfield, Kan.
Badt, F. B., & Co., 1504, Monadnock-blk., Chicago, Ill.
Baehr, W. A., Laclede Gas Light Co., St. Louis, Mo.
Bain, Wm. Gibbs, Real Estate Trust-bldg., Philadelphia, Pa.
Baldwin, G. P., A.AM.I.E.E., J. Martin & Co., 31–33, New Montgomery-st., San Francisco, Cal.
Ball, H. P., M.AM.I.E.E., 572, 1st-ave., New York.
Bamber, W. C., A.AM.I.E.E., H. W. Johns-Manville Co., 59th-st. Power House, New York.
Bancroft, K. H., Lowell, Mass.
Bangor Electrical Construction & Supply Co., Bangor, Maine.
Barclay, J. C., Western Union Telegraph Co., 195, Broadway, New York.
Barker, Prof. G. F., M.I.E.E., The University, Philadelphia, Pa.
Barnard, W. D., 665, The Bourse, Philadelphia, Pa.
Barnett, H. C., Co., 917, 6th-ave., New York.
Bartlett, Edward E., A.AM.I.E.E. (Bartlett & Co.), 23, Rose-st., New York, N.Y.
Barton, P. P., M.AM.I.E.E., Niagara Falls Power Co., Niagara Falls, N.Y.
Batchelor, C., M.AM.I.E.E., Exchange Court-bldg., 52, Broadway, New York.
Bateman & Miller, 145, East 23rd-st., New York.
Bates, J. H., M.AM.I.E.E., 29, Broadway, New York.
Beadle & Maxwell, 82, Beaver-st., New York.
Bean, Irving McC., 629, Connell-bldg., Scranton, Pa.
Beaumont & Co., 224, South 40th-st., Philadelphia, Pa.
Bechtel, E. J., M.AM.I.E.E., Toledo Railways & Light Co., Toledo, Ohio.
Becker Bros., 68, West Washington-st., Chicago, Ill.
Bee, W. G., Edison Storage Battery Co., Glen Ridge, N.J.
Beebe & Bennett, 2210, Farmers Bank-bldg., Pittsburg, Pa.

Engineers—Electrical—*continued.*

Behrend, Bernard A., M.AM.I.E.E., Bullock Electric Manufacturing Co., Norwood, Ohio.
Beinert, G. D., 32, Bible House, New York.
Beischmann, —, 121, West 42nd-st., New York, N.Y.
Bell, Dr. Louis, 120, Boyleston-st., Boston, Mass.
Bell, Prof. A. G., M.I.E.E., 1331, Connecticut-ave., Washington, D.C.
Bellman, J. J., A.M.AM.I.E.E., 149, Broadway, New York.
Bender, G., 137, Centre-st., New York.
Bennett, E. E., A.AM.I.E.E., National Electric Signalling Co., Washington, D.C.
Bentley, Edward M., 5, Beekman-st., New York.
Berg, E. J., General Elec. Co., Schenectady, New York.
Berg & Co., 39, Vesey-st., New York.
Bernard, E. G., Co. Incpd., Troy, New York.
Bessey, E. A., Stanley Electric Manufacturing Co., Pittsfield, Mass.
Bijur, Jos., A.AM.I.E.E., 42, Broadway, New York.
Billings, P. A., & Co., Detroit, Mich.
Binghamton Electrical Construction Co., Binghamton, N.Y.
Birdsall, E. T., M.E., 26, Cortlandt-st., New York.
Bissing, W. F., M.AM.I.E.E., Kenyon & Kenyon, 49, Wall-st., New York.
Blackburn, A. B., M.I.E.E., Hemet, Riverside County, Cal.
Blaxter, G. H., 2nd National Bank-bldg., Pittsburg, Pa.
Bliss, Geo. S., A.AM.I.E.E., 24, Chase-st., W. Lynn, Mass.
Bliss, Wm. L., 136, Liberty-st., New York.
Blood & Hale, Post Office-sq., Boston, Mass.
Boggs, L. S., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Borde, Geo. U., New Orleans, La.
Bosch, Adam, superintendent fire alarm telegraph, Newark, N.J.
Bottomley, H., M.AM.I.E.E., Fall River Electric Light Co., Fall River, Mass.
Bowman & Gregg, Springfield, Mass.
Boyer, Elmer E., A.AM.I.E.E., General Electric Co., Lynn, Mass.
Boynton, E. C., A.AM.I.E.E., Christensen Engineering Co., 135, Broadway, New York.
Bradley, Chas. S., M.AM.I.E.E., 41, Park-row, New York, N.Y.
Brady, E. D. A., Waterbury, Conn.
Brady, F. W., M.AM.I.E.E., International Correspondence Schools, Scranton, Pa.
Brammer, A., Galveston, Tex.
Brennan, E. A., Hoboken, N.J.
Brigger, T., Arborville, Neb.
Brinckerhoff, H. M., A.AM.I.E.E., 60, Wall-st., New York.
Briner, C. J. & F. E., 712, N. 2nd-st., St. Louis, Mo.
Brodheal, A., Bethlehem, Pa.
Brooklyn Electric Equipment Co., 12, Clifton-st., Brooklyn, N.Y.

Engineers—Electrical—*continued.*

Brown, C. A., Barton & Brown, 1428-1430, Monadnock-buildings, Chicago, Ill.
Brown, Harold P., 120, Liberty-st., New York.
Brown, S. B., 231, E. North-ave., Baltimore, Md.
Brown, W. E., A.AM.I.E.E., New Jersey Telephone Co., Brooklyn, N.Y.
Brown Engineering Co., 2nd National Bank-bldg., Reading, Pa.
Browne, S. H., M.AM.I.E.E., Pittsburg & Allegheny Telephone Co., Pittsburg, Pa.
Browne, W. H., M.AM.I.E.E., Stanley Instrument Co., Great Barrington, Mass.
Bruce-Hibbard Electric Co., Fitchburg, Mass.
Brush, Chas. F., 481, The Arcade, Cleveland, Ohio.
Bryan, James, Park-bldg., Pittsburg, Pa.
Bryan, Wm. H., 329, Lincoln Trust-bldg., St. Louis, Mo.
Bubert, J. F., 20, Boylston-pl., Boston, Mass.
Buchanan, J. F., & Co., 36, North 4th-st., Philadelphia, Pa.
Buck, H. W., M.AM.I.E.E., 49, Wall-st., New York.
Buffalo General Electric Co., Buffalo, N.Y.
Buker, C. W., San Diego, Cal.
Bullock, G., Bullock Electric Manufacturing Co., Cincinnati, Ohio.
Burch, E. P., 1210, Guaranty-bldg., Minneapolis.
Burke, J., M.AM.I.E.E., Burke Electric Co., Erie, Pa.
Burkett, C. W., A.M.AM.I.E.E., Wisconsin Telephone Co., Milwaukee, Wis.
Burkholder, C. I., Schenectady, N.Y.
Burleigh, H. W., Franklin, N.H.
Burnett, D., M.AM.I.E.E., Consolidated Gas, Electric Light & Power Co., Baltimore, Md.
Buschmann, A. J., 72, West 38th-st., New York.
Butler, H. W., M.AM.I.E.E., Manhattan Railway Co., New York.
Byllesby, H. M., & Co., New York Life-bldg., Chicago, Ill.
Butterfield, J. F., 113, Adams-st., Chicago, Ill.
Caldwell, E. W., A.AM.I.E.E., 36, West 35th-st., New York.
Calgate, G. L., Iron Clad Rheostat Co., Westfield, N.J.
Campbell, R. L., 16 & 18, East Mitchell-st., Atlanta, Ga.
Canfield, C. E., A.AM.I.E.E., Arlington, Vt.
Canfield, M. C., Stanley Electric Manufacturing Co., Pittsfield, Mass.
Canfield, M. E., A.AM.I.E.E., 57, Bethune-st., New York.
Carlisle & Finch Co., 229-231, East Clifton-ave., Cincinnati, Ohio.
Carstarphen Electric Co., 1522, Court-pl., Denver, Col.
Carter & Gillespie Electric Co., Atlanta, Ga.
Case, Willard E., 6, Fort-st., Auburn, N.Y.
Cass, Philip, 141, S. Clinton-st., Chicago, Ill.
Central Station Improvement Co., Monadnock-blk., Chicago, Ill.
Chadwick, F. A., & Sons, Syracuse, N.Y.
Chambersburg Eng. Co., Chambersburg, Pa.

Engineers—Electrical—*continued.*

Chapin-Douglas Electric Co., 136, Liberty-st., New York.
Chapman, P. E., 17, N. 10th-st., St. Louis, Mo.
Chapman Electric Co., Louisville, Ky.
Chase, E. O., 46–54, Lawrence-st., Newark, N.J.
Chase, W. H., 17, Bromfield-st., Boston, Mass.
Cheney, W. C., Portland, Ore.
Churchward, Alex, M.AM.I.E.E., 44, Broad-st., New York.
Clark, E. B., M.AM.I.E.E., American Sintering Co., 207, Railway Exchange, Chicago, Ill.
Clark, E. P., M.AM.I.E.E., 12, Reid-ave., Brooklyn, N.Y.
Clark, Wm. J., A.AM.I.E.E., man. Railway Dept. Gen. Elec. Co., 44, Broad-st., New York, N.Y.
Clark, W. S., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Clark & Mills Electric Co., 1444, Mass-ave., Cambridge, Mass.
Clarke, Chas. L., 120, Broadway, New York, N.Y.
Clausen, Burch & Pillsbury, National German-American Bank-bldg., St. Paul, Minn.
Cleveland Engineering Co., New England-bldg., Cleveland, Ohio.
Cloran, G. J., M.AM.I.E.E., Peterborough R. T. Co., New York.
Clower, W. M., 308 & 310, Commerce-st., Dallas, Tex.
Codman, J. S., 127, Federal-st., Boston, Mass.
Cody, L. P., Grand Rapids Electric Co., 9, S. Division-st., Grand Rapids, Mich.
Coffin, C. A., president General Electric Co., 180, Summer-st., Boston, Mass.
Cogan, H. M., A.AM.I.E.E., American Sugar Refining Co., Kent-ave., Brooklyn, N.Y.
Coghlin, Jno. P., A.AM.I.E.E., 24, Pearl-st., Worcester, Mass.
Colby, E. A., Lock Box 113, Newark, N.J.
Cole, J. A., Erickson Electric Equipment Co., Inc., 280, Devonshire-st., Boston, Mass.
Cole, W. H., M.AM.I.E.E., Goldschmidt Thermit Co., 43, Exchange-pl., New York.
Collins, A. F., A.AM.I.E.E., Collins Marine Wireless Telephone Co., 11, Broadway, New York.
Columbia Electric Engineering Co., 57, Warren-st., Boston, Mass.
Commercial Electric Co., Chicago, Ill.
Complete Electric Construction Co., 121, Liberty-street, New York, N.Y.
Condict, G. Herbert, 5, Nassau-st., New York, N.Y.
Conrad, F., A.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Conroy, P. F., Newport, R.I.
Consolidated Electric Co., Ltd., 2, West 14th-st., New York.
Consolidated Electric Co., Real Estate Trust-bldg., Philadelphia, Pa.
Cope, J. J., 3244, North 15th-st., Philadelphia, Pa.
Corbett, R. B., 622, Rialto-bldg., St. Louis, Mo.
Corey, F. B., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.

Engineers—Electrical—*continued.*

Cornell, C. L., M.AM.I.E.E., Niles-Bement-Pond Co., 111, Broadway, New York.
Corning, J. W., A.M.AM.I.E.E., Boston Elevated Railway Co., 439, Albany-st., Boston, Mass.
Cory, Prof. C. L., M.I.E.E., University of California, New York.
Cosden, J. W., & Co., 246, Massachusetts-ave., Boston.
Cowles, A. H., Lockport, N.Y.
Cowles, J. W., Edison Electric Illuminating Co., 3, Head-pl., Boston, Mass.
Cox, F. P., M.AM.I.E.E., General Electric Co., Lynn, Mass.
Cramer & Rosenthal, Houston, Tex.
Crampton, F. F., 800, H.-st., N.W., Washington, D.C.
Crane, J., jun., 1122, Tremont-bldg., Boston, Mass.
Crawshaw, J. J., Bell Telephone Co. of Missouri, 47, Telephone-bldg., St. Louis, Mo.
Criggal, J. E., A.AM.I.E.E., Western Electric Co., New York.
Crocker, Francis B., M.AM.I.E.E., Columbia University, New York.
Crumb, W. H., & Co., 1263, Monadnock-bldg., Chicago, Ill.
Culbertson, Dr. J. N., M.I.E.E., Bell Telephone Co., 14, West Seneca-st., Buffalo, N.Y.
Culin, F. A., & Sons, Provident Life-bldg., Philadelphia, Pa.
Cushman, Holbrook, 337, West 22nd-street, New York, N.Y.
Cutter Electrical & Manufacturing Co., The, 19th & Hamilton-sts., Philadelphia, Pa.
Damon, G. A., The Arnold Co., Borland-bldg., Chicago, Ill.
Daniels, H. P., General Electric Co., Schenectady, N.Y.
Davidson, J. C., S. S. White Dental Manufacturing Co., Prince's Bay, N.Y.
Davis, Chas. H., C.E., Broad Exchange-bldg., New York, N.Y.; Boston, Mass.; & Philadelphia, Pa.
Davis, H. P., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Davis, Ph. W., A.AM.I.E.E., 93, Federal-st., Boston, Mass.
Davis, W. J., jun., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Day, W. J. P., General Electric Co., Schenectady, N.Y.
Dean, W. Clerk, A.AM.I.E.E., Bank of Commerce-bldg., Norfolk, Va.
Dean, W. W., 8, Bank-st., Morristown, N.J.
Deane & Lobdell, 113, Devonshire-st., Boston, Mass.
Decker, Edward P., M.AM.I.E.E., Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York, N.Y.
Decker Electrical Co., 157, Minna-st., San Francisco, Cal.
Delany, P. B., South Orange, N.J.

Engineers—Electrical—*continued.*

Delaval, L., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Dempster, T., General Electric Co., Schenectady, N.Y.
Denver Novelty Works & Manufacturing Co., 1520, Lawrence-st., Denver, Col.
Dickens, J., Newburyport, Mass.
Dickenson, S. S., M.I.E.E., M.AM.I.E.E., Commercial Cable Co., 253, Broadway, New York.
Dickerson, E. N., 64, East 34th-st., New York.
Dickinson, E. D., General Electric Co., Schenectady, N.Y.
Dickson, J. D., Newport, R.I.
Diehl, Philip, Singer Sewing Machine Co., 528, Morris-ave., Elizabeth, N.J.
Dillon, E. P., A.AM.I.E.E., Colorado Springs Electric Co., 107, Kiowa-st., Colorado Springs, Col.
D'Infreville, G., M.AM.I.E.E., 455, Canal-st., New York.
Dixon, Jas., A.AM.I.E.E., Gray National Telautograph Co., Room 142, 80, Broadway, New York.
Doane, S. Everett, East 45th-st., Cleveland, Ohio.
Dodd, S. T., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Dodge & Day, Philadelphia, Pa.
D'Olier Engineering Co., 119–121, South 11th-st., Philadelphia, Pa.
Dommerque, F. J., M.AM.I.E.E., Kellogg Switchboard & Supply Co., Chicago, Ill.
Donahoe & Shoebottom, Detroit, Mich.
Donaldson, W. W., A.AM.I.E.E., Gould Storage Battery Co., 1, West 34th-st., New York.
Doran, W. S., Allis-Chalmers Co., Milwaukee, Ill.
Doss Bros. Electric Construction Co., 1731, Champa-st., Denver, Col.
Dougherty, P. L., A.AM.I.E.E., Washington, D.C.
Downes, L. W., 407, Pine-st., Providence, R.I.
Drake, J. I., Providence, R.I.
Drew, S. H., Cincinnati, Ohio.
Du-Bois, A. D., Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Dunbar, F. W., c/o Kellogg Switchboard & Supply Co., S.W. cor. Congress & Green-sts., Chicago, Ill.
Duncan, John D. E., A.AM.I.E.E., Sanderson & Portes, 52, William-st., New York.
Duncan, T., Duncan Electric Manufacturing Co., Lafayette, Ind.
Dunlap, Will Knox, M.AM.I.E.E., Westinghouse Co.'s Louisiana Purchase Exposition, St. Louis, Mo.
Dunn, Gano S., Crocker-Wheeler Co., Ampere, N.J.
Duquesne Electric Co., 526, 4th-st., Pittsburg, Pa.
Durant, Ed., M.AM.I.E.E., 115, East 26th-st., New York.
Durant, Geo. F., Telephone-bldg., St. Louis, Mo.
Dusinberre, G. B., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Cleveland, O.
E. J. Electric Installation Co., 13, East 30th-st., New York.

Engineers—Electrical—*continued.*

Eagle-Mercer Electric Co., 111–113, East 7th-st., Topeka, Kan.
Eastman, Geo. N., A.AM.I.E.E., Chicago Edison Co., 139, Adams-st., Chicago, Ill.
Eastwood, A. C., M.AM.I.E.E., Electric Controller & Supply Co., Cleveland, Ohio.
Eckert, Gen. T. T., M.I.E.E., Western Union Telegraph Co., 195, Broadway, New York.
Eclipse Elec. Co., 1124, Pine-st., St. Louis, Mo.
Economy Electric Co., Cleveland, Ohio.
Eddy, Chas. M., 819, Madison-ave., Toledo, Ohio.
Edgar, C. L., M.AM.I.E.E., Edison Elec. Ill. Co., 70, State-st., Boston, Mass.
Edmunds Elec. Co., Schmitz-blk., Fort Wayne, Ind.
Edwards, C. V., 220, Broadway, New York.
Eglin, J. M., Edison Electric Light Co., 10th & Samson-sts., Philadelphia, Pa.
Ehrenreich, J. J., M.AM.I.E.E., 503, 5th-ave., New York.
Eidlitz, C. L., 1168, Broadway, New York.
Eimer, E. G., Electric Co., Alameda, Cal.
Ekstrand, C., A.AM.I.E.E., Brooklyn Cooperage Co., Kent-ave., Brooklyn, N.Y.
Ekström, A. B., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Electric Construction Co. of Va., Richmond, Va.
Electric Construction Co., St. Joseph, Mo.
Electric Contracting & Repairing Co., 391, Myrtle-ave., Brooklyn, N.Y.
Electric Supply & Construction Co., 80, East Gay-st., Columbus, Ohio.
Electrical Construction Co., 117, West 4th-st., Little Rock, Ark.
Electrical Equipment Co., Lincoln, Neb.
Electrical Equipment & Supply Co., 341, 2nd-ave., Pittsburg, Pa.
Electrical Installation Co., 1517, Monadnock-bldg., Chicago, Ill.
Ellinger, E., c/o G. A. Fuller Co., 114, Liberty-st., New York.
Ely, W. G., jun., Gen. Elec. Co., Schenectady, N.Y.
Emmet, W. L. R., General Electric Co., Schenectady, N.Y.
Engineering Co. of America, 11, Broadway, New York.
Erickson Electric Equipment Co., Inc., 280, Devonshire-st., Boston, Mass.
Erner Electric Co., Cleveland, Ohio.
Erner & Hopkins Co., 162 & 164, North 3rd-st., Columbus, Ohio.
Estel, L. P., 1019, Betz-bldg., Philadelphia, Pa.
Etheridge, Locke, M.E., A.AM.I.E.E., 427, Monadnock-blk., Chicago, Ill.
Evans, Wm., Phœnix, Ari.
Excelsior Elec. & Mfg. Co., Cleveland, Ohio.
Falkenau Construction Co., 106, La Salle-st., Chicago, Ill.
Fallek, H., 247, Atlantic-ave., Brooklyn, N.Y.
Farmer, F. M., A.AM.I.E.E., Lamp Testing Bureau, 80th & East End-ave., New York.

Engineers—Electrical—*continued.*

Farrand, Dudley, A.AM.I.E.E., Public Service Corporation of New Jersey, 207, Market-st., Newark, N.J.
Farrell, Martin E., Allegheny, Pa.
Fawcett, C. E., Cedar Rapids, Iowa.
Fay, John T., Louisville, Ky.
Fay, Thomas J., 39, Courtland-st., New York.
Federal Electric Co., North Girard, Pa.
Felch, E. P., Madison, N.J.
Ferguson, L. A., M.AM.I.E.E., Chicago Edison & Commonwealth Electric Co., 139, Adams-st., Chicago, Ill.
Ferguson, S., General Electric Co., Schenectady, N.Y.
Ferris, R. M., jun., N.Y. & N.J. Telephone Co., Brooklyn, N.Y.
Fessenden, Reginald A., Norfolk, Va.
Field, A. B., General Electric Co., Schenectady, N.Y.
Finch, H. I., Emerson Electric Manufacturing Co., St. Louis, Mo.
Firth, W. E., A.AM.I.E.E., Midvale Steel Co., Nicetown, Philadelphia, Pa.
Fish & Horton, 123, Mill-st., Rochester, N.Y.
Flack, J. Day, M.AM.I.E.E., Crooker Wheeler Hunt Co., West New Brighton, N.Y.
Fletcher, G. W., Hadaway Engineering Co., 107, Liberty-st., New York.
Fliess, R. A., 44, Chestnut-st., East Orange, N.J.
Flitner, S. E., M.AM.I.E.E., 220, West 29th-st., New York.
Forbes, W. D., & Co., 1300, Hudson-st., Hoboken, N.J.
Foster Engineering Co., Newark, N.J.
Fowler, H. R., Toledo, Ohio.
Freedman, W. H., M.AM.I.E.E., University of Vt., Burlington, Vt.
Fresno Electrical Works, Fresno, Cal.
Freudenberger, W. K., A.AM.I.E.E., Alliance, O.
Frost & Sheldon, 47, Hudson-ave., Albany, N.Y.
Fuller, F. O., 416, Vine-st., Scranton, Pa.
Gale, W. W., & Co., Inc., Bridgeport, Conn.
Galloway, J. R., 529, 10th-st., N.W., Washington, D.C.
Gannett Electrical Co., Providence, R.I.
Garratt, Allan V., Lombard Governor Co., Ashland, Boston.
Gaytes, Herbert, Oakland, Cal.
Gee Electric Construction Co., Wheeling, W. Va.
General Electric Repair Works, 36, Neil-st., Champaign, Ill.
General Engineering Co., 135, Adams-st., Chicago, Ill.
Genesee Electric Co., 340, Genesee-st., Buffalo, N.Y.
Gherky, W. D., Head bldg., Philadelphia, Pa.
Gibson, Wm. R., Electric Co., 59, Main-st., Buffalo, N.Y.
Gifford, C. E., M.AM.I.E.E., General Electric Co., Buffalo, N.Y.
Gillespie, L. W., & Co., 415, South Washington-st., Marion, Ind.
Gilpin, R., Bank-bldg., Philadelphia, Pa.

Engineers—Electrical—*continued.*

Glaister, J. W., Co., Montclair, N.J.
Glasgow, C. L., M.AM.I.E.E., W.C.K. & Co., 8, Bridge-st., New York.
Goldsborough, W. E., M.AM.I.E.E., M.I.E.E., J. G. White & Co., 43–49, Exchange-pl., New York.
Gonzenbach, E., M.AM.I.E.E., Sheboygan Light, Power & Railway Co., Sheboygan, Wis.
Gordon, G. B., M.AM.I.E.E., Chesapeake & Potomac Telephone Co., Washington, D.C.
Gossler, P. G., M.AM.I.E.E., J. G. White & Co., 43, Exchange-pl., New York.
GRAHAM, GEORGE W., 1733, Monadnock-bldg., Chicago, Ill.
Granger, A. D., Co., 95, Liberty-st., New York.
Gray, A. A., M.AM.I.E.E., *Electrical Review*, 13, Park-row, New York.
Gray, W. N., 505, Elm-st., Cincinnati, Ohio.
Green, C. M., General Electric Co., Lynn, Mass.
Gregg, M. M., 1034, Stella-st., Philadelphia, Pa.
Gurney, H. F., M.AM.I.E.E., Otis Elevator Co., 71, Broadway, New York.
Gutmann, Ludwig, M.AM.I.E.E., 5230, Kensington-ave., St. Louis, Mo.
Haas, R., 300, Monroe-st., Springfield, Ill.
Hadley, F. W., M.AM.I.E.E., 1327, Empire-bldg., Atlanta, Ga.
Hagstedt, C., 382, Park-ave., New York.
Hall, John L., 1357, Real Estate & Trust-bldg., Philadelphia, Pa.
Hall, Leon M., San Francisco, Cal.
Hall, W. A., M.AM.I.E.E., General Electric Co., Lynn, Mass.
Hamilton, Geo. A., M.I.E.E., Western Electric Co., 463, West-st., New York.
Hammer, Edwin W., M.AM.I.E.E., 120, Broadway, New York.
Hammett, Lincoln & Co., Newport, R.I.
Hammond Manufacturing Co., Portland, Ore.
Hanchett, G. T., 114, Liberty-st., New York.
Hanford Electric Works, Hanford, Cal.
Hanscom, W. W., A.AM.I.E.E., Union Iron Works, 848, Clayton-st., San Francisco, Cal.
Hansen, M. W., Toledo, Ohio.
Harding, H. McL., 1, Nassau-st., New York.
Harloff, P. F., 301–305, State-st., Madison, Wis.
Harris, G. A., c/o Takata & Co., 60, Wall-st., New York.
Harris, G. H., Birmingham Railway Light & Power Co., Birmingham, Ala.
Hartman, H. T., Electric Co. of America, Philadelphia, Pa.
Hartwell, A., M.AM.I.E.E., Sterling Varnish Co., Pittsburg, Pa.
Hartwell Electric Co., 955, 6th-st., San Diego, Cal.
Harvey, Wm. A., Scranton, Pa.
Haschke, J. E., 598, West Monroe-st., Chicago.
Haselden, H. A., A.AM.I.E.E., Whitin Machinery Works, Whitinsville, Mass.
Haskell, H. F. F. H., Holyoke, Mass.
Haskins, Caryl D., General Electric Co., Schenectady, N.Y.
Hasson, W. F. C., M.AM.I.E.E., U.S. Naval Academy, Annapolis, Md.

Engineers—Electrical—*continued.*

Hatzel, J. C., 571–573, 5th-ave., New York.
Hatzel & Buehler, 571–573, 5th-ave., New York, N.Y.
Haubrich, A. M., Stromberg-Carlson Telephone Manufacturing Co., Rochester, N.Y.
Hauss, D. J., Mitchell-bldg., Cincinnati, Ohio.
Hawks, H. D., c/o General Electric Co., 44, Broad-st., New York.
Hawks Electric Co., 156, Pearl-st., Boston.
Hayes, H. E., M.AM.I.E.E., American Telegraph & Telephone Co., 125, Milk-st., Boston, Mass.
Hayes, Hammond V., American Telephone & Telegraph Co., 125, Milk-st., Boston, Mass.
Hays, G. M., Edison Storage Battery Co., Glen Ridge, N.J.
Heath, Harry E., M.AM.I.E.E., Lynn, Mass.
Hempel, F. K., Yonkers, N.Y.
Henry, G. J., jun., A.AM.I.E.E., Pelton Water Wheel Co., 127, Main-st., San Francisco, Cal.; & 143, Liberty-st., New York.
Henshaw, F. V., M.AM.I.E.E., 90, Well-st., New York.
Herboth Mitchell Co., Real Estate Trust-bldg., Philadelphia, Pa.
Herdman, Frank E., A.AM.I.E.E., Otis Elevator Co., Chicago, Ill.
Hewitt, Charles, A.AM.I.E.E., 671, Bullet-bldg., Philadelphia, Pa.
Hewitt, W. R., City Hall-ct., San Francisco, Cal.
Hewitt & Warden, Newburgh, N.Y.
Hewlett, Edward M., General Electric Co., Schenectady, N.Y.
Hibbard, A. S., 203, Washington-st., Chicago, Ill.
Hirtenstein, Louis, Brooklyn, N.Y.
Hitzeroth, L. D., A.AM.I.E.E., Century Electric Co., 18, Fell-st., San Francisco, Cal.
Hoag, P. L., 8, Dover-st., New York.
Hobart Electric Manufacturing Co., Troy, Ohio.
Hobbie, C. D. U., 1, N. Culver-st., Rochester, N.Y.
Hodge, Wm. B., B.S., A.AM.I.E.E., Philadelphia, Pa.
Hodge Electric & Manufacturing Co., 701, Delaware-st., Kansas City, Mo.
Hodges, G. H., M.AM.I.E.E., 15, Dey-st., New York.
Hodgson, C., 960, Monadnock-bldg., Chicago, Ill.
Hoeftman, A. O., American Steel & Wire Co., Worcester, Mass.
Hoeschenn Universal Elec. Works, Omaha, Neb.
Hoff, J. B., Lakewood, N.J.
Holcomb, Frank, & Co., Portland, Ore.
Holifield Electric Co., Mobile, Ala.
Hollingsworth, L., jun., 54, Kilby-st., Boston, Mass.
Holmes, Franklin S., 26, Cortlandt-st., New York.
Holmes-Rose Electrical Co., 306, West Fayette-st., Baltimore, Md.
Hommel, Ludwig, 904, Arrott-bldg., Pittsburg, Pa.
Hoopes, Wm., The Bourse, Philadelphia, Pa.
Hope-Jones, R., M.I.E.E., Uphams Corner, Boston, Mass.
Hopkins, N. M., 1730, 8th-st., Washington, D.C.

Engineers—Electrical—*continued.*

Howell, J. W., M.AM.I.E.E., Harrison, N.J.
Hoxie, Geo. L., 45, Broadway, New York.
Hubley, G. W., Louisville Electric Light Co., Louisville, Ky.
Hughes, J. F., Co., 28, Elm-st., New York.
Hulse, Wm. S., M.I.E.E., Room 1611, 74, Broadway, New York.
Hunt, C. W., Co., 45, Broadway, New York.
Hunter, R. M., 926, Walnut-st., Philadelphia.
Hunter & Brander, 139, Border-st., E. Boston, Mass.
Hunting, F. S., M.AM.I.E.E., 1301, Washington-boul., Fort Wayne, Ind.
Huntington, D., M.AM.I.E.E., Washington Water Power Co., Spokane, Wash.
Hyde, Jerome W., Springfield, Mass.
Ihlder, J. D., M.AM.I.E.E., Otis Elevator Co., New York, N.Y.
Illinois Engineering Co., Manhattan-bldg., Chicago, Ill.
Imlay, L. E., M.AM.I.E.E., Niagara Falls Power Co., Niagara Falls, N.Y.
Insull, J., A.AM.I.E.E., General Incandescent Arc Light Co., New York.
Insull, Samuel, M.AM.I.E.E., M.I.E.E., Chicago Edison Co., 139, Adams-st., Chicago, Ill.
Interstate Electric Co., Ltd., 325, Baronne-st., New Orleans, La.
Iron City Engineering Co., Pittsburg, Pa.
Jackson & Earle, Stockton, Cal.
Johannesen, S. E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Johnston, T. J., 11, Pine-st., New York.
Johnston & Co., 277, South Clark-st., Chicago, Ill.
Jones, B. N., M.AM.I.E.E., Marine Engine & Machine Co., Harrison, N.J.
Jones, H. K., 18, Fletcher-st., New York.
Jones, Prof. Forrest R., A.AM.I.E.E., M.A.S.M.E., Sibley College, Cornell University, Ithaca, N.Y.
Jones, Sebastian C., Aurora, N.Y.
Jones, F. P., & Co., 126, Erie County Bank-bldg., Buffalo, N.Y.
Katte, E. B., M.AM.I.E.E., N.Y.C. & H.R.R.R. Co., Grand Central Station, New York.
Keese, W. I., Los Angeles, Cal.
Keller, E., M.AM.I.E.E., Westinghouse Machine Co., 224, Murtland-ave., Pittsburgh, Pa.
Kellogg, M. W., & Co., 143, Liberty-st., New York.
Kelly, J., Schenectady, N.Y.
Kelting Engineering & Supply Co., 119, Pearl-st., New York.
Keniston Engineering Co., 52, Washington-st., Boston, Mass.
Kennedy, A. P., Maywood, Ill.
Kenny, Paul T., 140, Nassau-st., New York.
Kettler Electric Construction Co., 7, North 9th-st., St. Louis, Mo.
Keystone Electrical Exchange, 128, South Clifton-st., Philadelphia, Pa.
Kimball, Fred., c/o General Electric Co., India-bldg., State-st., Boston, Mass.
King, H. R., Western Electric Co., Hawthorn, Ill.
King Electric Co., Bay City, Mich.

Engineers—Electrical—*continued.*

Kingsbury-Samuel Electric Co., 411, Courtland-st., Baltimore, Md.
Kinsman, F. E., M.AM.I.E.E., 55, Dey-st., New York.
Kintner, Chas. J., 45, Broadway, New York.
Kirkpatrick & Johnson, cor. State & Pearl-sts., Jackson, Miss.
Kitfield, E. H., 53, State-st., Boston, Mass.
Klein, John M., Electrical Works, 105–107, Battery-st., San Francisco, Cal.
Kline, J. J., M.AM.I.E.E., Stanley Electric Manufacturing Co., 29, Broadway, New York.
Kloman, T. W., M.AM.I.E.E., 149, Broadway, New York.
Knowles, E. R., M.AM.I.E.E., 101, World-bldg., New York.
Knowles' Steam Pump Works, 114, Liberty-st., New York.
Knudson, A. A., 32, Nassau-st., New York.
Kohler Bros., 1804–1812, Fisher-bldg., Chicago, Ill.
Korff, F. W., Lockport, N.Y.
Kruesi, A. H., General Electric Co., Schenectady, N.Y.
Kruger, J. L., 953, Myrtle-ave., Brooklyn, New York.
Lamb, F. J., Grand Rapids, Mich.
Lamb & Foster, Taunton, Mass.
Langsdorf, A. S., Washington University, St. Louis, Mo.
Langstad & Meyer, Appleton, Wis.
Lansingh, Van Rensselaer, A.AM.I.E.E., 227, Fulton-st., New York.
Lawrence Electrical Supply & Construction Co., Lawrence, Mass.
Lawton, W. C., A.AM.I.E.E., Roselle, N.J.
Layman, W. A., 2017, Locust-st., St. Louis, Mo.
Leary, J. J., M.AM.I.E.E., Marconi Wireless Telegraph Co., 27, William-st., New York.
Leclair Bros., Green Bay, Wis.
Le Clear, Gifford, A.AM.I.E.E., 15, Exchange-st., Boston, Mass.
Lee, F. V. T., B.A., M.AM.I.E.E., A.M.I.E.E., Pacific Gas & Electric Co., 925, Franklin-st., San Francisco, Cal.
Legrand, Chas., M.AM.I.E.E., Copper Queen Cons. Mining Co., 99, John-st., New York.
Levis, Minford, 8, South 4th-st., Philadelphia, Pa.
Lewis, Edwin C., 121, Federal-st., Boston, Mass.
Lewis, H. A., Sacramento, Cal.
Lewis, Warren B., Providence, R.I.
Leyden, H. R., M.AM.I.E.E., 30, Broad-st., New York.
Lichter & Jens, Chemical-bldg., St. Louis, Mo.
Lighthipe, J. A., General Electric Co., Union Trust-bldg., San Francisco, Cal.
Ligon, W. D., Ohio Brass Co., Mansfield, Ohio.
Lincoln, P. M., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Lindsay, W. W., & Co., Harrison-bldg., Philadelphia, Pa.

Engineers—Electrical—*continued.*

Lipscomb Electrical Co., Dallas, Tex.
Livsey, J. H., A.AM.I.E.E., General Electric Co., 1002–3–4, Majestic-bldg., Detroit, Mich.
Lloyd, Herbert, M.AM.I.E.E., Electric Storage Battery Co., Philadelphia, Pa.
Lockwood, Thomas D., American Telephone & Telegraph Co., Boston, Mass.
Lovejoy, D. R., c/o Atmospheric Products Co., Niagara Falls, N.Y.
Lovejoy, J. R., General Electric Co., Schenectady, N.Y.
Loveridge, H. B., & Bros., Portland Electrical Works, 151, Sixth-st., Portland, Ore.
Lowther, C., A.AM.I.E.E., Crocker-Wheeler Co., New York.
Lozier, R. T. E., M.AM.I.E.E., National Electric Co., Milwaukee, Wis.
Lundell, Robert, 527, West 34th-st., New York.
Lundy, A. D., M.AM.I.E.E., Sargent & Lundy, 1720, Railway Exchange-bldg., Chicago, Ill.
Lupke, Paul, Public Service Corporation of N.J., South Jersey Division, Trenton, N.J.
Luquer, Thatcher T. P., 3, West 29th-st., New York.
Lyman, J., General Electric Co., Monadnock-bldg., Chicago, Ill.
M. & M. Electric Co., 131, 53rd-st., Chicago, Ill.
McCay, H. Kent., M.AM.I.E.E., 107, East German-st., Baltimore, Md.
McCay Engineering Co., 9, East Lexington-st., Baltimore, Md.
McFell Dennis Co., 303, Dearborn-st., Chicago, Ill.
Macgahan, P., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
MacGregor, W. H., Westinghouse Electric & Manufacturing Co., 11, Pine-st., New York.
McIntyre, H. W., Randolph, Vt.
McKinstry, J. P., cor. Seneca & Champlain-sts., Cleveland, O.
MacLaren, M., M.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
McLeod, Ward & Co., 27, Thames-st., New York.
MacLimont, A. W., c/o Federal Electric Co., 141, Broadway, New York.
Macmillan, J., Charleston, S.C.
McPherson & Trickey, Hannibal, Mo.
Magee, L. J., 25, Broad-st., New York.
Mailloux, C. O., 76, William-st., New York.
Maine Electric Co., 23, Commercial-st., Portland, Maine.
Malcolm, P. S., 214, Failing-bldg., Portland, Ore.
Maloney & Hanson, Jamestown, N.Y.
Manhattan Electric Co., Holland-bldg., St. Louis, Mo.
Mansfield, A. N., M.AM.I.E.E., 125, Milk-st., Boston, Mass.
Mansfield & Bain, 748, Drexel-bldg., Philadelphia, Pa.
Marburg, L. C., Allis-Chalmers Co., Milwaukee, Wis.
Marks, L. B., M.AM.I.E.E., 220, Broadway, New York.

Engineers—Electrical—*continued.*

Marks, Hiram, Electric Co., 155, Jefferson-ave., Detroit, Mich.
Marks, Prof. W. D., PH.B., C.E., M.AM.I.E.E., American City Heat & Light Co., Fostoria, Ohio.
Marsh, L. J., 1941, Market-st., Philadelphia, Pa.
Marshall, J. T., Edison Lamp Works, Harrison, N.J.
Martin, J., M.AM.I.E.E., Navy Yard, Brooklyn.
Mashinter Electric Co., 62, Niagara-st., Buffalo, N.Y.
Massey, James C., 58, Federal-st., Pittsburg, Pa.
Mather, Eugene Holmes, A.M.AM.I.E.E., Portland Lighting & Power Co., Portland, Maine.
Mead, Morris W., Bureau of Electricity, Department of Public Safety-bldg., 6th-ave., Pittsburgh, Pa.
Meigs, G. E., Syracuse, N.Y.
Meredith, Wynn, M.AM.I.E.E., Union Trust-bldg., San Francisco, Cal.
Metropolitan Electric Equipment Co., 600, Lexington-ave., New York.
Metropolitan Telephone & Telegraph Co., 18, Cortlandt-street, New York, N.Y.
Miles, Z. C., & Piper Co., 313, 1st-ave., Seattle, Wash.
Miller, L. E., 1210, Congress-ave., Houston, Tex.
Miller, W. C., 3, South Hawk-st., Albany, N.Y.
Miller & Chittim, 38, Main-st., Norwalk, Conn.
Miller Electric Construction Co., Pittsburgh, Pa.
Miller & Tuggle, Beaumont, Tex.
Miner, Willard M., Plainfield, N.J.
Minnesota Electric Co., Minneapolis, Minn.
Missimer, C. E., Allentown, Pa.
Molera, E. J., 2025, Sacramento-st., San Francisco, Cal.
Montague, R. L., Oroville, Cal.
Montana Electric Co., Butte City, Mont.
Mooney, T. J., Co., Nashville, Tenn.
Moore, Wm. E., M.AM.I.E.E., Pittsburg, McKeesport & Connellsville Railway Co., Connellsville, Pa.
Morgan, H. E., & Co., Camden, N.J.
Morrison, J. Frank, 317, North Paca-st., Baltimore, Md.
Morrison, R. H., 3rd-ave. & 71st-st., New York.
Mosman, C. T., Schenectady, N.Y.
Muckle, M. R., jun., & Co., 512, Stephen Girard-bldg., 21, South 12th-st., Philadelphia, Pa.
Murphy, T. J., 364, West 121st-st., New York.
Muschenheim, F. A., M.AM.I.E.E., Western Electric Co., Hotel Astor, New York.
Mustard, John, Real Estate Trust-bldg., Philadelphia, Pa.
Mutual Electric Co., Duluth, Minn.
National Electric Co., Milwaukee, Wis.
Neely Construction & Supply Co., Washington, D.C.
Neff & Thompson, Norfolk, Va.
Neu, Gustave S., Co., 125–127, Grand-st., New York.
New Jersey Engineering & Construction Co., Morristown, N.J.

Engineers—Electrical—*continued.*

New Orleans Electric Co., Hibernia Bank-bldg., New Orleans, La.
New York Electrical Equipment Co., 572, 1st-ave., New York, N.Y.
Newman, F. J., Woods Motor Vehicle Co., Chicago, Ill.
Niagara Engineering Co., 326, Main-st., Niagara Falls, N.Y.
Nicholson, S. L., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., East Pittsburg, Pa.
Noeggerath, J. E., Schenectady, N.Y.
Norfolk Electric Co., Norfolk, Va.
Northwest Electric Engineering Co., 309, Stark-st., Portland, Ore.
Oakes, Roland T., Co., Holyoke, Mass.
Oberg & Blumberg, 112, West 42nd-st., New York, N.Y.
O'Dea, M. T., M.AM.I.E.E., 79, N. State-st., Chicago.
O'Reilly, A. J., Fire Prevention Bureau, Century-bldg. & 1507, Papin-st., St. Louis, Mo.
Ormsbee, A. F., New York & New Jersey Telephone Co., Brooklyn, N.Y.
Osborne, Loyall A., Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.
Oudin, M., M.SC., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Packard, G. F., Stow Manufacturing Co., Binghamton, N.Y.
Packard, W. D. & J. W., Warren, Ohio.
Paine, F. B. H., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., 11, Pine-st., New York.
Palmer, W. K., 718, Dwight-bldg., Kansas City, Mo.
Parker, L. H., M.AM.I.E.E., Stone & Webster Engineering Corp., 84, State-st., Boston, Mass.
Pattison Bros., 5th-ave. & 23rd-st., Broadway, New York.
Peacock, Thomas, 545, Liberty-st., Pittsburg, Pa.
Pearson, F. S., 25, Broad-st., New York.
Pearson, W. A., M.AM.I.E.E., Interurban Street Railway Co., 621, Broadway, New York.
Pease, H. C., General Electric Co., Schenectady, N.Y.
Penton, C. T., M.AM.I.E.E., Great Lakes Engineering Works, Detroit, Mich.
Percival & Jones, 604, Burlington-bldg., St. Louis, Mo.
Perkins, Frank C., 126, Erie County Bank-bldg., Buffalo, N.Y.
Perrine, F. A. C., D.SC., M.AM.I.E.E., M.I.E.E., 60, Wall-st., New York.
Perry, C. L., General Electric Co., Schenectady, N.Y.
Pfatisher, M., Electro Dynamic Co., Philadelphia, Pa.
Philadelphia Electrical Equipment Co., 816, Cherry-st., Philadelphia, Pa.
Pickenpack, M. S., 422, Main-st., Poughkeepsie, N.Y.
Pickernell, F. A., American Telegraph & Telephone Co., 1295, Milk-st., Boston, Mass.

Engineers—Electrical—*continued.*

Pierce, Richard H., 110, State-st., Boston, Mass.
Pierson & Co., 1, Park-row, New York.
Piesch, C., & Nissen, 848, Flatbush-ave., Brooklyn, N.Y.
Pike, Clayton W., c/o Keller, Pike & Co., 112, North 12th-st., Philadelphia, Pa.
Pinkerton, Andrew, M.AM.I.E.E., American Sheet & Tin Plate Co., Vandergrift, Pa.
Pinkham Electric & Repair Co., 531, Smithfield-st., Pittsburg, Pa.
Pittsburg Engineering Co., 1212, Keystone-bldg., Pittsburg, Pa.
Plant & Co., 432, East 23rd-st., New York.
Plumb, Charles, Electrical Works, 47, West Swan-st., Buffalo, N.Y.
Porter, J. F., M.AM.I.E.E., Alton Granite & St. Louis Traction Co., Alton, Ill.
Potter, H. S., 24, Commerce-st., Boston, Mass.
Potts, L. M., Rowland Telegraphic Co., Baltimore, Md.
Power, T. W., Washington Loan & Trust-bldg., Washington, D.C.
Power Installation Co., 202, Main-st., Buffalo, N.Y.
Practical Electric Co., 211, Lippincott-bldg., Philadelphia, Pa.
Price, E. F., Union Carbide Co., Niagara Falls, N.Y.
Prior & Sallada Co., Inc., Williamsport, Pa.
Proctor, T. L., A.AM.I.E.E., 149, Broadway, New York.
Proutt, F. G., M.AM.I.E.E., Jackson Electric Railway Light & Power Co., Jackson, Miss.
Rae, F. B., M.AM.I.E.E., Penobscot-bldg., Detroit, Mich.
Raeburn, Andrew, Westinghouse, Church, Kerr & Co., Boston.
Randall, K. C., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Randolph, R. J., Excelsior Electric Co., 1519, Monadnock-blk., Chicago, Ill.
Ransom, A. E., Lewiston-Clarkston Co., Lewiston, Idaho.
Rau, J. C., Washington, D.C.
Readville Electric Co., Readville, Mass.
Reber, H. L., M.AM.I.E.E., Kinloch Telephone Co., Century-bldg., St. Louis, Mo.
Reckenzaun, Frederick, 77, Chambers-st., New York.
Reed, Chas. J., 3313, N. 16th-st., Philadelphia.
Reed, S. Albert, 17, Battery-pl., New York.
Reid, C. E., Bureau of Standards, Washington, D.C.
Reist, H. G., M.E., General Electric Co., Schenectady, N.Y.
Reno, C. Stowe, Triumph Electric Co., 610, Baymiller-st., Cincinnati, Ohio.
Rice, Calvin W., M.I.E.E., 29, West 39th-st., New York.
Rich & Ware, 162, West 29th-st., New York.
Richardson, R. E., Kansas City Electric Light Co., Kansas City, Mo.

Engineers—Electrical—*continued.*

Richmond, Will F., 308, Atlantic-ave., Boston, Mass.
Richter, H., Cincinnati, Ohio.
Ridley, A. E. Brooke, 18, Fell-st., San Francisco, Cal.
Ries, Elias E., 110, Nassau-st., New York, N.Y.
Robb, W. L., M.AM.I.E.E., Rensselaer Polytechnic Institute, Troy, N.Y.
Robb, Russell, Stone & Webster, 84, State-st., Boston, Mass.
Robinson, D. P., M.AM.I.E.E., Stone & Webster, 907, 1A-ave., Seattle, Wash.
Rodgers, H. S., M.AM.I.E.E., Merchants' National Bank, Cincinnati, Ohio.
Roe, Arthur E., 407, Lyceum-st., Duluth, Minn.
Roe, Albert, & Co., 766, Fox-st., New York.
Roeller, W. H., & Co., Pottstown, Pa.
Rohrer, A. L., General Electric Co., Schenectady, N.Y.
Roller, F. W., 203, Broadway, New York.
Rosenbaum, William A., 140, Nassau-st., New York.
Ross, E. L., 614, East 138th-st., New York.
Rouquette, W. F. B., Life M.AM.I.E.E., Warren-st., New York.
Rouquette & Co., agents for Priestman Bros., 47, Dey-st., New York.
Rowell, H. G., Auburn, Maine.
Rowland, Prof. A. J., A.AM.I.E.E., Drexel Institute, 4510, Osage-ave., Philadelphia, Pa.
Ruffner, C. S., A.AM.I.E.E., Telluride Power Co., Provo, Utah.
Rugg, W. S., A.AM.I.E.E., 120, Broadway, New York.
Rugg, J. K., & Co., Cincinnati, Ohio.
Runyon & Carey, 122, Market-st., Newark, N.J.
Rushmore, D. B., Wendell Hall, Pittsburg, Mass.
Russell, G. W., M.AM.I.E.E., 500, 5th-ave., New York.
Russell, H. A., A.AM.I.E.E., General Electric Co., 302, Laurel-st., San Francisco, Cal.
Rutherfoord, B., A.I.E.E., Westinghouse-bldg., Pittsburg, Pa.
Ryan, W. D'Arcy, A.AM.I.E.E., General Electric Co., Lynn, Mass.
Sachs, J., M.AM.I.E.E., 4, Cone-st., Hartford, Conn.
Sackett, H. I., 256–258, Pearl-st., Buffalo, N.Y.
Sackett Mine Supply Co., 77, East Long-st., Columbus, Ohio.
Saginaw Electrical Construction Co., Saginaw, Mich.
Salich & Co., 755, Monadnock-blk., Chicago, Ill.
Sampson, F. D., M.AM.I.E.E., Catawba Power Co., Charlotte, N.C.
Sampson & Allen, 51, Exchange-st., Lynn, Massachusetts.
Sargent, H. R., General Electric Co., Schenectady, N.Y.
Sargent, Conant & Co., Incorporated, Equitable-bldg., Boston, Mass.
Sargent & Lundy, Railway Exchange-bldg., Chicago, Ill.

Engineers—Electrical—*continued.*

Sawin, G. A., A.AM.I.E.E., General Electric Co., Lynn, Mass.
Sawyer, W. H., A.AM.I.E.E., Railway Engineering Dept., General Electric Co., Schenectady, N.Y.
Saxelby, F., 39, Cortlandt-st., New York.
Sayville Electric Co., Sayville, N.Y.
Scheible, Albert, 14, S. Jefferson-st., Chicago, Ill.
Schneider, C., Sons, 1207, F-st., Washington, D.C.
Schum, C. H., Burke Electric Co., Erie, Pa.
Schwedtman, F., M.AM.I.E.E., Wagner Electric Manufacturing Co., 2017, Locust-st., St. Louis, Mo.
Scott, J. B., 306, Amer-bldg., Baltimore, Md.
Scribner, C. E., A.AM.I.E.E., 259, South Clinton-st., Chicago, Ill.
Sendder, H., jun., 21, East 22nd-st., New York, N.Y.
Serrel, L. W., 29, Broadway, New York.
Shafer, A. H., San Antonio, Tex.
Shea, D. M., Waverly-pl., Madison, N.J.
Shean, John, 12th & Filbert-sts., Philadelphia, Pa.
Sheets, C. W., Galveston, Tex.
Sherer, C., 1770, Amsterdam-ave., New York.
Shoenberg Electrical Co., San Francisco, Cal.
Sibley & Pitman, 26, Warren-st., New York, N.Y.
Signor, J. M., Binghamton, N.Y.
Simpson, J. H., 286, Amsterdam-ave., New York, N.Y.
Sinclair, H. A., 35, South William-st., New York, N.Y.
Skinner, C. E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Skirrow, J. F., 253, Broadway, New York.
Smith, J. M., M.AM.I.E.E., 220, Broadway, New York.
Smith, F. S., Sawyer-Man Electric Co., New York.
Smith, H. E., Batavia, N.Y.
Smith, J., 3, East 135th-st., New York.
Smith, S. J., A.AM.I.E.E., Fostoria Incand. Lamp Co., 1328, Empire-bldg., Atlanta, Ga.
Smith Elec. Engineering Co., Watertown, N.Y.
Snyder, W. J., jun., 6014, Center-ave., Pittsburg, Pa.
Soren, T. H., A.AM.I.E.E.E., General Electric Co., Schenectady, N.Y.
Southwestern Electrical Engineering & Construction Co., Dallas, Tex.
Southworth, M. O., A.AM.I.E.E., Commercial Electric Co., Indianapolis, Ind.
Spencer, Chas. J., A.AM.I.E.E., Westinghouse Electric & Mfg. Co., East Pittsburg, Pa.
Spencer Elec. Co., 163, Greenwich-st., New York.
Sperry, Elmer A., 855, Case-ave., Cleveland, O.
Spiese, F. P., A.AM.I.E.E., Edison Electric Illuminating Co., Tamaqua, Pa.
Spinney, L. B., M.AM.I.E.E., Iowa State College, Ames. Iowa.
Sprague, Frank J., 20, Broad-st., New York.
Sprague, T. W., 4, State-st., Boston, Mass.
Standard Electric Construction Co., 14-16, N. Water-st., Rochester, N.Y.

Engineers—Electrical—*continued.*

Standard Electric Equipment Co., 218, La Salle-st., Chicago, Ill.
Stanley, W., M.AM.I.E.E., Great Barrington, Mass.
Stearns, C. K., 93, Federal-st., Boston.
Stearns, J. W., M.AM.I.E.E., Mountain Electric Co., Denver, Col.
Stebbins, T., M.AM.I.E.E., Interurban Railway Association, New York.
Steele, R. A. M., 131, South Highland-ave., Pittsburg, Pa.
Steele, W. D., c/o Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Steinberger, A., 312, W. Madison-st., Chicago, Ill.
Steinmetz, C. P., General Electric Co., Schenectady, N.Y.
Stenger, E. H., Cincinnati, Ohio.
Stern, P. K., A.AM.I.E.E., 34, West 136th-st., New York, N.Y.
Stern & Silverman, 605, Land Title-bldg., Philadelphia, Pa.
Sterns, J. C., & Co., 259, Pennsylvania-ave. W., Warren, Pa.
Stimple & Ward, Allegheny City, Pa.
Stine, Dr. W. M., Swarthmore College, Swarthmore, Pa.
Stone, Chas. A., Stone & Webster, 84, State-st., Boston, Mass.
Stone & Webster, 84, State-st., Boston, Mass.
Storer, N. W., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Storrs, H. A., M.AM.I.E.E., U.S. Geological Survey, Chamber of Commerce-bldg., Denver, Col.
Stott, Henry G., M.AM.I.E.E., Interborough Rapid Transit Co., New York.
Stovel, R. W., A.AM.I.E.E., Westinghouse, Church, Kerr & Co., New York.
Stuart, H. R., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Sutter, C. J., 1220, Pine-st., St. Louis, Mo.
Swan Electric Co., 37, Pearl-st., Boston, Mass.
Taber & Mayer, 506, Atlantic-ave., Boston, Mass.
Tatham, Jas., M.I.E.E., 226 & 228, South 5th-st., Philadelphia, Pa.
Taylor, J. B., General Electric Co., Schenectady, N.Y.
Taylor, W. G., M.I.E.E., c/o Commercial Cable Co., 253, Broadway, New York.
Taylor & Fountain Engineering Co., 365, Market-st., Newark, N.J.
Temple, H. D., Worcester, Mass.
Tesla, Nikola, Wardenclyffe, Long Island, N.Y.
Thaxter, F. O., 722, Dudley-st., Boston, Mass.
Thiemer, E. J. H., 523, Nostrand-ave., Brooklyn, N.Y.
Thomas & Betts, Washington Life-bldg., 141, Broadway, New York.
Thomas & Johnson, 183, Greenwich-st., New York.
Thomson, J. W., jun., & Co., Mitchell, Ind.
Thornapple Electric Co., Hastings, Mich.
Thorne, C. F., 202, East 36th-st., New York.
Thurston, Geo. H., & Co., 65, South Main-street, Providence.

Engineers—Electrical—*continued.*

Tibbe Electric Co., Washington, Mo.
Trafford, E. W., M.AM.I.E.E., Richmond Passenger & Power Co., Richmond, Va.
Trevor, J., 406, 1st-ave. South, Minneapolis, Minn.
Trumansburg Electric Co., Trumansburg, N.Y.
Trumbull Electric Manufacturing Co., Plainville, Conn.
Tucker Elec. Cons. Co., 35, S. William-st., New York.
Tucker & Vinton, 156, 5th-ave., New York.
Turner, W. S., M.AM.I.E.E., J. G. White & Co., 43, Exchange-pl., New York.
Uebelacker, C. F., M.AM.I.E.E., Ford, Bacon & Davis, Hackensack, N.J.
Uhlenhaut, F. J., M.AM.I.E.E., c/o Pittsburg Railway Co., Pittsburg, Pa.
Underground Construction Co., 150, Nassau-st., New York.
United Electric Co., The, Mechanicsburg, Pa.
United Engineering & Contracting Co., 32, East 33rd-st., New York.
Upton, F. R., M.S., M.AM.I.E.E., Edison Laboratory, Orange, N.J.
Vailleux Electrical Co., Los Angeles, Cal.
Van Dyke Electric Co., Asbury Park, N.J.
Vandegrift, J. A., 2051, California-st., Denver, Col.
Vander Naillen, R. Leo., 5100, Telegraph-ave., Oakland, Cal.
Van Loan, I. S., Co., 463, Greenwich-st., New York.
Van Nort Bros. Electric Co., 718, Market-st., St. Louis, Mo.
Van Nuis, C. S., 43, Cortlandt-st., New York.
Van Trump, C. R., Wilmington, Del.
Van Winkle, Edward, Flatiron-bldg., Madison-sq., New York.
Varley, R., jun., M.AM.I.E.E., Varley Duplex Magnet Co., Phillipsdale, Providence, R.I.
Varney, F. H., A.AM.I.E.E., San Francisco Gas & Electric Co., 2912, Mission-st., San Francisco, Cal.
Venino, F., Newark, N.J.
Voelkner & Reinke Manufacturing Co., 123, Woodbridge-st., Detroit, Mich.
Wait, Henry H., M.I.E.E., M.AM.I.E.E., Rateau Turbine Co., 215, Wabash-ave., Chicago, Ill.
Waldo, Dr. Leonard, 49, Wall-st., New York.
Walker & Kepler, 531, Chestnut-st., Philadelphia, Pa.
Wallace, H. L., A.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Wallber, O. F., Germania-bldg., Milwaukee, Wis.
Waller, C. W., California Electric Corp., Rialto-bldg., San Francisco, Cal.
Ward, G. G., M.I.E.E., Commercial Cable Co., 253, Broadway, New York.
Warden, J. D., Sheboygan, Wis.
Warden, W. J., jun., Western Electric Co., 242, South Jefferson-st., Chicago, Ill.
Warner, Ernest P., c/o Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Warner, R. F., General Electric Co., Schenectady, N.Y.

Engineers—Electrical—*continued.*

Waterhouse, Frank G., Bolinas Marine Co., Bolinas, Cal.
Webster, Edwin S., 84, State-st., Boston, Mass.
Weise Bros., Library-bldg., Davenport, Iowa.
Werner, Jacob, 201, East 47th-st., New York.
West Coast Appliance Co., San Francisco, Cal.
Westinghouse, Church, Kerr & Co., 10, Bridge-st., New York.
Wetzler, J., M.AM.I.E.E., Electrical Engineer Institute of Correspondence Instruction, 240, West 23rd-st., New York.
Wheeler, S. S., Crocker-Wheeler Co., Ampere, New Jersey.
Wheeling Electrical Co., Wheeling, W. Va.
Whitaker, S. Edgar, 93, Exchange-st., Portland, Maine.
White, J. G., M.I.E.E., 43, Exchange-pl., New York.
White, R. M., 35, West Long-st., Columbus, Ohio.
White, T. W., Elizabeth, N.J.
White, W. F., M.AM.I.E.E., North American Co., 30, Broad-st., New York.
White Electric Co., Buffalo, N.Y.
Whitehead, J. B., PH.D., A.AM.I.E.E., John Hopkins University, Baltimore, Md.
Whitner, Wm. E., Richmond, Va.
Whitney, C. E., 123, Liberty-st., New York.
Whitney, A. R., jun., & Co., 135, Broadway, New York.
Wightman, Merle J., 302, Broadway, New York.
Wilcox, N. T., M.AM.I.E.E., Lowell Electric Light Corporation, Lowell, Mass.
Wiley, G. L., A.AM.I.E.E., Standard Underground Cable Co., 56, Liberty-st., New York.
Williams, C. H., Electric Co., 908, Monroe-st., Toledo, Ohio.
Willis, E. J., M.AM.I.E.E., Richmond Electric Co., P.O. Box 164, Richmond, Va.
Willyoung, E. G., M.AM.I.E.E., 40, West 13th-st., New York.
Wilson, H. S., M.AM.I.E.E., 1215, West Fayette-st., Baltimore, Md.
Wilson, R. L., A.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburgh.
Winslow, G. H., National Tube Co., 1718, Frick-bldg., Pittsburgh, Pa.
Wisconsin Electrical Construction Co., Milwaukee, Wis.
Wittman, G. J., 120, Water-st., Newburgh, N.Y.
Woehrle, G., & Son, 2115, 3rd-ave., New York.
Woodruff Electric Co., Rome, Ga.
Woodward, Wm. C., M.AM.I.E.E., Narragansett Electric Lighting Co., Providence, R.I.
Worstall, A. M., & Co., 702, Witherspoon-bldg., Philadelphia, Pa.
Wray, J. Glen, Chicago Telephone Co., 162, Center-st., Chicago, Ill.
Wright, H. H., Cambridge, Md.
Yound, W. D., M.AM.I.E.E., B. & O. R. R., Roland Park, Baltimore, Md.
Zamoiski, Jos. M., 409, West Lexington-st., Baltimore, Md.
Zenker, F., 139, East 113th-st., New York.

Engineers—Electrical Consulting.

F.—Ingénieurs—Electriciens consultants.

G.—Elektrotechniker—Beratende.

Adams & Schwab, 17, Clay-st., Baltimore, Md.
Apple, V. G., 38, South St. Clair-st., Dayton, Ohio.
Armstrong, Chas. G., 17, Battery-pl., New York.
Arnold, B. J., 1539, Marquette-bldg., Chicago, Ill.
Badt, F. B., & Co. (& experts), 1504, Monadnock-blk., Chicago, Ill.
Bailey, F. W. C., 1507, First National Bank-bldg., Cincinnati, Ohio.
Baldwin, B. L., & Co., Perin-bldg., Cincinnati, O.
Barstow, W. S., 56-58, Pine-st., New York.
Barstow & Chambers, 56, Pine-st., New York.
Bennett, E. C., 1538, Monadnock-blk., Chicago, Ill.
Benson, Wm. W., 925, Chestnut-st., Philadelphia, Pa.
Bickford, J. H., 110, State-st., Boston, Mass.
Blanck, W. A., Fisher-bldg., Chicago, Ill.
Bogart, J., 16, Exchange-pl., New York.
Bolton, R. P., 527, 5th-ave., New York.
Bown, D. E., 441, 6th-ave., Pittsburg, Pa.
Brandeis, C, A.AM.I.E.E., 160, St. James-st., Montreal, P.Q.
Brooks, F. A., Charleston, Ill.
Brophy, Wm., A.AM.I.E.E., 17, Egleston-st., Jamaica Plain, Mass.
Brown, G. W., West Newbury, Mass.
Brown, Harold P., 120, Liberty-st., New York.
Brown, J. Stanford, 489, 5th-ave., New York.
Byrne, T. W., 8, Doane-st., Boston, Mass.
Campbell, Jno., Electrical Auditing Co., 726-729, Old South-bldg., Boston, Mass.
Carpenter, Breese & Ferguson, Norfolk, Va.
Carichoff, E. R., 20, Broad-st., New York.
Caster, C. E., Burlington, Iowa.
Cataract Construction Co., 15, Broad-st., New York; & Niagara Falls, N.Y.
Chapman, C. A., 204, Dearborn-st., Chicago, Ill.
Christie, W. W., Paterson Savings Inst.-bldg., Paterson, N.J.
Cincinnati Engineering & Investment Co., 63, Mitchell-bldg., Cincinnati, Ohio.
Clausen, Burch & Pillsbury, Guaranty-bldg., Minneapolis, Minn.
Cochran, J. H., 303, W. Main-st., Louisville, Ky.
Cole, Henry E., Park-bldg., Pittsburg, Pa.
Coleman, J. F., Hibernia Bank & Trust Co.-bldg., New Orleans, La.
Colles, G. W., 404, Alhambra-bldg., Milwaukee, Wis.
Conant, W. S., Moffat-blk., Detroit, Mich.
Corson, W. R. C., A.AM.I.E.E., 36, Pearl-st., Hartford, Conn.
Cory, Meredith & Allen, 321, Pine-st., San Francisco, Cal.
Crosby, James W., A.AM.I.E.E., 15, Federal-st., Boston, Mass.

Engineers—Electrical Consulting—*contd.*

Cudworth, Axteel & Co., Life-bldg., Kansas City, Mo.
Cummings, E. W., Seattle, Wash.
Curtis, Chas. G., A.AM.I.E.E., P.O. Box 412, New York, N.Y.
Cushing, H. C., jun., M.AM.I.E.E., 220, Broadway, New York.
Daft, Leo, M.AM.I.E.E., Rutherford, N.J.
Darlington, F. W., 1140, Real Estate Trust-bldg., Philadelphia, Pa.
Davids, Richard W., 308, Walnut-street, Philadelphia, Pa.
Davis, Edward, 1000, Betz-bldg., Philadelphia.
Davis, L. K., 30, Broad-st., New York.
De Kinder, J. J., 619, Girard-bldg., Philadelphia.
Densmore & Le Clear, 15, Exchange, Boston, Mass.
Drysdale, Dr. W. A., Hale-building, Philadelphia, Pa.
Duncan, Louis, M.AM.I.E.E., 56, Pine-st., New York.
Earl, M. A., 1st National Bank-bldg., Chicago, Ill.
Electric Auditing Co., Old South-bldg., Boston, Mass.
Electric & Steam Engineering Co., Chemical-bldg., St. Louis, Mo.
Entz, Justus B., A.AM.I.E.E., Electric Storage Battery Co., 19th-st. & Allegheny-ave., Philadelphia, Pa.
Fergus, W. L., & Co., Fisher-bldg., Chicago, Ill.
Field, Henry George, M.AM.I.E.E., Washington Arcade, Detroit, Mich.
Fleming, H. S., 1, Broadway, New York.
Forbes, H. C., 4, State-st., Boston, Mass.
Ford, Bacon & Davies, 24, Broad-st., New York.
Foster, H. A., 650, Bullitt-bldg., Philadelphia, Pa.
Fowler, Geo. L., 53, Broadway, New York.
Francis Bros. & Jellett, Incorporated, Broad & Wallace-sts., Philadelphia, Pa.
French, Hollis, & Allen Hubbard, Albany-bldg., Boston, Mass.
Goldmark, C. J., 7, West 38th-st., New York.
Goltz, Wm., M.AM.I.E.E., Goltz Engineering Co., 127, Fulton-st., Chicago, Ill.
Graham, George W., 1733, Monadnock-bldg., Chicago, Ill.
Hammer, Wm. J., M.AM.I.E.E., 1406, Havemeyer-building, 26, Cortlandt-street, New York.
Hanington, Ephraim, & Co., 60, State-st., Boston, Mass.
Harrington, Walter East, 43, Exchange-pl., New York.
Hartford, R. F., 76, Capital-ave., Atlanta, Ga.
Hawes & Gray, 37 & 39, Dwight-st., Springfield, Mass.
Hering, Carl, 927, Chestnut-st., Philadelphia, Pa.
Herrick, A. B., A.AM.I.E.E., 120, Liberty-st., New York.
Hildreth & Co., 50, Broadway, New York.
Hill, Geo., 33, Union-sq. West, New York.

Engineers—Electrical Consulting—*contd.*

Holt Engineering Co., New England-bldg., Cleveland, Ohio.
Holt & Schober, Provident-bldg., Philadelphia, Pa.
Houston, Prof. Edwin J., 1809, Spring Garden-st., Philadelphia, Pa.
Humphrey, Henry H., Suite 1505, Chemical-bldg., St. Louis, Mo.
Hurd & Huggin, 316, Hudson-st., New York.
Hutchinson, Cary T., PH.D., Postal Telegraph-bldg., 60, Wall-st., New York.
Jackson, Dugald C. & William B., Madison, Wis.
Jones, E. S., Muncie, Ind.
Kaltenbach & Griess, Chamber of Commerce-bldg., Cleveland, Ohio.
Keystone Engineering Co., 1207–1208, Farmer's Bank-bldg., Pittsburg, Pa.
Kimbark, D. Avery, 1503, Fort Dearborn-bldg., Chicago, Ill.
Knapp, Chas. M., Girard College, Philadelphia.
Knight Bros., 20, Broad-st., New York.
Knowles & Broadnax, World-bldg., New York.
Knox, C. E., M.AM.I.E.E., 76, William-st., New York.
Lederer, Wm., 1113, Lincoln-ave., Chicago, Ill.
Lefebre, C. E., Bissell-blk., Pittsburg, Pa.
Longdon, J. N., 1300, Broadway, New York.
Ludwig & Co., Atlanta, Ga.
Lyndon, L., 80, William-st., New York.
Lyon & Harvey, Memphis, Tenn.
Lyons, J. W., Fisher-bldg., Chicago, Ill.
McDargh, H. J., Conover-bldg., Dayton, Ohio.
Macfarlane, Alexander, Lehigh University, Bethlehem, Pa.
MacGeorge & Son, Caxton-bldg., Cleveland, O.
McMeans & Tripp, State Life-bldg., Indianapolis, Ind.
Maphet & Dressel, Commercial Tribune-bldg., Cincinnati, Ohio.
Masson, R. S., 824, W. Lake-ave., Los Angeles, Cal.
Merrin, W. L., Fredericktown, Ohio.
Miller & McMeen, Monadnock-blk., Chicago, Ill.
Milwaukee Engineering Co., Hathaway-bldg., Milwaukee, Wis.
Monrath, Gustave, & Co., 26, East & 2nd-ave., New York.
Morrison, Geo. H., Federal-st., Boston, Mass.
Mosler, A. R., 1679, Broadway, New York.
Myers, Finney & Morrison, Bond-bldg., Washington, D.C.
Nalley, W. J., Austell-bldg., Atlanta, Ga.
Neiler, S. G., M.I.E.E., &c., 1409–1414, Manhattan-bldg., Chicago.
Newhall & Co., 13, E. Read-st., Baltimore, Md.
Newton & Painter, Professional-bldg., 330, North Charles-st., Baltimore, Md.
O'Keefe & Orbison, Engineering & Consulting, Appleton, Wis.
Osborn, J. A., Lincoln Trust-bldg., St. Louis, Mo.
Osburn, Harry G., 296, Dearborn-st., Chicago, Ill.
Owen, Thos. W, 645, 1st National Bank-bldg., Chicago, Ill.
Parker Engineering Co., 18, East 42nd-st., New York.

Engineers—Electrical Consulting—*contd.*

Pattison, F. A., Fuller-bldg., Broadway, New York.
Pattison Bros., Fuller-bldg., Broadway, New York.
Peet, W. C., 227, 4th-ave., New York.
Phillips, Lieut. W. A, 238, S. Cedar-st., Galesburg, Ill.
Pierce, Richardson & Neiler, Manhattan-bldg., Chicago, Ill.
Plews & Trimingham, 56, 5th-ave., Chicago, Ill.
Pope, Ralph W., secretary American Institute of Electrical Engineers, 95, Liberty-st., New York; & 570, Cherry-st., Elizabeth, N.J.
Porter, A. B., 324, Dearborn-st., Chicago, Ill.
Postel & Linn, Fisher-bldg., Chicago, Ill.
Pratt & Atkins, 1000 & 1001, Monadnock-bldg., Chicago, Ill.
Pray, T., jun., 131, State-st., Boston, Mass.
Reeder, Chas. L., 919–921, Equitable-bldg., Baltimore, Md.
Reliance Engineering Co., Traction-bldg., Cincinnati, Ohio.
Rideout, A. C., 101, Randolph-st., Chicago, Ill.
Rider, G., & Son, Century-bldg., Cleveland, Ohio.
Roberts & Abbott Co., Schofield-bldg., Cleveland, Ohio.
Ruebel & Wells, Chemical-bldg., St. Louis, Mo.
SCHONHEIDER, R. C., Highwood, St. Paul, Minn.
Schultz-Mars, L. Gaylord, 9, East 22nd-st., New York.
Scott, G. W., 188, E. Madison-st., Chicago, Ill.
Second, T. A., Unionville, Mo.
Shaw, Leonard, Hammond-bldg., Detroit, Mich.
Sheldon, T. P., & Co., Industrial Trust-bldg., Providence, R.I.
Shields, W. J., & Co., Lewis-blk., Pittsburg, Pa.
Smith, Frank E., M.AM.I.E.E., 418, Eugenia-ave., San Francisco, Cal.
Smith, J. M., M.AM.I.E.E., 220, Broadway, New York.
Spellmore, W. B., Farmer's Bank-bldg., Pittsburg, Pa.
Spittal, A., 201½, S. High-st., Columbus, Ohio.
Stevens & Sanville, Girard Trust-bldg., Philadelphia, Pa.
Stewart, R. S., M.AM.I.E.E., 814, Penobseat-bldg., Detroit, Mich.
Stillwell, L. B., M.AM.I.E.E., M.I.E.E., 100, Broadway, New York.
Strauss, H. A., 390, Broadway, New York.
Sutton, F., 91, Wall-st., New York.
Taylor, Wyatt W., 500, 5th-ave., New York.
Thomas, W. Owen, 166, Dearborn-st., Chicago. Ill.
Towle, Stevenson, 5, East 42nd-st., New York.
Underhill, C. R., A.AM.I.E.E., 55, Liberty-st., New York.
Van Tuyl, F. F., Union Trust-bldg., Detroit, Mich.
Waddell, C. E., Biltmore, N.C.
Walker, A. F., Austell-bldg., Atlanta, Ga.
Waterman, F. N., 100, Broadway, New York.
Watnough, Pendleton, jun., 1, Broadway, New York.

Engineers—Electrical Consulting—*contd.*

Waugh, J. H., 336, 2nd-ave., Pittsburg, Pa.
Weeks & Kendall, New Nelson-bldg., Kansas City, Mo.
Wells, C. E., A.AM.I.E.E., Chemical-bldg., St. Louis, Mo.
Wetmore & Landsing, 13–21, Park-row, New York.
Wilmerding, C. H., Old Colony-bldg., Chicago, Ill.
Wirt, Ch., 44, North 7th-st., Philadelphia, Pa.
Wolff, A. R., 130, Fulton-st., New York.
Wood, G. R., Fulton Bank-bldg., Pittsburg, Pa.
Zerbe, J. S. & A. J., 11, Broadway, New York.
Zimmerman, L. J., 106, Center-st., New York.

Engineers—Electrical Manufacturing.

F.—Ingénieurs—Fabricant électr.
G.—Elektrotechniker—Fabr.

Acme Electric & Telephone Co., Jackson & Clinton-sts., Chicago, Ill.
Acme Electric Construction Co., Brooklyn, N.Y.
Brill Electric Co., 110, Jackson-st., Augusta, Ga.
Connecticut Dynamo & Motor Co., Mechanic-st., Hartford, Conn.
Electric Engineering & Construction Co., Tacoma, Wash.
Electrical Engineering Co., Seattle, Washington.
Electrical Repair & Construction Co., 2060, 4th-st., Cleveland, Ohio.
Electrical Supply & Construction Co., Jacksonville, Fla.
Electrical Supply & Construction Co., 287, West Federal-st., Youngstown, Ohio.
Emmons Electric Construction Co., 11, South Clark-st., Chicago, Ill.
Fischer Special Manufacturing Co., Cincinnati, Ohio.
General Electric Co., 180, Summer-st., Boston, Mass.; & 44, Broad-street, New York.
Heschen Manufacturing Co., 1304, Douglas-st., Omaha, Neb.
Hope Electric Construction Co., Asbury Park, N.J.
Kansas City Electrical Construction Co., 930, Wyandotte-st., Kansas City, Mo.
King Electric Works, 1385, Broadway, Oakland, Cal.
La Salle Electric Co., 47, West Lake-st., Chicago.
Leavenworth Novelty Works, Leavenworth, Kan.
Mechanical Electrical Construction Co., 1609, Camac-bldg., Philadelphia, Pa.
Mercer, F. E., Wauseon, Ohio.
Morris, H. G., 926, Drexel-bldg., Philadelphia, Pa.
New England Electric Manufacturing Co., Somerville, Mass.
New Jersey Electrical Construction Co., 45, Clinton-st., Newark, N.J.
North-West General Electric Co., Boise City, Idaho.

Engineers—Electrical Manufacturing—*continued.*

Northern Electrical Manufacturing Co., 29, Broadway, New York.
O. K. Construction Co., 11, South Front-st., Hamilton, Ohio.
O'Neil Electric Works, 3113, Michigan-ave., Chicago, Ill.
Overton & Lee, 830, Kansas-ave., Topeka, Kan.
Peterson Electrical Construction Co., 1013, N.Y. Life-bldg., Chicago, Ill.
Portland Electric Works, Portland, Ore.
Prentiss & Damashky, 52, Union-sq., New York.
Q. & C. Co., 700 to 709, Western Union-bldg., Chicago, Ill.
Roberts, Geo. I., & Bros., 471, 4th-ave., New York, N.Y.
Roth Bros. & Co., 27–29, South Clinton-st., Chicago, Ill.
San Francisco Electrical Co., 501, Market-st., San Francisco, Cal.
Scranton Electric Construction Co., Scranton, Pa.
Triumph Electric Co., Cincinnati, Ohio.
Westinghouse Electric & Manufacturing Co., East Pittsburg, Pa.; & at New York, &c.
White, J. G., & Co., Incorporated, 43–49, Exchange-pl., New York.

Engineers—Electrical Testing.

F.—Ingénieurs—essai électrique.
G.—Ingenieure für Elektrische Prüfungen.

Casper, Louis, 3122, Wabash-ave., Chicago, Ill.
Electrical Testing Laboratories, 80th-st. & East End-ave., New York.

Engineers—General.

F.—Ingénieurs—En général.
G.—Ingenieure—Allgemeinen.

Baker, W. E., & Co., 27, William-st., New York.
Bolan, T. V., A.M.AM.I.E.E., General Electric Co., 226, South 11th-st., Philadelphia, Pa.
Bonar, James, & Co., Inc., 516, Frick-bldg., Pittsburg, Pa.
Carson, Howard A., Boston Transit Commission, Boston, Mass.
Davis-Brown Electric Co., Inc., 115, South Cayuga-st., Ithaca, N.Y.
Harrington, Edwin, Son & Co., 1501, Pennsylvania-ave., Philadelphia, Pa.
Hill, G. H., Elevator Department, Sprague Electric Co., Bloomfield, N.J.
Hussey, McCann & Co., 87, Warren-st., New York.
Pierce & Miller, 26, Cortlandt-st., New York.
Potter, Wm. B., M.AM.I.E.E., railway dept., General Electric Co., Schenectady, N.Y.
Van Trump, C. R., M.AM.I.E.E., Wilmington, Del.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Wasserkraft.

Pelton Water Wheel Co., 143, Liberty-street, New York; & Monadnock-bldg., San Francisco, Cal.
Stevens-Hewitt Engineering Co., 17-21, Park-row, New York.

Engineers—Mechanical.

F.—Ingénieurs—Mecaniciens.
G.—Ingenieure—Mechanische.

Bates Machine Co., Joliet, Ill.
Dix, W. S., M.AM.I.E.E., 52, William-st., New York.
Keller, Pike & Co., 1213, Race-st., Philadelphia, Pa.
Link-Belt Co., Nicetown, Philadelphia, Pa.
Randolph, L. S., A.AM.I.E.E., Blacksburg, Va.
Satherberg, C. H., A.AM.I.E.E., Midvale Steel Co., Nicetown, Philadelphia, Pa.
SCHONHEIDER, R. C., Highwood, St. Paul, Minn.
Smith, T. Carpenter, 316, Mariner & Merchant-bldg., Philadelphia, Pa.
Weed, A. G., & Co., 106, Liberty-st., New York.

Engineers—Mining.

F.—Ingénieurs—Mines.
G.—Ingenieure—Gruben.

Courtis, W. M., A.M., 412, Hammond-bldg., Detroit, Mich.
Holt, Marmaduke Burrell, Silverton, Col.
Vander Naillen, A., jun., C.E., 5100, Telegraph-ave., Oakland, Cal.

Engineers' Stores.

F.—Ingénieurs—Fournisseurs et magasins pour.
G.—Ingenieure—Lagerhaus.

Engineers—Telegraph.

F.—Ingénieurs—Télégraphe.
G.—Ingenieure—Telegraphenbau.

Green, George A., Anglo-American Telegraph Co., Duxbury, Mass.

Engineers—Telephone.

F.—Ingénieurs—Téléphone.
G.—Ingenieure—Telephon.

Carty, J. J., M.AM.I.E.E., New York Telephone Co., 15, Dey-st., New York.
Chester, M. E., A.AM.I.E.E., 463, West-st., New York.
Crossman, G., A.AM.I.E.E., Western Electric Co., 463, West-st., New York.
Gherardi, B., New York Telephone Co., & N.Y. & N.J. Telephone Co., 15, Dey-st., Brooklyn, N.Y.
Ideal Construction Co., Harper-blk., Lima, Ohio.
Jones & Winter, 1259, Monadnock-bldg., Chicago.
McBerty, F. R., Western Electric Co., Chicago.

Engineers—Telephone—*continued.*

Miller, K. B., 1442-3, Monadnock-blk., Chicago, Ill.
Stanton, Le Roy W., 411, Electrical-bldg., Cleveland, Ohio.
Webb, H. Storrs, International Text Book Co., Scranton, Pa.

Engineers—Ventilating.

F.—Ingénieurs—Ventilation.
G.—Ingenieure—Ventilation.

American Blower Co., Detroit, Mich.
Baldwin, W. J., World-bldg., New York.
Bates, D. L., & Bros. Co., Dayton, Ohio.
Buffalo Forge Co., Buffalo, N.Y.
Eck Dynamo & Motor Works (C. A. Eck, proprietor), Belleville, N.J.
Electric Ventilating Co., 221, East Kinzie-st., Chicago, Ill.
Shedd Electric Co., 60, Leonard-st., New York.

Experimental Electric Work.

F.—Travaux d'essai électrique.
G.—Versuchsweise Elektrische Arbeit.

Bender & Splitdorf, 17-27, Vandewater-st., New York.
Parsell, H. V. A., 129, West 31st-st., New York.
Philadelphia Speciality Co., 1941, Market-st., Philadelphia, Pa.

Exporters & Importers of Electrical & Telegraphic Plant.

F.—Exportateurs et Importateurs d'outillage électr. et télégr.
G.—Ausführen & Einführen von Elektr. & Telegr. Materialen.

American Trading Co., 25, Broad-st., New York.

Fan Motors—Makers of.

F.—Moteurs à Ventilation—Fab. de.
G.—Ventilator-Motoren—Fab. von.

Chicago Water, Motor & Fan Co., 22, South Canal-st., Chicago, Ill.
Colonial Fan & Motor Co., Warren, Ohio.
Goldmark & Wallace, 83, Warren-st., New York.
Jones Electrical Co., 62, Vesey-st., New York.
Peerless Electric Co., Warren, Ohio.
Penna Electric Co., Marietta, Pa.
Rodrigues, M. R., 17, Whipple-st, Brooklyn, N.Y.
Specialty Manufacturing Co., 32-36, East South-st., Indianapolis, Ind.
Star Electric Co., Niles, Ohio.
Wing, L. J., Manufacturing Co., Inc., 136, Liberty-st., New York.

Feed Water Heaters—Makers of.

F.—Injecteurs pour chaudières—Fab. de.
G.—Apparate zum Temperiren von Speisewasser —Fab. von.

Baragwanath, Wm., & Son, 48–52, West Division-street, Chicago, Ill.
Davis, I. B., & Son, Hartford, Conn.
Goubert Manufacturing Co., 85, Liberty-st., New York.
Harrison Safety Boiler Works, Germantown Junction, Philadelphia, Pa.
Hoppes Manufacturing Co., Belmont-avenue, & Big 4 RR., Springfield, Ohio.
Kensington Engine Works, Ltd., 704, Arch-st., Philadelphia.
National Pipe Bending Co., New Haven, Conn.
Platt Iron Works Co., Dayton, Ohio.
Rice, D. E., 191, Atwater-st., Detroit, Mich.
Spear, James, 1014, Market-st., Philadelphia, Pa.
Stewart Heater Co., Buffalo, N.Y.
Taunton Locomotive Manufacturing Co., Taunton, Mass.
Whitlock Coil Pipe Co., Hartford, Conn.

Fibre.

See VULCANIZED FIBRE.

Fittings Makers—Electrical.

F.—Fournitures pour l'éclairage électrique.
G.—Armaturen—elek.

Aiken & Co., Liberty-st., Pittsburg, Pa.
Baggot, E., Co., 169–171, E. Adams-st., Chicago, Ill.
Barber & Ross, 11th- & G.-sts., N.W., Washington, D.C.
Barton Netting Co., 250, Woodward-ave., Detroit, Mich.
Baxter & Brown, 36, South Washington-st., Tiffin, Ohio.
Black, Allen, Co., St. Paul, Minn.
Bredsvold Manufacturing Co., cor. 3rd & Lucas-ave., St. Louis, Mo.
Briggs, E. A., Co., 141, West 125th-st., New York.
Brooks, E. F., & Co., 531, 15th-st., Washington, D.C.
Browne, Borum & Co., 52, 2nd-st., Memphis, Tenn.
Casey, A. C., 894, Westminster-st., Providence, R.I.
Cassidy & Son Manufacturing Co., 135, West 23rd-street, New York, N.Y.
Chicago Gas & Electric Fixture Manufacturing Co., 19 & 23, South Jefferson-st., Chicago, Ill.
Cleveland Gas & Electric Fixture Co., Rose-bldg., Cleveland, Ohio.
Cohen, J. B., 433, Westminster-st., Providence, R.I.
Davidson, C. Y., Co., 328, North Charles-st., Baltimore, Md.

Fittings Makers—Electrical—*continued.*

Day, Thomas, Co., Incorp., 725, Mission-st., San Francisco, Cal.
Detroit Gas & Electric Fixture Co., 179, Larned-st. W., Detroit, Mich.
Edwards, W. S., Manufacturing Co., 21, Lake-st., Chicago, Ill.
Falvy-Wilson Co., New Orleans, La.
Freeman, E. H., Electric Co., 100, Hamilton-ave., Trenton, N.J.
Gail-Webb Manufacturing Co., Buffalo, N.Y.
Garden City Chandelier Co., 162 & 164, South Clinton-st., Chicago, Ill.
Gardner Plumbing & Heating Co., 419, Hampshire-st., Quincy, Ill.
Gaumer, John L., Co., 22nd & Wood-sts., Philadelphia, Pa.
General Manufacturing & Supply Co., 15, Perrine-ave., Trenton, N.J.
Gibson Gas Fixture Works, 1426, Callowhill-street, Philadelphia, Pa.
Gleason, John L., 290, South-st., Jamaica Plain, Mass.
Gleason, E. P., Manufacturing Co., 37, Murray-st., New York, N.Y.
Goetz Manufacturing Co., 247, 3rd-ave., New York.
Gothberg, H. & E., Manufacturing Co., 111–115, Cator-ave., Jersey City, N.J.
Grassler & Gezelschap, 214, Grand-ave., Milwaukee, Wis.
H. C. K. Co., 45, Broadway, New York.
Heimann, M. A., 704, Locust-ave., St. Louis, Mo.
Hipkens, F. J., 310, East Genesee-st., Syracuse, N.Y.
Hutchison, W. G., Co., 597, South Spring-st., Los Angeles, Cal.
Iden & Co., 26, University-pl., New York.
Ireland, R. D., & Co., Boston, Mass.
Jackson, H. R., 818, Prudential-bldg., Newark, N.J.
Johnson Bros., 213, Grand-st., New York.
Lagerquist, G., 516, 3rd-st. North, Minneapolis, Minn.
Lawrence Gas Fixture Manufacturing Co., 129, North 12th-st., Philadelphia, Pa.
Ledig, R. G., 821, Cherry-st., Philadelphia, Pa.
Los Angeles Gas & Electric Fixture Manufacturing Co., Los Angeles, Cal.
Luetke Iron & Brass Works, 227, West 29th-st., New York.
MacCoy, J. B., & Son, 124, West 33rd-st., New York.
McKenney, C. H., & Co., 16, Summer-st., Boston, Mass.
McKenney & Waterbury Co., 181, Franklin-st., Boston, Mass.
MacNamara, E. J., 40, East Long-st., Columbus, Ohio.
Magill & Meckison, Napoleon, Ohio.
Mission Fixture Co., 113, West 9th-st., Los Angeles, Cal.
Moormann & Otten, 611, Main-st., Cincinnati, O.

Fittings Makers—Electrical—*continued.*

Morreau Gas Fixture Manufacturing Co., 347 & 379, Erie-st., Cleveland, Ohio.
O'Neil, M. J., 60, East 6th-st., St. Paul, Minn.
Pittsburg Gas & Electric Fixture Co., 513, Wood-st., Pittsburgh, Pa.
Price, G. L., 53, Beech-ave., Pittsburgh, Pa.
Reineke, Wilson Co., Wood-st. & 1st-ave., Pittsburgh, Pa.
Riess Incorp. Light Supply Co., 719, Vine-st., Cincinnati, Ohio.
Russell & Stoll Co., 46, Cliff-st., New York.
St. Louis Brass Manufacturing Co., 1116, Market-st., St. Louis, Mo.
Sarco Co., The, 906, 6th-ave., New York.
Sechrist, Albert, Manufacturing Co., 1033, 16th-st., Denver, Col.
Scheible, L. B., 306, West Federal-st., Youngstown, Ohio.
Selzer, C. A., Euclid-ave., cor. Erie-st., Cleveland, Ohio.
Shapiro & Aronson, 67, Centre-st., New York.
Shirley, J. R., & Sons, 262, Weybosset-st., Providence, R.I.
Shreve, Crump & Low Co., 147, Tremont-st., Boston, Mass.
Sommer, C. R., 386-388, 2nd-ave., New York.
Staines, Bunn & Taber Co., 147, Lawrence-st., Brooklyn, N.Y.
Storsberg, F., Newark, N.J.
Sulzer & Co., 821, Cherry-st., Philadelphia, Pa.
Tarbell, E. H., Co., 85, Washington-st., Boston, Mass.
Toledo Chandelier Manufacturing Co., Toledo, O.
Vosburgh, W. C., Manufacturing Co., Ltd., Brooklyn, N.Y.
Weatherly & Putts, 97, Pearl-st., Grand Rapids, Mich.
Weldeon & Kelly, 305, Wood-st., Pittsburg, Pa.
Western Gasfixture Co., Toledo, Ohio.
Westwater, J. M. & W., 31, North High-st., Columbus, Ohio.
Wilmarth, T. W., Co., 261, Wabash-ave., Chicago, Ill.
Wuinn, S. A., Masonic-blk., Muskegon, Mich.

Forgings.

F.—Forgés (outils et objets).
G.—Schmiedewaaren.

Bethlehem Steel Co., South Bethlehem, Pa.
Vulcanus Forging Co., 965, Hamilton-st., Cleveland, Ohio.

Friction Gear Manufacturers.

F.—Engrènage-friction—Fab. de.
G.—Reibungstriebwerk.

Van Dorn-Elliott Electric Co., 1796, East Madison-ave., Cleveland, Ohio.

Fuse Boards & Distribution Boards.

F.—Planches fusées et planches de distribution.
G.—Sicherungs-Brette & Verteilungs-Brette.

Fuse Manufacturers—Electric.

F.—Coupe circuit—Fab. de.
G.—Elektr. Zündschnur—Fab. von.

Allen-Bradley Electric Crane Controller, Chicago, Ill.
D & W Fuse Co., Providence, R.I.
Shanda, R., & Co., New York.

Fuse Wire Manufacturers.

F.—Fil fusible—Fab. de.
G.—Draht für Sicherungen—Fab. von.

Chicago Fuse Wire & Mfg. Co., 64, North Jefferson-st., Chicago, Ill.
Merchant & Co., 517, Arch-st., Philadelphia, Pa.
Shawmut, Chas. E., & Co., 161, Fort Hill-sq., Boston, Mass.

Gas Engine Igniters—Magneto.

Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")

Gauge Glass Manufacturers.

F.—Verre de Calibre—Fab. de.
G.—Wasserstandsgläser—Fab. von.

Gauge Makers.

F.—Calibre—Fab. de.
G.—Aichmaasse—Fab. von.

Bristol Co., Waterbury, Conn.; & 114, Liberty-st., New York.
Jones Gauge Co., 5, Broad-st., Boston, Mass.
Reliance Gauge Column Co., Euclid-station, Cleveland, Ohio.

Gears & Pinions.

F.—Engrènages et Pignons.
G.—Triebwerk.

Catskill Fdry. & Machine Works, Catskill, New York.
Morse Chain Co., Trumansburg, N.Y.
Simonds Manufacturing Co., 25th & Liberty-sts., Pittsburg, Pa.

General Suppliers of Electrical Requisites.

F.—Fournitures électriques générales.

G.—Händler in Elektrischen Requisitionen.

Alberton & Young Co., Atlantic City, N.J.
Aus, C. F., Tacoma, Wash.
Belden Electrical Supply Co., Joplin, Mo.
Brandt, G., & Son, 1120, Oakdale-ave., Chicago, Ill.
Brown, E. C., Leadville, Col.
Brown & Wales, 69–83, Purchase-st., Boston, Mass.
Cable & Co., 26, 5th-st., Pittsburg, Pa.
Campbell, W. A., & Co., 193, 31st-st., Chicago, Ill.
Carlton, Guy, Hoblit-bldg., 528, North Main-st., Bloomington, Ill.
Cass Hardware Co., 10, Main-st., Hamilton, Ohio.
Citizens' Electric Equipment Co., 39, Cortlandt-st., New York.
Creaghead Engineering Co., 340–342, Main-st., Cincinnati, Ohio.
Doubleday-Hill Electric Co., 919, Liberty-ave., Pittsburgh, Pa.
Eager Electric Co., Watertown, N.Y.
Edmunds, E. T., & Co., 178, Devonshire-st., Boston, Mass.
Electric Equipment Co., 526, Court-st., Reading, Pa.
Electric Supply Co., Tacoma, Wash.
Electrical Novelty Works, 128, Marietta-st., Atlanta, Ga.
El Paso Electrical Supply Co., El Paso, Tex.
Eureka Electric Co., Pittsfield, Mass.
Farrell, M. J., & Son, 111, 4th-ave., Pittsburg, Pa.
Fleron, M. M., Taylor Opera House, Trenton, N.J.
Gillespie, W. W., Co., San Francisco, Cal.
Hance Electric Co., 1145, Olive-st., St. Louis, Mo.
Hardy Bros. Co., Raleigh, N.C.
Hill & Holt, Somerville, Mass.
Home Electrical Co., 624, North 4th-st., Burlington, Iowa.
Irish, W. F., Electric Co., 60, Cortlandt-st., New York.
Irvin, D. W., 309, S. 6th-st., Cedar Rapids, Iowa.
Janesville Contracting Co., Janesville, Wis.
Keeseville Electric Co., Keeseville, N.Y.
Knox & Murphy, Salem, Ore.
Kramer, O. H. E., 620, North Taylor-ave., St. Louis, Mo.
Krauss, L., & Co., Ocean City, N.J.
Kruger, J. L., 953, Myrtle-ave., Brooklyn, New York.
Lanou, J. E., Burlington, Vt.
Latham, Crane & Co., Willimantic, Conn.
Lewis, F. A., Wilkes-Barre, Pa.
Lloyd & Smith, 429, River-st., Manistee, Mich.
Long Island Electrical Supply House, Jamaica, N.Y.
M. & S. Electrical Co., 220, Paterson-st., Paterson, N.J.
MacDonell & Dumond Co., 32, East-ave., Rochester, N.Y.

General Suppliers of Electrical Requisites—*continued.*

McWhirter Electric Co., 457, Valencia-st., San Francisco, Cal.
Miller Machine & Electric Co., Terre Haute, Ind.
Milligan Hardware & Supply Co., 134, 5th-st., East Liverpool, Ohio.
Minerva Electric Co., 365, West 118th-st., New York.
Moore, W. G., Lafayette, Ind.
Mountain Electric Co., 1619–1623, Glenarm-st., Denver, Col.
Muskegon Electric Co., 86, West Western-ave., Muskegon, Mich.
National Stamping & Electric Works, 54, South Clinton-st., Chicago, Ill.
New York Electric Co., Colorado Springs, Col.
Newman, C. R., Morrisse-bldg., Passaic, N.J.
Northern Electrical Co., Duluth, Minn.
O. K. Electric Equipment Co., 505, Washington-st., Hoboken, N.J.
Pearce & Scheck, 223, North Calvert-st., Baltimore, Md.
Providence Electric Supply Co., 65, South Main-st., Providence, R.I.
Rossiter, MacGovern, & Co., 107, Liberty-st., New York.
Standard Electric Co., Jacksonville, Fla.
Supply Manufacturing Co., 32nd & Smallman-sts., Pittsburgh, Pa.
Thornley, Wm., 914, Walnut-st., Philadelphia, Pa.
Tower-Binford Electric & Manufacturing Co., Richmond, Va.
Williamson & Cassidy, 526, Market-st., Philadelphia, Pa.
Yearsley, T., 3032, Ridge-ave., Philadelphia, Pa.
Zimmerman, A., 762, 8th-ave., New York.

Glass Manufacturers.

F.—Verrerie—Fab. de.

G.—Glas—Fabr. von.

Gillinder & Sons, Inc., 135, Oxford-st., Philadelphia, Pa.
Pass & Seymour, Incorp., Solvay, N.Y.
Whitney Glass Works, 227, South Front-st., Philadelphia, Pa.

Globes for Electric Lighting—Makers of.

F.—Globes en verre pour lampes électr.—Fab. de.

G.—Glasglocken für Elektr. Licht.

Barth, Emanuel, Pottsville, Pa.
Byesville Glass & Lamp Co., Byesville, Ohio.
Century Glass Co., Bellaire, Ohio.
Haskins Glass Co., Martins Ferry, Ohio.
Holopane Glass Co., 15, East 32nd-st., New York.
McFadden, H. G., & Co., 38, Warren-st., New York.
Murray, James J., & Co., Trenton-avenue, Culvert & Waterloo-streets, Philadelphia, Pa.
Union Glass Co., Somerville, Mass.

Governor Makers.

F.—Régulateurs—Fab. de.
G.—Regulatoren—Fab. von.

Lombard Governor Co., Ashland, Mass.
Waters Governor Co., 34, Oliver-st., Boston, Massachusetts.
Woodward Governor Co., Rockford, Ill.

Heating Apparatus Makers—Electric.

F.—Appareils électriques de chauffage—Fab. de.
G.—Heizungs-apparaten—Elektrische—Fab. von.

American Electrical Heater Co., 121–123, State-st., Detroit, Mich.
Burton Electric Co., Richmond, Va.
Consolidated Car Heating Co., Albany, New York, N.Y.
Hadaway Electric Heating & Engineering Co., 228, West Broadway, New York.
Pacific Electric & Heating Co., 262, South-st., Los Angeles, Cal.
Prometheus Electric Co., 236, East 43rd-st., New York.
Simplex Electric Heating Co., Cambridgeport, Mass.
Vulcan Electric Heating Co., 71, West Jackson-boul., Chicago, Ill.
Webster, Warren & Co., Point & Elm-sts., Camden, N.J.
Williams, Roger, 25, West 42nd-st., New York.

Incandescent Lamp Manufacturers—Electric.

F.—Lampes électriques à Incandescence—Fab. de.
G.—Elektrische Glühlampen.

American Incandescent Lamp Co., Havemeyer-bldg., 26, Cortlandt-st., New York.
Banner Electric Co., Youngstown, Ohio.
Bay State Lamp Co., Danvers, Mass.
Bernstein Electric Co., 355, Congress-st., Boston, Mass.
Boehm, H., & Co., Youngstown, Ohio.
Boston Incandescent Lamp Co., Danvers, Mass.
Brilliant Electric Co., Cleveland, Ohio.
Bryan-Marsh Co., Glackner-bldg., 227–229, Fulton-st., New York.
Buckeye Electric Co., Mason & Belden-sts., Cleveland, Ohio.
Capital Electric Co., Denver, Col.
Colonial Electric Co., Ravenna, Ohio.
Columbia Incandescent Lamp Co., 2115, Locust-st., St. Louis, Mo.; & New York, Chicago, Minneapolis & San Francisco.
Downward Light Electric Co., 32, Union-sq.-East, New York.
Duplex Electric Manufacturing Co., Ltd., Corry, Pa.
Economical Electric Lamp Co., 96, Warren-st., New York.

Incandescent Lamp Manufacturers—Electric—*continued.*

Economy Electric Co., Warren, Ohio.
Edison Lamp Works (General Electric Co.'s Incandescent Lamp Factory), Harrison, N.J.
Fostoria Incandescent Lamp Co., Fostoria, Ohio.
Franklin Electric Manufacturing Co., Hartford, Conn.
General Incandescent Lamp Co., Cleveland, Ohio.
Germania Electric Lamp Co., Essex-st., Harrison, N.J.
Gilmore Electric Co., Boston, Mass.
Imperial Electric Co., 1022, Arch-st., Philadelphia.
Independent Incandescent Lamp Co., 2115, Locust-st., St. Louis, Mo.
Kentucky Electrical Co., Owensboro, Ky.
Lynn Incandescent Lamp Co., Lynn, Mass.
McCandless, H. W., & Co., 67–69, Park-pl., New York.
Marlborough Electric Machine & Lamp Co., Marlborough, Mass.
Missouri-American Electric Co., St. Louis, Mo.
National Electric Lamp Co., Cleveland, Ohio.
New York & Ohio Co., Warren, Ohio.
Phelps Co., Detroit, Mich.
Pittsburgh Incandescent Lamp Co., Arrott Power-bldg., Pittsburgh, Pa.
Plattsmouth Lamp Manufacturing Co., Plattsmouth, Neb.
Rooney Electric Lamp Co., 155, East 23rd-st., New York.
St. Mary's Incandescent Lamp Co., St. Mary's, Pa.
Sawyer-Mann Electric Co., 510, West 23rd-st., New York.
Shelby Electric Co., Shelby, Ohio.
Sterling Electric Manufacturing Co., Warren, O.
Sunbeam Incandescent Lamp Co., 32, West Polk-st., Chicago, Ill.
Tipless Lamp Co., 256, West 23rd-st., New York.
U.S. Electrical Supply Co., 141, East 25th-st., New York.
U.S. Incandescent Lamp Co., St. Louis, Mo.
World Incandescent Lamp Co., Chicago, Ill.

Indiarubber & Gutta-Percha Manufacturers & Dealers.

F.—Caoutchouc et Gutta Percha—Fab. et march. de.
G.—Gummi u. Gutta Percha—Fabr. und Händler.

American Hard Rubber Co., 9–13, Mercer-st., New York.
Chase, M. C., 43–45, South Canal-st., Chicago, Illinois.
Dickinson Hard Rubber Co., Springfield, Mass.
Goodrich, B. F., Co., 1625, Broadway, New York.
Goodyear Hard Rubber Co., 9–13, Mercer-street, New York, N.Y.
Gutta-Percha & Rubber Manufacturing Co., 98, Lake-street, Chicago, Ill.
Horn, M. T., Co., 82, Park-pl., New York.
Morgan & Wright, Chicago, Ill.

Indiarubber & Gutta-Percha Manufacturers & Dealers—*continued.*

National Indiarubber Co., Bristol, R.I.
New York Belting & Packing Co., Ltd., 91, Chambers-st., New York.
People's Hard Rubber Co., Akron, Ohio.
Spinney, Wise Co., Lynn, Mass.

Injector & Steam Jet Pump Makers.

F.—Injecteurs et pompes à vapeur—Fab. d'.
G.—Dampfeinspritzer—Fabr. von.

American Injector Co., Detroit, Mich.
Bushnell, John S., 120, Liberty-st., New York.
Penberthy Injector Co., Detroit, Mich.

Inspectors (Electrical)—Government & Municipal.

F.—Inspecteurs électr. du gouvernement et municipalité.
G.—Electr. Inspectoren—Regierungs & Städtische.

Cabot, F. E., Boston, Mass.
Chapman, E. F., Michigan Inspection Bureau, Detroit, Mich.
Eden, R. C., Underwriters' Association of the Middle Dept., 22, Clinton-st., Newark, New Jersey.
Forsyth, J. C., N.Y. Board of Fire Underwriters, 32, Nassau-st., New York, N.Y.
Lilley, L. G., A.M.I.E.E., Underwriters' Assoc. of Cincinnati, cor. 3rd & Walnut-sts., Cincinnati, Ohio.
Lowson, D., 59th-st. & Park-ave., New York.
Morgan, Jacque L., A.M.AM.I.E.E., City Hall, Kansas City, Mo.
Sweetland, R., A.AM.I.E.E., New England Insurance Exchange, 55, Kilby-st., Boston, Mass.
Van Gieson, A. E., 32, Nassau-st., New York, N.Y.
Williams, Arthur, A.AM.I.E.E., New York Edison Co., Brooklyn, N.Y.

Instrument Manufacturers—Electrical.

F.—Appareils électriques—Fab. de.
G.—Elektrische Instrumente—Fabr. von.

Biddle, James G., Stephen Girard-bldg., Philadelphia, Pa.
Bodine, J. E., Co., Indianapolis, Ind.
Dongan Instrument Co., Albany, N.Y.
General Electric Co., Schenectady, N.Y.; & 44, Broad-st., New York City.
Hoeschen Manufacturing Co., 1304, Douglas-st., Omaha, Neb.
Hoyt, Dr. A. H., Penacook, N.H.
International Instrument Co., Cambridge, Mass.
Kleinschmidt, E., 231–235, Greenwich-st., New York.
Leeds & Northrup Co., Wayne Junction, Philadelphia, Pa.

Instrument Manufacturers—Electrical—*continued.*

Mayer, Geo. M., 1131, Monadnock-blk., Chicago, Ill.
Norton Electrical Instrument Co., Manchester, Conn.
Ritchie, E. S., & Sons, Brookline, Mass.
Stanley Recording Wattmeters, Great Barrington, Mass.
Stoelting, C. H., Co., 31–45, W. Randolph-st., Chicago, Ill.
Tropp, B., 193, Greenwich-st., New York.
Van Houten & Ter Broeck, 300, 4th-ave., New York.
Vose, Ralph, 25, Sunnyside-st., Hyde Park, Mass.
Warner Instrument Co., 55, Roosevelt-ave., Beloit, Wis.
Weston Electrical Instrument Co., 114, William-st., Newark, N.J.
Wiley & Russell Manufacturing Co., Greenfield, Mass.

Insulating Material Manufacturers.

F.—Matière Isolante—Fab. de.
G.—Isolations Materialen—Fab. von.

American Insulating Material Manufacturing Co., Alexandria, Ind.
Bartlett, H. N., 138, Liberty-st., New York.
Case Bros., Highland Park, Conn.
Compressed Fibre Co., 6, Beacon-st., Boston, Mass.
Delaware Hard Fibre Co., Wilmington, Del.; & 189, Central-st., London, E.C.
Devine, J. P., Co., 312, Mooney Brisbane-bldg., Buffalo, N.Y.
Dielectric Manufacturing Co., St. Louis, Mo.
Electrose Manufacturing Co., 127, North 10th-st., Brooklyn, N.Y.
Knowles, C. S., 7, Arch-st., Boston, Mass.
Mica Insulator Co., 218, Water-st., New York.
Pittsburg Insulating Co., Pittsburg, Pa.
Scranton Button Co., Scranton, Pa.
Vulcanized Fibre Co., Wilmington, Del.
Wilmington Fibre Specialty Co., Wilmington, Del.

Insulators (Electrical) Manufacturers.

(*See also* BATTERY JARS.)

F.—Isoloirs—Fab. d'.
G.—Isolatoren—Elektrische—Fabrikanten.

American Lava Co., Chattanooga, Tenn.
Brookfield Glass Co., 218 & 220, Broadway, New York, N.Y.
Central Manufacturing Co. (pins, brackets, and cross-arms), Chattanooga, Tenn.
Diamond Glass Co., Royersford, Pa.
Flagg, Stanley G., & Co., Philadelphia, Pa.
Harloe Insulator Co., Hawley, Pa.
Hemingray Glass Co., Covington, Ky.
Lima Insulator Co., Lima, N.Y.

Insulators (Electrical) Manufacturers—*continued.*

Macallen, W. T. C., Co., 338, Congress-st., Boston, Mass.
Nightingale, S. C., & Childs, 451-461, Atlantic-ave., Boston, Mass.
Reconstructed Granite Co., 14, Dey-st., New York, N.Y.
Sachs Electric Co., St. Louis, Mo.
Standard Glass Insulators, Brookfield, Mo.
Star Porcelain Co., Trenton, N.J.
Steward, D. M., Manufacturing Co., Chattanooga, Tenn.
Thomas, R., & Sons Co., East Liverpool, Ohio.
Trenton Porcelain Co., Trenton, N.J.

Iron & Steel Manufacturers & Merchants.

F.—Fer et acier—Fabr. et March. de.
G.—Eisen & Stahl Fabr. u. Händler.

Coe, J. A., & Co., 106, Mulberry-st., Newark, New Jersey.
Jessop, Wm., & Sons, 91, John-st., New York.
Wilson & Smith, 38, Vine-st., Worcester, Mass.

Laboratories—Electrical.

F.—Laboratoires électr.
G.—Electr. Laboratorien.

Buffalo Electrical Laboratory, Erie Co. Bank-bldg., Buffalo, N.Y.

Lacquer & Varnish.

F.—Laques et Vernis.
G.—Lack & Firniss.

American Chemical Co., 71, Cortlandt-st., New York.
Macon-Evans Varnish Co., Pittsburgh, Pa.

Lamp Holder Makers.

F.—Portes-Lampes—Fab. de.
G.—Lampen Fassungen—Fab.

Bliss-Chester Co., Providence, R.I.
White, O. C., Co., Worcester, Mass.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes).

F.—Poteaux pour l'électricité et la télégraphie—Fab. de.
G.—Lampenpfosten (für elek. u. Teleg. Zwecke)—Fabr. von.

Dinn, P. J., & Co., 278, Dover-st., Boston, Mass.

Lathes.

See Machine Tool Makers.

Launch Designers & Builders—Electric.

F.—Bateaux électriques—Dessinateurs et Cons de.
G.—Boot Entwürfe & Bau—Elektrische.

Electric Launch Co., Bayonne, N.J.
Milwaukee Electric Launch Co., North-ave., Milwaukee, Wis.

Lead-Covered Cable Makers.

F.—Cables couverts de plomb.
G.—Bleibedeckte Kabel—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Lecturers' Apparatus—Manufacturers.

F.—Lecteurs—Fab. d'appareils pour.
G.—Vorleser—Fabr. von Apparate für.

Lettering on Ivory.

F.—Ecriture sur Ivoire.
G.—Buchstaben Graveure auf Elfenbein.

Empire Electric Sign Co., 107, West 29th-st., N.Y.

Lifts (Electric)—Makers of.

F.—Ascenseurs électriques—Fab. de.
G.—Aufzüge—Elektrische—Fab. von.

American Hoist & Derrick Co., St. Paul, Minn.
Brown Hoisting Machinery Co., Cleveland, Ohio.
Burdett-Rowntree Manufacturing Co., Chicago.
Cahill & Hall Elevator Co., San Francisco, Cal.
Central Iron Works Foundry, Quincy, Ill.
Cincinnati Elevator Works, 216, West 2nd-st., Cincinnati, Ohio.
Elevator Supply & Repair Co., 136, Liberty-st., New York.
Elevator Supply & Repair Co., 76, W. Monroe-st., Chicago, Ill.
Erickson-Wyman Co., Seattle, Wash.
Kenny Electric Manufacturing Co., Nassau-Beckman-bldg., New York.
Maline Elevator Co., Maline, Ill.
Omaha Electrical Works, 108, North 11th-st., Omaha, Neb.
Otis Elevator Co., 17, Battery-pl., New York.
Reedy Elevator Manufacturing Co., Chicago, Ill.
Roberts, J. H., 430, West Broadway, New York.
Springfield Elevator & Pump Co., Springfield, Mass.
Sulzer-Vogt Machine Co., Louisville, Ky.
Union Elevator & Machine Co., 144, Ontario-st., Chicago, Ill.
Warner Elevator Mfg. Co., Cincinnati, Ohio.

Light, Power & Traction Companies—Electric.

HAVING CENTRAL STATIONS.

F.—Eclairage, force et traction électrique (Compagnies d').

G.—Gesellschaften für Elektrische Beleuchtung, Kraft u. Zug.

Aberdeen Gas & Electric Co., Aberdeen, S.D.
Abilene Electric Light Works, Abilene, Kan.
Abilene Electric Light & Power Co., Abilene, Tex.
Addison Electric Light & Power Co., Addison, N.Y.
Albany & Hudson Railway Co., Hudson, N.Y.
Albany Municipal Plant, Albany, Mo.
Albert Lea Light & Power Co., Albert Lea, Minn.
Albia Electric Light & Power Co., Albia, Iowa.
Albion Electric Light Co., Albion, Mich.
Albuquerque Gas, Electric Light & Power Co., Albuquerque, New Mexico.
Alexandria City Electric Light & Water Works, Alexandria, La.
Alexandria Electric Light & Power Co., Alexandria, Ind.
Algoma City Electric Light Plant, Algoma, Wis.
Allegan Light & Power Co., Allegan, Mich.
Allegheny County Light Co., Pittsburg, Pa.
Alliance Gas & Electric Co., Alliance, Ohio.
Alpena Electric Light Co., Alpena, Mich.
Alton Gas & Electric Co., Alton, Ill.
Alton, Granite & St. Louis Traction Co., Alton, Ill.
Amador Electric Railway & Light Co., Sutter Creek, Cal.
American Falls Power, Light & Water Co., Pocatello, Iowa.
American Illuminating Co., Hornellsville, N.Y.
American Water & Light Co., Indianapolis, Ind.
Americus Illuminating & Power Co., Americus, Ga.
Amesbury Electric Light, Heat & Power Co., Amesbury, Mass.
Amherst Gas Co., Amherst, Mass.
Amityville Electric Light Co., Amityville, N.Y.
Anaconda Electric Light & Railway Department, Anaconda, Mont.
Anacortes Water Co., Anacortes, Washington.
Anaheim City Electric Light Plant, Anaheim, Cal.
Anderson Water, Light & Power Co., Anderson, S. Carolina.
Annapolis Gas & Electric Co., Annapolis, Md.
Anoka Water Works, Electric Light & Power Co., Anoka, Minnesota.
Anthracite Electric Light & Power Co., Pottsville, Pennsylvania.
Antigo Edison Electric Light Co., Antigo, Wis.
Arapahoe Electric Light & Power Co., Littleton, Colorado.
Arcadia Electric Light, Ice & Telephone Co., Arcadia, Florida.
Arkadelphia Water & Electric Co., Arkadelphia, Ark.

Light, Power & Traction Companies—Electric—*continued.*

Arkansas City Gas & Electric Light Co., Arkansas City, Kansas.
Asheville Electric Co., Asheville, North Carolina.
Ashland Electric Power & Light Co., Ashland, Oregon.
Ashland Gas & Electric Light Co., Ashland, Ohio.
Ashland Light, Power & Street Railway Co., Ashland, Wisconsin.
Astoria Electric Co., Astoria, Oregon.
Atchison Railway, Electric Light & Power Co., Atchison, Kansas.
Athens Electric Railway Co., Athens, Georgia.
Athol Gas & Electric Co., Athol, Massachusetts.
Atlantic Coast Electric Light Co., Asbury Park, New Jersey.
Atlantic County Electric Co., Egg Harbor, New Jersey.
Atlantic Electric Light Works, Atlantic, Iowa.
Atlantic Electric Light & Power Co., Atlantic City, New Jersey.
Auburn Light, Heat & Power Co., Auburn, N.Y.
Auburn Water & Electric Light Works, Auburn, Indiana.
Augusta & Aiken Railway Co., Augusta, Ga.
Augusta Railway & Electric Co., Augusta, Georgia.
Aurora Gas Light, Coal & Coke Co., Aurora, Indiana.
Aurora Light, Ice & Storage Co., Aurora, Mo.
Austin Electric Railway Co., Austin, Tex.
Ayer Electric Light Co., Ayer, Massachusetts.
Azusa, City of, Electric Light & Power Plant, Azusa, Cal.
Babylon Electric Light Co., Babylon, New York.
Bakersfield Power, Transit & Light Co., Bakersfield, California.
Ballston Spa Electric Light & Power Co., Ballston Spa, New York.
Bangor Electric Light, Heat & Power Co., Bangor, Pa.
Bangor Railway & Electric Co., Lighting Department, Bangor, Maine.
Bar Harbour & Union River Power Co., Bar Harbour, Maine.
Baraboo Light, Heat & Power Co., Baraboo, Wisconsin.
Barnesville Gas & Electric Light Co., Barnesville, Ohio.
Barre & Montpelier Traction & Power Co., Barre, Vermont.
Barres Electric Light & Power Co., Maquoketa, Iowa.
Bartlett Illuminating Co., Saginaw, Michigan.
Batesville Water Works & Electric Light Plant, Batesville, Ark.
Bath Electric & Gas Light Co., Bath, N.Y.
Battle Creek Electric Co., Battle Creek, Michigan.
Bay City Electric Plant, Bay City, Michigan.
Beacon Light Co., Chester, Pennsylvania.
Beacon Light Co., 506, South Spring-st., Los Angeles, Cal.
Beatrice Electric Co., Beatrice, Nebraska.

Light, Power & Traction Companies—Electric—*continued.*

Beaumont Ice, Light & Refrigerating Co., Beaumont, Texas.
Beaumont Traction Co., Beaumont, Tex.
Beaver Dam Illuminating Co., Beaver Dam, Wisconsin.
Bedford Electric Light, Heat & Power Co., Bedford, Pennsylvania.
Bedford Heat, Light & Power Co., Bedford, Ill.
Belfast Gas & Electric Co., Belfast, Maine.
Bell Electric Co., Auburn, California.
Belle Plaine Electric Light Co., Belle Plaine, Iowa.
Belleaire Light & Power Co., Belleaire, Ohio.
Bellefonte Electric Co., Bellefonte, Pennsylvania.
Belleville Gas & Electric Co., Belleville, Illinois.
Bellevue Electric Light & Water Plant, Bellevue, Iowa.
Bellevue Light & Power Co., Bellevue, Ohio.
Bellwood Electric Light Co., Bellwood, Pa.
Beloit Electric Co., Beloit, Wis.
Beloit Light & Water Co., Beloit, Kan.
Belvidere Gas & Electric Co., Belvidere, Illinois.
Bennington Electric Co., Bennington, Vt.
Bennington & Woodford Electric Rail Road Co., Bennington, Vermont.
Benton Harbor & St. Joseph Electric Railway & Light Co., Benton Harbour, Mich.
Benton Power & Traction Co., St. Cloud, Minn.
Berea Water Works & Electric Light Plant, Berea, Ohio.
Berkeley Electric Lighting Co., Berkeley, California.
Berlin Electric Light Co., Berlin, N.H.
Berwick Electric Light Co., Berwick, Pa.
Bethel Electric & Power Co., Bethel, Vt.
Bethlehem Electric Light Co., Bethlehem, N.H.
Bethlehem Electric Light Co., Bethlehem, Pennsylvania.
Beverly Gas & Electric Co., Beverly, Mass.
Big Fork Electric Power & Lighting Co., Kalispell, Mont.
Binghamton Light, Heat & Power Co., Binghamton, N.Y.
Birmingham Electric Light Co., Birmingham, Alabama.
Black River Traction Co., Watertown, N.Y.
Blair Electric Light & Power Co., Blair, Nebraska.
Blanchester City Electric Light Plant, Blanchester, Ohio.
Blue Earth Electric Light & Water Works, Blue Earth, Minnesota.
Blue Grass Traction Co., Lexington, Ky.
Bluffton City Electric Light Plant, Bluffton, Ohio.
Boardman River Electric Light & Power Co., Traverse City, Mich.
Boonville Electric Light & Power Co., Boonville, Indiana.
Bordentown Electric Light & Motor Co., Bordentown, N.J.
Boston Elevated Railway Co., Boston, Mass.

Light, Power & Traction Companies—Electric—*continued.*

Boston & Great Falls Electric Light & Power Co., Great Falls, Montana.
Boulder Electric Light & Power Co., Boulder, Colorado.
Bowling Green Gas Light Co., Bowling Green, Ky.
Brattleboro Gas Light Co., Brattleboro, Vermont.
Brice Gas & Electric Co., Mason City, Iowa.
Bridgeport Electric Light & Power Co., Bridgeport, Ohio.
Bridges & Holly Electric Light Co., Navasota, Tex.
Bridgeton Electric Co., Bridgeton, N.J.
Brigham City Electric Light & Power Plant, Brigham City, Utah.
Bristol & Plainville Tramway Co., Bristol, Connecticut.
Broad River Light & Power Co., Charleston, S.C.
Brockport Electric Co., Brockport, New York.
Brookfield Electric Light Co., Brookfield, Mo.
Brownsville Electric Light Co., Brownsville, Pa.
Brunswick Electric Light & Power Co., Brunswick, Maine.
Brush Electric Illuminating Co. of N.Y., 55, Duane-st., New York.
Brush Electric Light & Power Co., Galveston, Texas.
Buckhannon Water & Light Co., Buckhannon, West Virginia.
Bucyrus Gas & Electric Light Co., Bucyrus, Ohio.
Buena Vista Electric Light & Power Plant, Buena Vista, Col.
Buffalo & Niagara Falls Electric Light & Power Co., Niagara Falls, New York.
Burlington Electric Light & Power Co., Burlington, New Jersey.
Burlington Light & Power Co., Burlington, Vermont.
Burlington Light & Power Co., Burlington, Wis.
Burlington Railway & Light Co., Burlington, Ind.
Burlington Traction Co., Burlington, Vt.
Butler Light, Heat & Motor Co., Butler, Pa.
Cairo Electric & Traction Co., Cairo, Ill.
Calumet Lighting Co., Harvey, Ill.
Cambridge Electric Light Co., Cambridge, Mass.
Cambridge Gas & Electric Co., Cambridge, Ohio.
Camden Water, Light & Ice Co., Camden, South Carolina.
Cape Girardeau Water Works & Electric Light Co., Cape Girardeau, Mo.
Cape May Light & Power Co., Cape May City, N.J.
Capital Electric Light, Motor & Gas Co., Boise City, Idaho.
Capital Gas & Electric Light Co., Frankfort, Kentucky.
Capital Light & Power Co., Jackson, Miss.
Capital Traction Co., Washington, D.C.
Carlisle Gas & Water Co., Carlisle, Pennsylvania.

Light, Power & Traction Companies—Electric—*continued.*

Caro Light & Power Co., Caro, Michigan.
Carolina Light & Power Co., Aiken, S.C.
Carondelet Electric Light & Power Co., St. Louis, Missouri.
Carpenter Electric Light & Power Co., Catlettsburg, Kentucky.
Carrollton Electric Co., Carrollton, Georgia.
Carteret Electric Light & Power Co., Carteret, N.J.
Carthage Electric Light Co., Carthage, N.Y.
Carthage Electric Light & Heating Co., Carthage, Ill.
Cataract Construction Co., Niagara Falls, N.Y.
Catskill Illuminating & Power Co., Catskill, N.Y.
Cedar Rapids & Iowa City Railway & Light Co., Cedar Rapids, Iowa.
Celina Electric Light Plant, Celina, Ohio.
Centerville Light & Traction Co., Centerville, Iowa.
Central Light & Power Co., San Francisco, Cal.
Central Massachusetts Electric Co., Palmer, Mass.
Central Pennsylvania Light & Power Co., Clearfield, Pa.
Centralia Gas & Electric Co., Centralia, Illinois.
Chambersburg Electric Light Dept., Chambersburg, Pa.
Charleston Light & Power Co., Charleston, South Carolina.
Charlestown Gas & Electric Co., Charlestown, Ill.
Charlotte Electric Railway, Light & Power Co., Charlotte, North Carolina.
Charlotte General Electric Co., Charlotte, Mich.
Charlotte Railway, Light & Power Co., Charlotte, N.C.
Charleston Illuminating Co., Charleston, Ill.
Chatfield Electric Light & Power Co., Chatfield, Minn.
Chatham Electric Light, Heat & Power Co., Chatham, N.Y.
Chattanooga Electric Co., Chattanooga, Tenn.
Chautauqua Traction Co., Jamestown, N.Y.
Chelsea Electric Light & Robbin Co., Chelsea, Vt.
Chelsea Gas Light Co., Chelsea, Massachusetts.
Cherokee Electric Light & Power Co., Cherokee, Iowa.
Cheyenne Light, Fuel & Power Co., Cheyenne, Wyoming.
Chester Light, Water & Ice Co., Chester, Ill.
Chester Valley Electric Light, Heat & Power Co., Downington, Pa.
Chicago Department of Electricity, Chicago, Ill.
Chicago Edison Co., 139, Adamson-st., Chicago, Ill.
Chicago Illuminating Co., Chicago, Illinois.
Chicago Suburban Water & Light Co., Oak Park, Ill.
Chico Gas & Electric Co., Chico, Cal.
Chicopee Municipal Electric Light Plant, Chicopee, Mass.
Chillicothe Electric Light & Water Works, Chillicothe, Ill.

Light, Power & Traction Companies—Electric—*continued.*

Chillicothe Electric Railroad, Light & Power Co., Chillicothe, Ohio.
Chippewa Falls Water Works & Lighting Co., Chippewa Falls, Wis.
Chippewa Valley Electric R. R. Co., Eau Claire, Wis.
Choctaw Electric Co., South MacAlester, Indian Territory.
Cincinnati & Columbus Traction Co., Cincinnati, Ohio.
Cincinnati, Dayton & Toledo Traction Co., Hamilton, Ohio.
Cincinnati Gas & Electric Co., Cincinnati, Ohio.
Cincinnati, Lawrenceburg & Aurora Electric Street Railroad Co., Cincinnati, Ohio.
Circleville Light & Power Co., Circleville, Ohio.
Citizens' Electric Co., Battle Creek, Michigan.
Citizens' Electric Illuminating Co., Pittston, Pa.
Citizens' Electric Light Co., Shenandoah, Pa.
Citizens' Electric Light, Heat & Power Co., McDonald, Pa.
Citizens' Electric Light, Heating & Power Co., Slatington, Pa.
Citizens' Electric Light & Power Co., Clifton Heights, Pa.
Citizens' Electric Light & Power Co., Cordele, Ga.
Citizens' Electric Light & Power Co., East St. Louis, Illinois.
Citizens' Electric Light & Power Co., Pueblo, Col.
Citizens' Gas & Electric Co., Council Bluffs, Iowa.
Citizens' Gas, Electric & Heating Co., Mount Vernon, Ill.
Citizens' Gas & Electric Light Co., Waterloo, Iowa.
Citizens' Gas, Electric & Power Co., Nantucket, Mass.
Citizens' Gas, Light & Heat Co., Bloomington, Ill.
Citizens' Light, Heat & Power Co., Eagle Grove, Iowa.
Citizens' Light, Heat & Power Co., Johnstown, Pennsylvania.
Citizens' Light & Power Co., Fort Worth, Tex.
Citizens' Light & Traction Co., Salem, Oregon.
Citizens' Lighting Co., La Salle, Illinois.
Citizens' Railroad, Light & Power Co., Fishkill-on-Hudson, N.Y.
Citizens' Railway, Light & Power Co., Newport News, Va.
Citizens' Railway & Light Co., Muscatine, Iowa.
Citizens' Water & Light Co., Winchester, Ind.
City Electric Light Co., Gallatin, Mo.
City Electric Light Co., Vincennes, Ind.
City Electric Light Plant, Alexandria, Minnesota.
City Electric Light Plant, Allegheny, Pennsylvania.
City Electric Light Plant, Ames, Iowa.
City Electric Light Plant, Bloomfield, Iowa.
City Electric Light Plant, Bloomington, Ill.
City Electric Light Plant, Blue Island, Illinois.
City Electric Light Plant, Bluffton, Ind.
City Electric Light Plant, Bowling Green, Kentucky.

Light, Power & Traction Companies—Electric—*continued.*

City Electric Light Plant, Brainerd, Minnesota.
City Electric Light Plant, Coldwater, Michigan.
City Electric Light Plant, Columbus, Indiana.
City Electric Light Plant, Danvers, Mass.
City Electric Light Plant, Dover, Del.
City Electric Light Plant, Dunkirk, New York.
City Electric Light Plant, Easton, Pennsylvania.
City Electric Light Plant, Falls City, Nebraska.
City Electric Light Plant, Frederick, Maryland.
City Electric Light Plant, Gainesville, Georgia.
City Electric Light Plant, Galveston, Texas.
City Electric Light Plant, Goshen, Indiana.
City Electric Light Plant, Greenfield, Indiana.
City Electric Light Plant, Indianola, Iowa.
City Electric Light Plant, Jamestown, New York.
City Electric Light Plant, Kalamazoo, Mich.
City Electric Light Plant, Lewiston, Maine.
City Electric Light Plant, Litchfield, Minnesota.
City Electric Light Plant, Little Rock, Arkansas.
City Electric Light Plant, Lyons, Iowa.
City Electric Light Plant, Marbleshead, Mass.
City Electric Light Plant, Marquette, Michigan.
City Electric Light Plant, Marshalltown, Iowa.
City Electric Light Plant, Muncie, Indiana.
City Electric Light Plant, North Attleboro, Mass.
City Electric Light Plant, Northfield, Vermont.
City Electric Light Plant, Owensboro, Ky.
City Electric Light Plant, Paris, Illinois.
City Electric Light Plant, Savannah, Missouri.
City Electric Light Plant, St. Charles, Missouri.
City Electric Light Plant, St. Joseph, Missouri.
City Electric Light Plant, Stuart, Iowa.
City Electric Light Plant, Swanton, Vermont.
City Electric Light Plant, Topeka, Kansas.
City Electric Light Plant, Waseca, Minnesota.
City Electric Light Plant, Wheeling, W. Va.
City Electric Light Plant, Ypsilanti, Michigan.
City Electric Light & Power Plant, Hannibal, Mo.
City Electric Light & Power Plant, Richmond, Ind.
City Electric Light & Power Plant, Seattle, Wash.
City Electric Light & Water Plant, Attica, Ind.
City Electric Light & Water Plant, Batavia, Ill.
City Electric Light & Water Plant, Holland, Mich.
City Electric Light & Water Works Plant, Lansing, Mich.
City Gas & Electric Co., Paris, Ill.
City Gas Light Co., Norfolk, Virginia.
City of Austin Light & Power Plant, Austin, Minnesota.
City of Brookings, Brookings, South Dakota.
City of Hamilton Electric Lighting Plant, Hamilton, Ohio.
City Water & Light Plant, Rushville, Indiana.
Claremont Railway & Lighting Co., Claremont, N.H.
Clarksburg Electric Light Co., Clarksburg, West Virginia.
Cleburne Gas & Electric Co., Cleburne, Tex.
Cleveland Light & Power Co., Cleveland, Ohio.
Climax Mfg. Co., Corry, Pennsylvania.
Clinton Gas Light Co., Clinton, Massachusetts.

Light, Power & Traction Companies—Electric—*continued.*

Clinton Gas Light & Coke Co., Clinton, Iowa.
Clinton Light & Water Co., Clinton, Missouri.
Clinton Mills Power Co., Cooperstown, New York.
Cloverdale Electric Light Co., Cloverdale, Cal.
Coatesville Electric Light, Heat & Power Co., Coatesville, Pa.
Coffeyville Electric Light Plant, Coffeyville, Kan.
Cohoes Gas Light Co., Cohoes, New York.
Collinwood Electric Light Plant, Collinwood, Ohio.
Colorado Springs Electric Co., Colorado Springs, Colorado.
Columbia City Electric Light & Water Plant, Columbia, Mo.
Columbia Electric Street Railway, Light & Power Co., Columbia, South Carolina.
Columbia Water & Light Co., Columbia, Tenn.
Columbus City Electric Light Plant, Columbus Ohio.
Columbus Electric Light Plant, Columbus, Neb.
Columbus Electric Light & Power Co., Columbus, Miss.
Columbus Railroad Co., Lighting Department, Columbus, Ga.
Columbus Street Railway & Light Co., Columbus, Ind.
Commercial Lighting & Power Co., Naugatuck, Connecticut.
Commonwealth Electric Co., 137, Adams-st., Chicago, Ill.
Commonwealth Power Co., Kalamazoo, Michigan.
Concord Electric Co., Concord, New Haven.
Concordia Electric Light Co., Concordia, Kansas.
Conneant & Erie Traction Co., Erie, Pa.
Conneant Municipal Electric Light, Conneant, Ohio.
Conshohocken Electric Light & Power Co., Conshohocken, Pa.
Consolidated Electric Light Co. of Maine, Portland, Maine.
Consolidated Electric Light & Power Co., Gowanda, N.Y.
Consolidated Electric Light & Power Co., Kansas City, Kansas.
Consolidated Gas Co., Long Branch, New Jersey.
Consolidated Gas & Electric Co., Batavia, N.Y.
Consolidated Gas, Electric Light & Power Co., Baltimore, Maryland.
Consolidated Gas & Light Co., Tiffin, Ohio.
Consolidated Light & Power Co., Whitehall, N.Y.
Consolidated Lighting Co., Montpelier, Vermont.
Consolidated Railway & Light Co., Philadelphia, Pa.
Consolidated Railway, Light & Power Co., Wilmington, North Carolina.
Consolidated Traction Co., Indianapolis, Ind.
Consumers' Electric Light & Power Co., De Soto, Missouri. (Telephone Nos. 28 & 29.)
Consumers' Heat & Electric Co., Bloomington, Illinois.

Light, Power & Traction Companies—Electric—*continued.*

Consumers' Heat, Light, Water & Power Co., Belington, West Virginia.
Contoocook Electric Light Co., Contoocook, N.H.
Coquille River Electric Co., Coquille, Ore.
Coraopolis City Electric Light Plant, Coraopolis, Pa.
Corning Gas & Electric Co., Corning, New York.
Corning Light, Heat & Power Co., Corning, Iowa.
Cornwall Electric Light & Power Co., Cornwall-on-Hudson, N.Y.
Corona Gas & Electric Co., Corona, Cal.
Corsicana Gas & Electric Co., Corsicana, Tex.
Corvallis Electric Light & Power Co., Corvallis, Ore.
Coschocton Light & Heating Co., Coschocton, Ohio.
Covington Light & Water Co., Covington, Ind.
Crawfordsville Electric Light & Power Co., Crawfordsville, Indiana.
Crescent City Light, Water & Power Co., Crescent City, Cal.
Crestline Illuminating Co., Crestline, Ohio.
Creston Gas & Electric Co., Creston, Iowa.
Cripple Creek Electric Light Co., Cripple Creek, Col.
Crookston Water Works, Power & Light Co., Crookston, Minnesota.
Cullman City Electric Light Plant, Cullman, Ala.
Cuthbert City Electric Light & Water Plant, Cuthbert, Ga.
Cynthiana Electric Light Co., Cynthiana, Kentucky.
Dallas Electric Corp., Boston, Mass.
Dallas Electric Light & Power Co., Dallas, Tex.
Dallas Ice Factory Light & Power Co., Dallas, Tex.
Dalles Electric Light, Telephone & Power Co., The Dalles, Ore.
Danbury & Bethel Gas & Electric Light Co., Danbury, Connecticut.
Danbury & Bethel Street Railway Co., Danbury, Conn.
Dansville Gas & Electric Light Co., Dansville, N.Y.
Danville Street Railway & Light Co., Danville, Ill.
Darlington Electric Light & Water Power Co., Darlington, Wis.
Darlington Light & Water Co., Darlington, South Carolina.
Davenport Consolidated Gas, Electric Light & Heating Co., Davenport, Iowa.
Dayton Electric Light & Power Co., Dayton, Washington.
Dayton Lighting Co., Dayton, Ohio.
Dayton & Northern Traction Co., 31, South Ludlow-st., Dayton, Ohio.
Decatur Railway & Light Co., Decatur, Ill.
Decorah Electric Light Co., Decorah, Iowa.
Delaware Electric Light, Heat & Power Co., Delaware, Ohio.

Light, Power & Traction Companies—Electric—*continued.*

Delphos Electric Light & Power Co., Delphos, O.
Delta Electric Light, Power & Manufacturing Co., Greenville, Missouri.
Delta Electric Power Co., Delta, Pennsylvania.
Denison Light & Power Co., Denison, Texas.
Denton, City of, Water, Light & Power Co., Denton, Tex.
Denver Gas & Electric Co., Denver, Col.
Denver & Northwestern Railway Co., Denver, Col.
De Pere Electric Light & Power Co., De Pere, Wisconsin.
Depew & Lancaster Light, Power & Conduit Co., Lancaster, N.Y.
Derby Gas Co., Derby, Connecticut.
Derry Electric Light Co., Derry, N.H.
Des Moines Edison Light Co., Des Moines, La.
Detroit City Electric Light Plant, Detroit, Mich.
Dillon Electric Light & Power Co., Dillon, Mont.
Dixon Electric Power & Water Co., Dixon, Cal.
Donley, W. E., Electric Co., Big Rapids, Mich.
Dothan City Electric Light Plant, Dothan, Ala.
Douglas Improvement Co., Douglas, Ariz.
Dover Electric Light Co., Dover, New Jersey.
Dover & Foxcroft Light & Heat Co., Dover, Maine.
Dowagiac Municipal Electric Light Department, Dowagiac, Mich.
Dublin Water Works & Electric Light Plant, Dublin, Ga.
Duluth General Electric Co., Duluth, Minnesota.
Dunmore Electric Light, Heat & Power Co., Dunmore, Pa.
Durand Light & Power Co., Durand, Wis.
Durango Light & Power Co., Durango, Colorado.
Dutchess Light, Heat & Power Co., Rhinebeck, N.Y.
Dyersburg City Electric Water & Light Plant, Dyersburg, Tenn.
East Aurora Electric Light Co., East Aurora, N.Y.
East Chicago Water & Light Co., East Chicago, Ind.
East Coast Electric Light, Power & Ice Co., West Palm Beach, Fla.
East Creek Electric Light & Power Co., East Creek, N.Y.
East Hampton Electric Light Co., East Hampton, Conn.
East Liverpool Light & Traction Co., East Liverpool, Ohio.
East Palestine Electric Light Works, East Palestine, Ohio.
Eastern Wisconsin Railway & Light Co., Fond du Lac, Wisconsin.
Easton Power Co., Easton, Pennsylvania.
Eastport Electric Lighting Co., Eastport, Maine.
Eaton Electric Light, Power & Ice Manufacturing Co., Eaton, Ohio.
Economy Light & Power Co., Joliet, Illinois.
Edinburg Electric Light Plant, Edinburg, Ill.
Edison Electric Co., Los Angeles, California.

Light, Power & Traction Companies—Electric—*continued.*

Edison Electric Illuminating Co., Altoona, Pa.
Edison Electric Illuminating Co., Ashland, Pa.
Edison Electric Illuminating Co., Boston, Massachusetts.
Edison Electric Illuminating Co. of Brockton, Brockton, Massachusetts.
Edison Electric Illuminating Co., Brooklyn, New York.
Edison Electric Illuminating Co., Cumberland, Maryland.
Edison Electric Illuminating Co., Hazleton, Pa.
Edison Electric Illuminating Co., Lebanon, Pa.
Edison Electric Illuminating Co., Mount Carmel, Pennsylvania.
Edison Electric Illuminating Co., Pottsville, Pa.
Edison Electric Illuminating Co., Sunbury, Pa.
Edison Electric Illuminating Co., Tamaqua, Pa.
Edison Electric Illuminating Co., West Chester, Pennsylvania.
Edison Electric Illuminating Co., Williamsport, Pennsylvania.
Edison Electric Light Co., York, Pa.
Edison Electric Light & Motive Power Co., Pontiac, Michigan.
Edison Electric Light & Power Co., Amsterdam, N.Y.
Edison Illuminating Co., Detroit, Michigan.
Edison Sault Electric Co., Sault Ste. Marie, Michigan.
El Reno Electric Light & Power Co., El Reno, Okl. Ter.
Electric Light Co., Manitowoc, Wisconsin.
Electric Light Co., Ottawa, Ohio.
Electric Light Plant, Tomah, Wis.
Electric Light & Power Co., Hightstown, New Jersey.
Electric Light & Power Co., North Abington, Massachusetts.
Electric Light & Power Co., Tuscon, Arizona.
Electric Lighting Co. of Mobile, Mobile, Alabama.
Electric Railway & Power Co. of Tiffin, Tiffin, O.
Electric Supply Co., Savannah, Georgia.
Electric Supply & Fixture Co., Decatur, Illinois.
Elgin, Aurora & Southern Traction Co., Elgin, Ill.
Elizabeth City Electric Light & Power Co., Elizabeth City, North Carolina.
Elizabethtown & Marietta Electric Light Co., Marietta, Pennsylvania.
Elkhart Electric Co., Elkhart, Ind.
Ellensburgh City, Wash.
Ellsworth Heat, Light & Power Co., Ellsworth, Wisconsin.
Elmhurst Electric Light & Power Co., Elmhurst, Ill.
Elmira Water, Light & Railroad Co., Elmira, New York.
Elmwood Electric Light Co., Elmwood, Ill.
El Paso Gas, Electric Light & Power Co., El Paso, Texas.
Elwood Electric Light Co., Elwood, Indiana.

Light, Power & Traction Companies—Electric—*continued.*

Emerson Electric Light Co., Encampment, Wyo.
Emmetsburg Electric Light, Heat & Power Co., Emmetsburg, Iowa.
Empire State Power Co., Amsterdam, N.Y.
Emporia City Electric Light & Power Plant, Emporia, Kan.
Enfield Electric Light & Power Co., Thompsonville, Conn.
Enid Electric & Gas Co., Enid, Okla. Ter.
Enterprise Electric Light, Heat & Power Co., Garner, Iowa.
Enterprise Power Co., Clifton, Ariz.
Erie County Electric Co., Erie, Pa.
Erie Traction Co., Erie, Pa.
Eufaula Gas Electric Light & Power Co., Eufaula, Alabama.
Eutaw Water Works Electric & Power Co. Eutaw, Alabama.
Evanston Electric Illuminating Co., Evanston, Illinois.
Evanston Electric Light Co., Evanston, Wyo.
Evansville Gas & Electric Light Co., Evansville, Indiana.
Everett Railway & Electric Light Co., Everett, Wash.
Fairfield Gas & Electric Co., Fairfield, La.
Fairhaven & Westville Railroad Co., New Haven, Conn.
Fall Mountain Electric Light & Power Co., Bellows Falls, Vt.
Fall River Electric Light Co., Fall River, Massachusetts.
Faraday Heat, Power & Light Co., Morton, Pa.
Faribault Gas & Electric Co., Faribault, Minn.
Farmington Electric Co., Farmington, Maine.
Farmington River Power Co., Hartford, Conn.
Farmington Street Railway Co., The, Hartford, Conn.
Farrell Light, Heat & Water Co., Brinkley, Ark.
Fernandina City Electric Light Plant, Fernandina, Fla.
Field Electric Light Co., Morris, Ill.
Fisher's Island Electric Light, Heat & Power Co., Fisher's Island, N.Y.
Fitchburg Gas & Electric Light Co., Fitchburg, Massachusetts.
Flatbush Gas Co., Brooklyn, N.Y.
Flemington Electric Light, Heat & Power Co., Flemington, N.J.
Flushing Electric Light & Water Works, Flushing, Mich.
Forest City Electric Light & Power Co., Forest City, Iowa.
Fort Atkinson Water & Light Commission, Fort Atkinson, Wis.
Fort Dodge Electric Light & Power Co., Fort Dodge, Iowa.
Fort Madison Electric Light Co., Fort Madison, Iowa.
Fort Plain Gas & Electric Light, Heat & Power Co., Fort Plain, N.Y.
Fort Scott Gas & Electric Co., Fort Scott, Kan.

Light, Power & Traction Companies—Electric—*continued.*

Fort Smith Light & Traction Co., Fort Smith, Arkansas.
Fort Wayne & Wabash Valley Traction Co., Fort Wayne, Ind.
Fort Worth City Electric Light Works, Fort Worth, Tex.
Fort Worth Light & Power Co., Fort Worth, Texas.
Fostoria Light & Power Co., Fostoria, Ohio.
Fox River Valley Gas & Electric Co., Appleton, Wis.
Frankfort City Light & Power Plant, Frankfort, Ind.
Franklin Electric Light Co., Franklin, Ohio.
Franklin Light & Power Co., Franklin, N.H.
Franklin Water, Light & Power Co., Franklin, Indiana.
Fredonia Electric Light Plant, Fredonia, N.Y.
Freeport Railway, Light & Power Co., Stephenson-bldg., Freeport, Ill.
Fremont, City of, Fremont, Neb.
Fremont Gas, Electric Light & Power Co., Fremont, Ohio.
Frostbury Illuminating & Manufacturing Co., Frostbury, Maryland.
Fulton County Gas & Electric Co., Gloversville, New York.
Fulton Electric Light & Power Co., Fulton, Ky.
Fulton Electric Light & Power Co., Fulton, Ill.
Fulton Light, Heat & Power Co., Fulton, N.Y.
Gagebic Electric Light Co., Bessemer, Mich.
Gainesville Electric Railway & Light Co., Gainesville, Texas.
Gainesville Gas & Electric Power Co., Gainesville, Fla.
Galena Light & Power Co., Galena, Kan.
Galesburg Electric Motor & Power Co., Galesburg, Illinois.
Galesburg Railway & Light Co., Galesburg, Ill.
Galion, City of, Electric Light Dept., Galion, O.
Gallatan Light, Power & Railway Co., Bozeman, Montana.
Gallup Electric Light Co., Gallup, North Mex.
Gardner Electric Light Co., Gardner, Massachusetts.
Gas City Municipal Electric Light Plant, Gas City, Ind.
Gas & Electric Co. of Bergen County, Hackensack, N.J.
Gas, Electric Light & Power Co., Van Wert, O.
Geneseo Electric Light Co., Geneseo, Illinois.
Geneva, City of, Electric Light & Water Works, Geneva, Ill.
Geneva Power & Light Co., Geneva, New York.
Georgetown Electric Co., Georgetown, S.C.
Georgetown Water, Gas, Electric & Power Co., Georgetown, Ky.
Georgia Railway & Electric Co., Atlanta, Ga.
Germantown Electric Construction Supply Co., Philadelphia, Pennsylvania.
Gilpin's Falls Electric Co., Elkton, Md.

Light, Power & Traction Companies—Electric—*continued.*

Girard Gas & Electric Light Co., Girard, Kansas.
Glens Falls Gas & Electric Light Co., Glens Falls, New York.
Glenwood Electric Light & Power Co., Glenwood, Iowa.
Glenwood Light & Water Co., Glenwood Springs, Col.
Gloucester Electric Co., Gloucester, Massachusetts.
Gold Belt Consolidated Electric Co., Cripple Creek, Colorado.
Golden Illuminating Co., Golden, Colorado.
Goldsboro Electric Light & Power Co., Goldsboro, North Carolina.
Gonzales Electric Light & Power Plant, Gonzales, Tex.
Grafton Electric Co., Grafton, Massachusetts.
Grafton Gas & Electric Co., Grafton, W. Va.
Grand Forks City Electric Light Plant, Grand Forks, N.D.
Grand Forks Gas & Electric Co., Grand Forks, North Dakota.
Grand Island Electric Co., Grand Island, Neb.
Grand Rapids City Electric Light Plant, Grand Rapids, Mich.
Grand Rapids Edison Co., Grand Rapids, Michigan.
Granville Electric Light & Gas Co., Granville, N.Y.
Great Barrington Electric Light Co., Great Barrington, Massachusetts.
Greeley Power & Light Co., Greeley, Colorado.
Green Bay Gas & Electric Co., Green Bay, Wisconsin.
Greencastle Electric Light Co., Greencastle, Ind.
Greenfield Electric Light & Power Co., Greenfield, Massachusetts.
Greenfield Water & Electric Light Plant, Greenfield, Ohio.
Greenport Electric Light & Power Co., Greenport, N.Y.
Greensboro Water & Light Co., Greensboro, Ala.
Greensburg Gas & Electric Co., Greensburg, Indiana.
Greenville Electric Light Plant, Greenville, Tex.
Greenville Electric Light & Power Co., Greenville, Ohio.
Greenville Gas & Electric Light & Power Co., Greenville, South Carolina.
Greenwood Electric Light & Water Plant, Greenwood, Miss.
Greenwood Water & Electric Light Plant, Greenwood, S.C.
Grinnell Electric & Heating Co., Grinnell, Iowa.
Gunnison Gas & Water Co., Gunnison, Col.
Guthrie Light & Power Co., Guthrie, Oklahoma.
Hackettstown Electric Light Co., Hackettstown, New Jersey.
Hagerstown Electric Light Plant, Hagerstown, Md.
Hamilton Electric Light Co., Hamilton, Ohio.

Light, Power & Traction Companies—Electric—*continued.*

Hamilton Water & Light Plant, Hamilton, N.Y.
Hammond Milling Co., Hammond, Indiana.
Hampton Electric Light & Power Co., Hampton, Iowa.
Hanover Light, Heat & Power Co., Hanover, Pa.
Harbor Springs Village Electric Light Plant, Harbor Springs, Mich.
Harrisburg Light, Heat & Power Co., Harrisburg, Pennsylvania.
Harrison Electric Light & Ice Co., Harrison, Ark.
Harrison Light & Water Co., Harrison, Ohio.
Hartford Electric Light Co., Hartford, Con.
Hartford, Manchester & Rockville Tramway Co., Hartford, Conn.
Hastings City Electric Light Plant, Hastings, Neb.
Hattiesburg Electric Light & Power Co., Hattiesburg, Miss.
Haverhill Electric Co., Haverhill, Massachusetts.
Hawley Electric Light & Power Co., Hawley, Pa.
Hazlehurst Electric Light Plant, Hazlehurst, Miss.
Healdsburg Electric Light & Water Works, Healdsburg, Cal.
Helena Light & Railway Co., Helena, Montana.
Herkimer City Electric Light Plant, Herkimer, N.Y.
Herkimer County Light & Power Co., Dolgeville, New York.
Herkimer County Lighting & Power Co., Little Falls, N.Y.
Hiawatha Electric Light Co., Hiawatha, Kansas.
Hicksville Electric Light Plant, Hicksville, Ohio.
High Point Electric Power Co., High Point, N.C.
Hillsboro Electric Light & Power Co., Hillsboro, Ill.
Hillsboro Electric Light & Power Co., Hillsboro, N.H.
Hillsboro Electric Light & Water Works, Hillsboro, Ore.
Hillsboro Gas & Electric Co., Hillsboro, Tex.
Hillsboro Light & Fuel Co., Hillsboro, Ohio.
Hinsdale City Electric Light Plant, Hinsdale, Ill.
Hinsdale Electric Light & Power Co., Lake City, Col.
Hollister Light & Power Co., Hollister, Cal.
Holton Electric Co., Holton, Kansas.
Holyoke Gas & Electric Department, Holyoke, Massachusetts.
Home Electric Light & Steam Heat Co., Tyrone, Pennsylvania.
Home Light, Heat & Power Co., Pittsburg, Kan.
Home Lighting, Power & Heating Co., Springfield, Ohio.
Honesdale Cons. Light, Water & Power Co., Honesdale, Pa.
Hood River Electric Light, Power & Water Co., Hood River, Ore.
Hoopeston Electric Light & Heating Co., Hoopeston, Ill.

Light, Power & Traction Companies—Electric—*continued.*

Hoosick Falls Illuminating Co., Hoosick Falls, New York.
Hope City Electric Light Plant, Hope, Ark.
Hot Springs Water, Gas & Electric Light Works, Hot Springs, Arkansas.
Hot Springs Water, Light & Power Co., Hot Springs, South Dakota.
Houghton County Electric Light Co., Houghton, Michigan.
Hudson Electric Light Co., Hudson, Mich.
Hudson Municipal Electric Light & Power Plant, Hudson, Mass.
Hudson Valley Railway Co., Glens Falls, N.Y.
Hughes Electric Co., Bismark, N.D.
Hull Municipal Electric Light Dept., Nantasket, Mass.
Huntingdon Electric Light & Water Works, Huntingdon, Tenn.
Huntington Light & Fuel Co., Huntington, Ind.
Huntington Light & Power Co., Huntington, N.Y.
Huntsville Railway, Light & Power Co., Huntsville, Alabama.
Hutchinson Water, Light & Power Co., Hutchinson, Kansas.
Hyde Park Electric Light Co., Hyde Park, Massachusetts.
Independence & Monmouth Water & Electric Light Co., Independence, Ore.
Indiana Electric Co., Indiana, Pennsylvania.
Indianapolis, Columbus & Southern Traction Co., Columbus, Ind.
Indianapolis Light & Heat Co., Indianapolis, Ind.
Indianapolis & Martinsville Rapid Transit Co., Indianapolis, Ind.
Indianapolis & Northwestern Traction Co., Indianapolis, Ind.
Indianapolis Traction & Terminal Co., Indianapolis, Ind.
International Railway Co., Buffalo, N.Y.
Ionia Water Power Electric Co., Ionia, Michigan.
Iowa City Electric Light Co., Iowa City, Iowa.
Iowa Gas & Electric Co., Washington, Iowa.
Iron Mountain Electric Light & Power Co., Iron Mountain, Michigan.
Ithaca Electric Light & Power Co., Ithaca, N.Y.
Jackson Electric Light Plant, Jackson, Ohio.
Jackson Electric Railway, Light & Power Co., Jackson, Mississippi.
Jacksonville City Electric Light Plant, Jacksonville, Fla.
Jacksonville Electric Light Co., Jacksonville, Florida.
Jamestown Lighting & Power Co., Jamestown, N.Y.
Jamestown Municipal Electric Light Plant, Jamestown, N.Y.
Jantz & Leist Electric Co., 808-810, Elm-st., Cincinnati, Ohio.
Jasper Water, Light & Power Co., Jasper, Ala.

Light, Power & Traction Companies—Electric—*continued.*

Jefferson City Light, Heat & Power Co., Jefferson City, Mo.
Jefferson Light, Heat, Power & Water Co., Jefferson, Iowa.
Jenkintown Light Co., Jenkintown, Pennsylvania.
Jermyn Electric Light, Heat & Power Co., Jermyn, Pa.
Jerseyville Light, Heat & Power Co., Jerseyville, Illinois.
Jordan Electric Light & Power Co., Jordan, New York.
Kalispell Water & Electric Co., Kalispell, Montana.
Kankakee Electric Light Co., Kankakee, Illinois.
Kankanna Electric Light Co., Kankanna, Wis.
Kansas City Electric Light Co., Kansas City, Missouri.
Keene Gas & Electric Co., Keene, N.H.
Kennebec Light & Heat Co., Augusta, Maine.
Kennebunk Electric Light Co., Kennebunk, Maine.
Kenosha Gas & Electric Co., Kenosha, Wis.
Kent Water, Light & Power Co., Kent, Ohio.
Kenton Gas & Electric Co., Kenton, Ohio.
Kewanee Light & Power Co., Kewanee, Illinois.
Key West Electric Co., Key West, Florida.
Keyser Electric Light Co., Keyser, W. Va.
King Electric Co., St. Louis, Mo.
Kingfisher City Electric Light Plant, Kingfisher, Okla.
Kingston Gas & Electric Co., Kingston, N.Y.
Kirksville Electric Co., Kirksville, Mo.
Kirlin Gray Electric Co., Watertown, S.D.
Kittanning Electric Co., Kittanning, Pa.
Knoxville Electric Co., Knoxville, Iowa.
Kokomo, Marion & Western Traction Co., Kokomo, Ind.
Lackawanna Light Co., Scranton, Pa.
Lackawanna Valley Electric Light & Power Supply Co., Carbondale, Pennsylvania.
Lackawanna & Wyoming Valley Rapid Transit Co., Scranton, Pa.
Laclede Gas Light Co., St. Louis, Missouri.
Laclede Power Co., St. Louis, Missouri.
Laconia Electric Lighting Co., Laconia, N.H.
La Crosse Gas & Electric Co., La Crosse, Wisconsin.
Lafayette Gas Co., Lafayette, Ind.
Lake Charles Ice, Light & Water Co., Lake Charles, La.
Lake City Electric & Water Co., Lake City, Florida.
Lake Erie, Bowling Green & Napoleon Railway Co., Bowling Green, Ohio.
Lakewood Electric Light Plant, Lakewood, Ohio.
Lamar Light & Water Co., Lamar, Mo.
Lancaster Electric Light Co., Lancaster, Ohio.
Laporte Electric Co., Laporte, Indiana.
Laramie Light & Power Co., Laramie, Wyo.
Laredo Electric & Railway Co., Laredo, Texas.
Larimer Light & Power Co., Fort Collins, Col.

Light, Power & Traction Companies—Electric—*continued.*

Las Animas Light, Power & Manufacturing Co., Trinidad, Col.
Las Vegas Railway & Power Co., Las Vegas, New Mexico.
Lawrenceburg Electric Light Co., Lawrenceburg, Indiana.
Lawrence Gas Co., Lawrence, Massachusetts.
Lawrenceville Water & Light Co., Lawrenceville, Ill.
Leadville Gas & Electric Co., Leadville, Colorado.
Lebanon City Electric Light Plant, Lebanon, O.
Lebanon, City of, Light & Water Department, Lebanon, New Hampshire.
Lebanon Electric Light & Water Co., Lebanon, Ore.
Lebanon Light, Ice & Power Co., Lebanon, Kentucky.
Lebanon Light & Water Co., Lebanon, Mo.
Lee County Lighting Co., Dixon, Ill.
Lee Electric Co., Lee, Massachusetts.
Lee Electric Light Co., Inc., Clarinda, Iowa.
Leetonia Electric Light & Power Co., Leetonia, Ohio.
Lehigh Valley Transit Co., Allentown, Pennsylvania.
Le Mars City Water & Light Co., Le Mars, Iowa.
Lemoore Electric Light & Water Works, Lemoore, Cal.
Leominster Electric Light & Power Co., Leominster, Massachusetts.
Letchfield Electric Light & Power Co., Letchfield, Conn.
Lewiston & Auburn Electric Light Co., Auburn, Maine.
Lewiston-Clarkston Co., Lewiston, Idaho.
Lewistown Electric Light, Heat & Power Co., Lewistown, Pennsylvania.
Lexington Gas & Electric Co., Lexington, Mo.
Lexington Light & Power Co., Lexington, Va.
Liberty Electric Light Co., Liberty, Mo.
Liberty Light & Power Co., Liberty, N.Y.
Licking Light & Power Co., Newark, Ohio.
Light, Heat & Power Corporation, 131, State-st., Boston, Massachusetts.
Lincoln Gas & Electric Co., Lincoln, Nebraska.
Lincoln Water, Light & Power Co., Lincoln, Illinois.
Linton City Electric Light Plant, Linton, Ind.
Lisbon Light & Power Co., Lisbon, N.H.
Litchfield Electric Light & Power Co., Litchfield, Conn.
Little Rock Electric Light Co., Little Rock, Arkansas.
Littleton Water & Electric Light Co., Littleton, New Hampshire.
Livermore Falls Light & Power Co., Livermore, Maine.
Livingstone Water Power & Light Co., Livingstone, Montana.
Lock Haven Electric Light & Power Co., Lock Haven, Pa.

Light, Power & Traction Companies—Electric—*continued.*

Lockport Gas & Electric Light Co., Lockport, N.Y.
Logan Light Co., Logan, Iowa.
Logansport, Rochester & Northern Traction Co., Logansport, Ind.
Longmont Electric Light & Power Co., Longmont, Col.
Los Angeles Edison Electric Light Co., Los Angeles, Cal.
Louisville Lighting Co., Louisville, Ky.
Louisville & Southern Indiana Traction Co., New Albany, Ind.
Lowell Electric Light Corp., Lowell, Mass.
Lozier Light & Power Co., Plattsburg, N.Y.
Ludlow City Electric Light Plant, Ludlow, Vt.
Lynchburg Traction & Light Co., Lynchburg, Virginia.
McCook Electric Light Co., McCook, Nebraska.
McKinney Electric Light & Motor Power Co., McKinney, Texas.
McMinnville, City of, Water & Electric Light Plant, McMinnville, Tenn.
Macomb Electric Light & Gas Co., Macomb, Ill.
Macon Electric Light & Water Works, Macon, Mo.
Macon Railway & Light Co., Macon, Ga.
Maderia Electric Light Co., Maderia, Cal.
Madison City Electric Light Plant, Madison, S.D.
Madison County Light & Power Co., Edwardsville, Illinois.
Madison Electric Light & Power Co., Madison, Indiana.
Madison Gas & Electric Co., Madison, Wisconsin.
Madison Light & Railway Co., Madison, Ind.
Madisonville, City of, Madisonville, Ohio.
Mahanoy City Light, Heat & Power Co., Mahanoy City, Pennsylvania.
Magnolia Light, Heat & Power Co., Warrensburg, Mo.
Malone Electric Light & Power Co., Malone, New York.
Mammoth Spring Electric Light Co., Mammoth Spring, Ark.
Manchester Light & Power Co., Manchester, Connecticut.
Manchester Traction, Light & Power Co., 46, Hanover-st., Manchester, N.H.
Manhattan Light, Heat & Power Co., St. Paul, Minn.
Manistee Gas & Electric Co., Manistee, Mich.
Manistique Light & Power Co., Manistique, Mich.
Maniton Electric Light Co., Maniton, Col.
Manitowoc & Northern Traction Co., Manitowoc, Wis.
Mankato Gas & Electric Light Co., Mankato, Minn.
Mansfield Electric Light & Power Co., Mansfield, Ohio.
Mansfield Town Electric Light Plant, Mansfield, Mass.
Marengo City Electric Light & Water Works, Marengo, Ill.

Light, Power & Traction Companies—Electric—*continued.*

Marengo Electric Light & Power Co., Marengo, Iowa.
Marietta Municipal Electric Light Plant, Marietta, Ohio.
Marion Light & Heating Co., Marion, Ind.
Marion Light & Power Co., Marion, Ala.
Marion Railway, Light & Power Co., Marion, Ohio.
Marlboro Electric Co., Marlboro, Massachusetts.
Marlboro & Westboro Street Railway Co., Westboro, Mass.
Marquette City Electric Light Plant, Marquette, Mich.
Marquette City & Presque Isle Railway Co., Marquette, Mich.
Marshall City Electric Light Plant, Marshall, Minn.
Marshall Electric Light & Power Co., Marshall, Mo.
Marshalltown Light, Power & Railway Co., Marshalltown, Iowa.
Martin City Electric Light Plant, Martin, Tenn.
Martin Construction Co., Cincinnati, Ohio.
Martin's Ferry Municipal Electric Light Plant, Martin's Ferry, Ohio.
Martinsburg Electric Co., Martinsburg, West Virginia.
Martinsville Light, Heat, Power & Water Co., Martinsville, Indiana. (Local Telephone No. 88.)
Marysville Gas & Electric Co., Marysville, Cal.
Marysville Light & Water Co., Marysville, Ohio.
Maryville Electric Light & Power Co., Maryville, Mo.
Mascoma Electric Light & Gas Co., White River Junction, Vermont.
Mason City Electric Light Plant, Mason City, Illinois.
Massachusetts Electric Cos., 84, State-st., Boston, Mass.
Massillon Heat & Power Co., Massillon, Ohio.
Mauck Chunk Heat, Power & Electric Light Co., Mauck Chunk, Pa.
Maumee Valley Railway & Light Co., Toledo, Ohio.
Mayfield Water & Light Co., Mayfield, Ky.
Maysville Street Railroad & Transfer Co., Maysville, Ky.
Maywood & Proviso Electric Light & Power Co., Maywood, Illinois.
Mechanic Falls Water & Electric Light & Power Co., Mechanic Falls, Maine.
Medfield Electric Light & Power Co., Walpole, Mass.
Media Electric Light, Heat & Power Co., Media, Pennsylvania.
Mendola Light & Heating Co., Mendola, Ill.
Menominee & Marinette Light & Traction Co., Menominee, Mich.
Menomonie Electric Light & Power Co., Menomonie, Wis.

Light, Power & Traction Companies—Electric—*continued.*

Merced Falls Gas & Electric Co., Merced, Cal.
Merchants' Heat & Light Co., Indianapolis, Ind.
Meriden Electric Light Co., Meriden, Connecticut.
Meridian Light & Railway Co., Meridian, Miss.
Merrill Railway & Lighting Co., Merrill, Wisconsin.
Metropolis City Electric Light Plant, Metropolis City, Ill.
Metropolitan Street Railway Co., New York.
Miami Artesian Water & Light Co., Miami, Ind. Ter.
Miami Light, Heat & Power Co., Piqua, Ohio.
Michigan City Electric Co., Michigan City, Ind.
Michigan Traction Co., Kalamazoo, Mich.
Middlebury Electric Co., Middlebury, Vermont.
Middlesborough Electric Light, Heat & Power Co., Middlesborough, Kentucky.
Middlesex & Monmouth Electric Light, Heat & Power Co., Keyport, N.J.
Middletown Electric Light Co., Middletown, Conn.
Middletown Light & Power Co., Middletown, New York.
Middletown Street Railway Co., Middletown, Conn.
Milford, Attleboro & Woonsocket Street Railway Co., Milford, Mass.
Milford Electric Light Co., Milford, N.H.
Milford Electric Light & Power Co., Milford, Massachusetts.
Mill River Electric Light Co., Williamsburg, Massachusetts.
Milledgeville Electric Light Cos., Milledgeville, Ga.
Millersburg Electric Light Co., Millersburg, O.
Millville Electric Light Co., Millville, N.J.
Milton Electric Light & Power Co., Milton, Pennsylvania.
Milwaukee Electric Railway & Light Co., Milwaukee, Wisconsin.
Minersville Electric Light Co., Minersville, Pa.
Minneapolis International Electric Co., Minneapolis, Minn.
Minot Light & Telephone Co., Minot, N.D.
Mishawaka City Electric Light Station, Mishawaka, Ind.
Missoula Light & Water Co., Missoula, Montana.
Missouri Valley Electric Light Co., Missouri Valley, Iowa. (Local Telephone No. 7.)
Missouri Water, Light & Traction Co., Nevada, Mo.
Moberly Gas & Electric Co., Moberly, Mo.
Mobile Light & Railroad Co., Mobile, Alabama.
Monett Electric Light, Power & Ice Co., Monett, Mo.
Monmouth Gas & Electric Co., Monmouth, Ill.
Monongahela Electric Light Co., Monongahela City, Pennsylvania.
Monroe City Electric Light Plant, Monroe, Mich.
Monroe Water Works, Light & Traction Co., Monroe, Louisiana.

Light, Power & Traction Companies—Electric—*continued.*

Montana Power Transmission Co., Butte, Mont.
Montclair Electric Light Co., Montclair, Col.
Monte Vista Electric & Gas Light Co., Monte Vista, Colorado.
Monterey & Pacific Grove Railway Co., Monterey, Cal.
Montgomery Electric Light & Power Co., Canayoharie, N.Y.
Montgomery Light & Water Power Co., Montgomery, Alabama.
Montgomery Traction Co., Montgomery, Ala.
Monticello Electric Co., The, Monticello, Iowa.
Montpelier City Electric Light Plant, Montpelier, Ind.
Montpelier Electric Light Co., Montpelier, Idaho.
Montrose Electric Light & Power Co., Montrose, Col.
Montville Street Railway Co., Norwich, Conn.
Moravia Electric Light, Heat & Power Co., Moravia, N.J.
Morganfield Electric Light & Power Co., Morganfield, Kentucky.
Morgantown Electric Light & Power Co., Morgantown, W. Va.
Morreson Electric Light, Heat & Power Co., Little Falls, Minn.
Morris County Traction Co., Morristown, N.J.
Morrison Electric Lighting Co., Morrison, Illinois.
Moscow Electric Light & Power Co., Moscow, Idaho.
Moundsville Electrical Co., Moundsville, West Virginia.
Mount Airey Town Electric Light Plant, Mount Airey, N.C.
Mount Carmel Light & Water Co., Mount Carmel, Ill.
Mount Clemens Electric Co., Mount Clemens, Michigan.
Mount Pleasant Electric Light & Water Works, Mount Pleasant, Iowa.
Mount Sterling Water, Light & Ice Co., Mount Sterling, Ky.
Mt. Vernon Electric Light Co., Mt. Vernon, Ohio.
Mount Washington Electric Light & Power Co., Mount Washington, Md.
Muncie Electric Light Co., Muncie, Ind.
Municipal Electric Light Plant, Newark, Ohio.
Municipal Electric Light & Power Plant, Richmond, Ind.
Municipal Light & Power Plant, Anderson, Ind.
Municipal Lighting Plant, Ashtabula, Ohio.
Municipal Water & Light Dept., Wayne, Neb.
Municipal Water, Light & Power Co., Mackinac Is., Mich.
Murphysboro Water Works, Electric & Gas Light Co., Murphysboro, Ill.
Muskegon Traction & Lighting Co., Muskegon, Michigan.
Mutual Electric Light Co., San Francisco, California.
Mutual Electric Light & Power Co., Alamosa, Col.

Light, Power & Traction Companies—Electric—*continued.*

Napa Gas & Electric Co., Napa, Cal.
Naperville City Electric Light & Water Works, Naperville, Ill.
Napoleon Water Works & Electric Light Plant, Napoleon, Ohio.
Narragansett Electric Lighting Co., Providence, Rhode Island.
Narragansett Pier Electric Light & Power Co., Narragansett Pier, Rhode Island.
Nashua Light, Heat & Power Co., Nashua, New Hampshire.
Nassau Light & Power Co., Roslyn, N.Y.
Natchitoches Town Electric Light & Water Works Plant, Natchitoches, La.
Nebraska City Water & Light Co., Nebraska City, Neb.
Nelsonville Electric Light Co., Nelsonville, Ohio.
Nevada County Electric Power Co., Nevada City, Cal.
New Bedford Gas & Edison Light Co., New Bedford, Massachusetts.
New Berne Electric Light & Power Co., New Berne, N.C.
New Castle Electric Co., New Castle, Pa.
New Kensington Light Co., New Kensington, Pa.
New London Gas & Electric Co., New London, Connecticut.
New London Street Railway Co., New London, Conn.
New Market Electric Light, Power & Heat Co., New Market, New Hampshire.
New Mexico Light, Heat & Power Co., The, Silver City, New Mex.
New Milford Electric Light Co., New Milford, Connecticut.
New Milford Power Co., Gaylordsville, Conn.
New Platz, Highland & Poughkeepsie Traction Co., New Platz, N.Y.
New Richmond Electric Light & Water Works, New Richmond, Ohio.
New-Ulm City Electric Light Plant, New-Ulm, Minn.
New York Edison Co., 55, Duane-st., New York.
New York & Queens Gas & Electric Light & Power Co., Flushing, N.Y.
New York & Stamford Railroad Co., Stamford, Conn.
Newberry Water Works & Electric Light Plant, Newberry, S.C.
Newburgh Light, Heat & Power Co., Newburgh, N.Y.
Newburyport Gas & Electric Co., Newburyport, Massachusetts.
Newport Electric Co., Newport, N.H.
Newport Electric Light Co., Newport, Vt.
Newport Light & Power Co., Newport, Maine.
Newton Gas & Electric Co., Newton, New Jersey.
Newton & Watertown Gas Light Co., Newton, Mass.
Nezperce Water & Power Co., Nezperce, Idaho.
Niagara Falls Hydraulic Power & Manufacturing Co., Niagara Falls, New York.

Light, Power & Traction Companies—Electric—*continued.*

Nigannee & Ispheming Railway & Electric Co., Ispheming, Mich.
Niles City Electric Light Plant, Niles, Mich.
Nogales Electric Light, Ice & Water Co., Nogales, Ariz.
Norfolk Electric Light & Power Co., Norfolk, Neb.
Norristown City Electric Light Plant, Norristown, Pa.
Norristown Electric Light & Power Co., Norristown, Pennsylvania.
North Adams Gas Light Co., North Adams, Massachusetts.
North Alabama Traction Co., New Decatur, Ala.
North Hampton Electric Lighting Co., North Hampton, Mass.
North Kankakee Electric Light & Railway Co., Kankakee, Ill.
North Mountain Power Co., Eureka, Cal.
Northampton Street Railway Co., Northampton, Mass.
Northern California Power Co., San Francisco, Cal.
Northern Engineering Works, 12, Chene-st., Detroit, Mich.
Northern Illinois Light & Traction Co., Ottawa, Ill.
Northern Westchester Lighting Co., Ossining, N.Y.
Northwest Light & Power Co., Seattle, Wash.
Northwestern Electric Heat & Power Co., Kearney, Neb.
Northwestern Light & Power Co., Colville, Wash.
Norway Electric Light Plant, Norway, Mich.
Norwich Electric Light Co., Norwich, Conn.
Norwood Water Works & Electric Plant, Norwood, Ohio.
Nyack Electric Light & Power Co., Nyack, N.Y.
Oak Cliff Water Supply Electric Light & Power Co., Oak Cliff, Tex.
Oakland Electric Light Co., Oakland, Maine.
Oakland Gas, Light & Heat Co., Oakland, Cal.
Ocean City Electric Light Co., Ocean City, N.J.
Oconomowoc Electric Light Plant, Oconomowoc, Wis.
Ogdensburg Power & Light Co., Ogdensburg, New York.
Ohio Valley Electric Light Co., Benwood, W. Va.
Oklahoma Gas & Electric Co., Oklahoma City, Oklahoma Territory.
Old Town Electric Co., Oldtown, Maine.
Olean Electric Light & Power Co., Olean, N.Y.
Olney Electric Light & Power Co., Olney, Illinois.
Olympia Light & Power Co., Olympia, Wash.
Omaha Electric Light & Power Co., Omaha, Nebraska.
Oneonta Electric Light & Power Co., Oneonta, New York.
Ontaganne Traction Co., Appleton, Wis.
Ontario Light & Traction Co., Canandaigna, N.Y.
Ontario Power Co., Ontario, Cal.

Light, Power & Traction Companies—Electric—*continued.*

Opelousas Town Electric Light & Water Works, Opelousas, La.
Orang County Lighting Co., Middletown, N.Y.
Orange Electric Light Co., Orange, Massachusetts.
Orange Ice, Light & Water Works Co., Orange, Texas.
Orangeburg City Electric Light Plant, Orangeburg, S.C.
Oregon Electric Light & Power Co., Oregon, Ill.
Oregon Water Power & Railway Co., Portland, Oregon.
Orlando Water & Light Co., Orlando, Fla.
Oroville Light & Power Co., Oroville, California.
Orrville Light, Heat & Power Co., Orrville, Ohio.
Osage Electric Light, Heat & Power Co., Osage, Iowa.
Osborn Water & Electric Light Works, Ohio.
Osceola Light, Heat & Power Co., Osceola, Iowa.
Oskaloosa Traction & Light Co., Oskaloosa, Iowa.
Ossining Heat, Light & Power Co., Ossining, N.Y.
Oswegatchie Light & Power Co., Gouverneur, N.Y.
Ottawa Water Works & Light Co., Ottawa, Kan.
Ottumwa Traction & Light Co., Ottumwa, Iowa.
Ouray Electric Power & Light Co., Ouray, Colorado.
Owego Light & Power Co., Owego, N.Y.
Oxford Village Electric Light Plant, Oxford, O.
Pacific Light & Power Co., Los Angeles, Cal.
Pacific Lighting Co., San Francisco, Cal.
Paducah Light & Power Co., Paducah, Ky.
Palatka Gas Light & Fuel Co., Palatka, Fla.
Palestine Electric Light Co., Palestine, Texas.
Palmyra Gas & Electric Co., Palmyra, N.Y.
Palmyra Light & Water Co., Palmyra, Mo.
Palo Alto Light Co., Palo Alto, Cal.
Paris Electric Light Co., Paris, Kentucky.
Paris Light & Power Co., Paris, Texas.
Park City Light, Heat & Power Co., Park City, Utah.
Parsons Electric Light & Power Co., Parsons, Kan.
Pascagoula St. Rly. & Power Co., Scranton, Miss.
Patchogue Electric Light Co., Patchogue, New York.
Paterson & Passaic Gas & Electric Co., Paterson, New Jersey.
Pawtucket Electric Co., Pawtucket, Rhode Island.
Peabody City Electric Light Plant, Peabody, Mass.
Peekskill Lighting & Railroad Co., Peekskill, New York.
Penacook Electric Light Co., Penacook, New Hampshire.
Peninsula Electric Light Co., Detroit, Michigan.
Penn Yan City Electric Light Plant, Penn Yan, N.Y.
Pennsylvania Light & Power Co., Allegheny, Pa.
Pensacola County Electric Light & Power Co., Pensacola, Florida.
People's Edison Illuminating & Power Co., River Point, R.I.

Light, Power & Traction Companies—Electric—*continued.*

People's Electric Light Co., Bedford, Ohio.
People's Electric Light, Heat & Power Co., Greenville, Pennsylvania.
People's Electric Light, Heat & Power Co., Nanticoke, Pennsylvania.
People's Electric & Manufacturing Co., Spears, Pennsylvania.
People's Gas & Electric Co., Burlington, Iowa.
People's Gas & Electric Co., Defiance, Ohio.
People's Gas & Electric Co., Oswego, New York.
People's Gas, Electric & Heating Co., Bloomington, Ind.
People's Gas & Electric Light Co., Canton, Ill.
People's Gas Light & Power Co., Danielson, Conn.
Peoples Light, Heat & Power Co., Salina, Kansas.
People's Light, Heat & Power Co., Springfield, Ohio.
People's Lighting Co., Davenport, Iowa.
People's Power Co., Moline, Illinois.
Perry Electric Light & Power & Heat Co., Perry, Iowa.
Perry Water, Light & Ice Co., Perry, Okla.
Peru City Electric Light Plant, Peru, Ill.
Peru City Electric Light Plant, Peru, Ind.
Peru Lighting, Peru, Indiana.
Petaluma Gas & Electric Co., Petaluma, California.
Peterboro Electric Light, Power & Heating Co., Peterboro, N.H.
Petersburg Electric Light Plant, Petersburg, Ill.
Petersen Heat, Light & Waier Co., Iowa Falls, Iowa.
Philadelphia Electric Co., Philadelphia, Pa.
Philadelphia & Lehigh Valley Traction Co., Allentown, Pa.
Philadelphia & West Chester Traction Co., 610, Arcade-bldg., Philadelphia, Pa.
Philipsburg Electric Light, Gas, Power & Heat Co., Philipsburg, Pennsylvania.
Phillipsburg Electric Light, Heat & Power Co., Phillipsburg, N.J.
Phillipsburg-Granite Electric Light Co., Phillipsburg, Mont.
Phœnix Electric Co., Battle City, Montana.
Phœnix Electric Light & Coal Co., East Greenwich, R.I.
Phœnix Gas & Electric Co., Phœnixville, Pa
Phœnix Light & Fuel Co., Phœnix, Arizona.
Pine Bluff Light & Water Co., Pine Bluff, Ark.
Pittsfield Electric Co., Pittsfield, Massachusetts.
Plain City Electric Light Plant, Plain City, Ohio.
Plattsburg Light, Heat & Power Co., Plattsburg, New York.
Pleasantville Electric Co., Pleasantville, N.J.
Plymouth Electric Light Co., Plymouth, Indiana.
Plymouth Electric Light Co., Plymouth, Massachusetts.
Pocahoutas Light & Water Co., Bramwell, W. Va.
Point Richmond Light & Power Co., Point Richmond, Cal.
Polo Electric Light & Power Co., Polo, Ill.

Light, Power & Traction Companies—Electric—*continued.*

Pomeroy & Middleport Electric Co., Pomeroy, Ohio.
Pontiac Light Co., Pontiac, Mich.
Pontiac Light & Water Co., Pontiac, Illinois.
Port Huron Light & Power Co., Port Huron, Mich.
Port Jervis Electric Light, Power, Gas & Railroad Co., Port Jervis, N.Y.
Port Tampa Electric Light & Power Co., Port Tampa, Florida.
Portage Electric Light & Power Co., Portage, Wisconsin.
Portland General Electric Co., Portland, Oregon.
Portland Lighting & Power Co., Portland, Maine.
Portsmouth Electric & Gas Co., Portsmouth, Va.
Potsdam Electric Light & Power Co., Potsdam, N.Y.
Pottstown Light, Heat & Power Co., Pottstown, Pennsylvania.
Poughkeepsie City & Wappingers Falls Electric Railway Co., Poughkeepsie, N.Y.
Poughkeepsie Light, Heat & Power Co., Poughkeepsie, New York.
Power Development Co., Bakersfield, Cal.
Prescott Electric Co., Prescott, Ariz.
Prescott Water & Light Plant, Prescott, Ark.
Priceburg Electric Light Co., Priceburg, Pa.
Princeton City Electric Light & Water Works, Princeton, Minn.
Princeton Light & Power Co., Princeton, Indiana.
Public Lighting Commission, 40, Atwater-st. East, Detroit, Michigan.
Pueblo Light, Heat & Power Co., Pueblo, Col.
Pueblo & Suburban Traction & Lighting Co., Pueblo, Colorado.
Putnam Light & Power Co., Putnam, Connecticut.
Quakertown Borough Electric Light Department, Quakertown, Pa.
Queens Borough Gas & Electric Co., Far Rockaway, N.Y.
Quincy Gas Light & Coke Co., Quincy, Illinois.
Rackaway Electric Light & Improvement Co., Rackaway, N.J.
Radford Water Power Co., Radford, Va.
Raleigh Electric Co., Raleigh, North Carolina.
Randolph & Holbrook Electric Light Co., Randolph, Mass.
Rapid City Electric & Gas Light Co., Rapid City, South Dakota.
Rappahannock Electric Light & Power Plant, Fredericksburg, Va.
Raton Electric Light Co., Raton, New Mexico.
Ravenna Gas & Electric Light Co., Ravenna, O.
Rawlins Electric Light & Fuel Co., Rawlins, Wyo.
Reading Electric Co., Reading, Pennsylvania.
Reading Municipal Electric Light Plant, Reading, Mass.
Reading Town Electric Light Plant, Reading, Ohio.
Reno Power, Light & Water Co., Reno, Nev.

Light, Power & Traction Companies—Electric—*continued.*

Renovo Edison Light, Heat & Power Co., Renovo, Pennsylvania.
Rensselaer City Water & Electric Light Plant, Rensselaer, Ind.
Rhinelander Lighting Co., Rhinelander, Wis.
Rhode Island Co., Providence, R.I.
Rice Lake City Electric Light Plant, Rice Lake, Wis.
Richmond Electric Light Works, Richmond, Indiana.
Richmond Light, Heat & Power Co., Richmond, Indiana.
Richmond Light & Power Co., Richmond, Cal.
Richmond Light & Railroad Co., Jay-st., New Brighton, S.I.
Ridgway Electric Light Co., Ridgway, Pa.
Ripon Light & Water Co., Ripon, Wis.
River Falls City Electric Light Plant, River Falls, Wis.
Riverside City Electric Light Department, Riverside, Cal.
Riverside Power Co., Riverside, Cal.
Roaring Fork Electric Light & Power Co., Aspen, Colorado.
Rochester City Electric Light Plant, Rochester, Minn.
Rochester Electric Light, Heat & Power Co., Rochester, Indiana.
Rochester Railway & Light Co., Rochester, N.Y.
Rock Hill Water, Light & Power Co., Rock Hill, South Carolina.
Rockingham County Light & Power Co., Portsmouth, N.H.
Rockland Light & Power Co., Haverstraw, N.Y.
Rockland Light & Power Co., Nyack, N.Y.
Rockville Center Village Electric Light Plant, Rockville Center, N.Y.
Rockville Gas & Electric Light Co., Rockville, Conn.
Rocky Mount City Electric Light Plant, Rocky Mount, N.C.
Rome Gas, Electric Light & Power Co., Rome, New York.
Roswell Electric Light Co., Roswell, North Mexico.
Royal Light & Power Co., Delavan, Illinois.
Rumford Falls Light & Water Co., Rumford Falls, Maine.
Rutland City Electric Light Co., Rutland, Vt.
Sabina Village Water & Light Plant, Sabina, Ohio.
Sacramento Electric, Gas & Railway Co., Sacramento, California.
Sag Harbour Electric Light & Power Co., Sag Harbour, N.Y.
Sagadahock Light & Power Co., Bath, Maine.
Saginaw Bay City Railway & Light Co., Saginaw, Mich.
St. Albans Electric Light & Power Co., St. Albans, Vermont.
St. James City Electric Light Plant, St. James, Minn.

Light, Power & Traction Companies—Electric—*continued.*

St. Johnsbury Electric Co., St. Johnsbury, Vt.
St. Louis & Suburban Railway Co., St. Louis, Miss.
St. Marys Electric Light Plant, St. Marys, Ohio.
St. Peter Electric Light & Water Works, St. Peter, Minnesota.
St. Regis Falls Electric Light Co., St. Regis Falls, N.Y.
Salem Electric Light & Artificial Ice Co., Salem, Indiana.
Salem Electric Light & Power Co., Salem, Ohio.
Salem Electric Lighting Co., Salem, Mass.
Salem Milling, Lighting & Heating Co., Salem, S.D.
Salem Town Electric Light Plant, Salem, Va.
Salida Edison Electric Light Co., Salida, Cal.
Salida Light & Power Utility Co., Salida, Col.
Salineville Electric Light, Heat & Power Co., Salineville, Ohio.
Salt Lake & Ogden Gas & Electric Light Co., Ogden, Utah.
San Diego Consolidated Gas & Electric Co., San Diego, California.
San Francisco Gas & Electric Co., San Francisco, California.
San Joaquin Light & Power Co., Fresno, California.
San Jose & Santa Clara Railroad Co., San Jose, Cal.
San Leandro Gas & Electric Light Co., San Leandro, Cal.
San Luis Gas & Electric Co., San Luis Obispo, California.
San Marcos Electric Light & Power Co., San Marcos, Tex.
Sandusky Gas & Electric Co., Sandusky, Ohio.
Sanford Light & Power Co., Sanford, Maine.
Santa Cruz Electric Light & Power Co., Santa Cruz, California.
Santa Fe Water & Electric Co., Santa Fe, New Mexico.
Santa Rosa Lighting Co., Santa Rosa, Cal.
Saranac Lake Light, Heat & Power Co., Saranac Lake, N.Y.
Saratoga Gas & Electric Light Co., Saratoga Springs, New York.
Saratoga Light, Heat & Power Co., Saratoga, Wyoming.
Savannah Electric Co., Savannah, Georgia.
Schenectady Illuminating Co., Schenectady, N.Y.
Schenectady Railway Co., Schenectady, N.Y.
Schuyler Electric Light Plant, Schuyler, Neb.
Schuylkill Traction Co., Girardville, Pa.
Scranton Electric Light & Heat Co., Scranton, Pennsylvania.
Scranton Illuminating, Heat & Power Co., Scranton, Pennsylvania.
Seabright Electric Light Co., Seabright, N.J.
Seaton Mount Electric Light, Heat & Power Co., Idaho Spring, Col.
Seattle City Electric Light Plant, Seattle, Wash.
Seattle Electric Light & Power Co., Seattle, Wash.

Light, Power & Traction Companies—Electric—*continued.*

Seattle Tacoma Power Co., Seattle, Wash.
Sedalia Electric Light & Power Co., Sedalia, Mo.
Sedalia Water & Light Co., Sedalia, Mo.
Seneca River Power Co., Baldwinsville, N.Y.
Sewickley Electric Co., Sewickley, Pennsylvania.
Seymour Electric Light Co., Seymour, Conn.
Seymour Gas & Electric Light Co., Seymour, Indiana.
Shamokin Electric Light, Heat & Power Co., Shamokin, Pa.
Shawnee & Straitsville Electric Light Co., Shawnee, Ohio.
Sheboygan Light, Power & Railway Co., Sheboygan, Wisconsin.
Sheffield Co., Sheffield, Alabama.
Shelby Village Electric Light Plant, Shelby, O.
Shelbyville Water & Light Co., Shelbyville, Indiana.
Shenandoah Electric Illuminating Co., Shenandoah, Pennsylvania.
Sherman City Electric Light Plant, Sherman, Tex.
Sherman Gas & Electric Co., Sherman, Tex.
Shippensburg Electric Light, Heat & Power Co., Shippensburg, Pennsylvania.
Shreveport Gas, Electric Light & Power Co., Shreveport, Louisiana.
Sidney Electric Light Co., Sidney, Ohio.
Sigourney Electric Light & Power Co., Sigourney, Iowa.
Silverton, Town of, Electric Light Plant, Silverton, Col.
Sioux City Traction Co., Sioux City, Iowa.
Siskigon Electric Power Co., Yreka, Cal.
Sistersville Electric Light & Power Co., Sistersville, West Virginia.
Skowhegan Electric Light Co., Skowhegan, Maine.
Smyrna Electric Light Plant, Smyrna, Del.
Snohomish Electric Light, Power & Gas Co., Snohomish, Washington.
Solano Electric Light & Gas Co., Benicia, Cal.
Somerset Electric Light, Heat & Power Co., Somerset, Pa.
South Brooklyn Town Electric Light Plant, South Brooklyn, Ohio.
South Side Electric Light & Power Co., Kansas City, Mo.
Southern Heating, Light & Power Co., Carnegie, Pennsylvania.
Southern Light & Traction Co., Natchez, Miss.
Southern Pines & Carthage Electric Light Plant, Southern Pines, N.C.
Sparta Electric Light Plant, Sparta, Wis.
Sparta Gas & Electric Co., Sparta, Ill.
Spartanburg Railway, Gas & Electric Co., Spartanburg, S.C.
Spencer Electric Light Co., Spencer, Indiana.
Spencer Electric Light & Power Co. Belding, Mich.
Spencer Gas Co., Spencer, Massachusetts.

Light, Power & Traction Companies—Electric—*continued.*

Spokane Traction Co., Spokane, Wash.
Spring Valley Electric Light Co., Spring Valley, Ill.
Springfield City Electric Light Plant, Springfield, Tenn.
Springfield Electric Co., Springfield, Vermont.
Springfield Gas & Electric Co., Springfield, Missouri.
Springfield Water & Electric Light Co., Springfield, Ky.
Springville City Electric Light Plant, Springville, Utah.
Stafford Springs Electric Light & Gas Co., Stafford Springs, Connecticut.
Stamford Gas & Electric Co., Stamford, Connecticut.
Stanberry Electric Light Co., Stanberry, Mo.
Standard Electric Light Co., Argentine, Kan.
Standard Gas & Electric Co., Raleigh, N.C.
Stanford Water, Light & Ice Co., Stanford, Ky.
Sterling Gas & Electric Light Co., Sterling, Ill.
Stillwater City Electric Light & Water Works, Stillwater, Okla.
Stillwater Gas & Electric Light Co., Stillwater, Minnesota.
Stockton Gas & Electric Co., Stockton, California.
Storm Lake Electric Light Co., Storm Lake, Iowa.
Stoughton Gas & Electric Co., Stoughton, Massachusetts.
Streator Gas & Light Co., Streator, Ill.
Stroudsburg Electric Light & Power Co., Stroudsburg, Pennsylvania.
Stuttgart Water & Electric Light Plant, Stuttgart, Ark.
Suburban Electric Light Co., Scranton, Pa.
Suburban Gas & Electric Co., Revere, Mass.
Suffolk Light & Water Co., Suffolk, Virginia.
Sullivan Heat, Light & Power Co., Sullivan, Indiana.
Sumter Ice, Light & Power Co., Sumter, S.C.
Susquehanna County Electric Co., Susquehanna, Pa.
Swett Electric Light & Power Co., Medina, N.Y.
Syracuse Lighting Co., Syracuse, N.Y.
Syracuse Rapid Transit Railway Co., Syracuse, N.Y.
Tacoma City Electric Light Plant, Takoma, Wash.
Tacoma Railway & Power Co., Tacoma, Wash.
Talladega Electric Power Co., Talladega, Ala.
Tama & Toledo Electric Railway & Light Co., Toledo, Iowa.
Tampa Electric Co., Tampa, Fla.
Taunton Municipal Lighting Plant, Taunton, Mass.
Taylor Electric Light Co., Taylor, Tex.
Taylorville Electric Co., Taylorville, Illinois.
Tazewell Electric Light & Power Co., Tazewell, Va.
Telluride Electric Light & Power Co., Telluride, Colorado.
Telluride Power Co., Provo, Utah.

Light, Power & Traction Companies—Electric—*continued.*

Temple Electric Light Co., Temple, Texas.
Tergus Falls City Electric Plant, Fergus Falls, Minn.
Terrell Electric Light Co., Terrell, Tex.
Texarkana Gas & Electric Light Co., Texarkana, Ark.
Texas-Mexican Electric Light & Power Co., Eagle Pass, Tex.
Thomaston Electric Light Co., Thomaston, Conn.
Thomasville Municipal Electric Light Plant, Thomasville, Georgia.
Thomson-Houston Electric Co. of New York, New York, N.Y.
Thousand Islands Electric Light & Power Co., Clayton, N.Y.
Three Rivers Light & Power Co., Three Rivers, Michigan.
Tiffin Edison Electric Illuminating Co., Tiffin, O.
Tipton Electric Light Co., Tipton, Ind.
Titusville Electric Light & Power Co., Titusville, Pa.
Toledo Bowling Green & Southern Traction Co., Findlay, Ohio.
Toledo Consolidated Electric Co., Toledo, Ohio.
Toledo Railways & Light Co., Toledo, Ohio.
Toms River & Island Heights Electric Light & Power Co., Toms River, N.J.
Tonawanda Power Co., North Tonawanda, N.Y.
Tonapah Light & Power Co., Tonopah, Nev.
Topeka Edison Co., Topeka, Kan.
Toronto Electric Light & Power Co., Toronto, Ohio.
Torrington Electric Light Co., Torrington, Conn.
Tower Electric Light & Telephone Co., Tower, Minn.
Town Hydro-Electric Plant, Harrisonburg, Va.
Tremont Gas & Electric Light Co., Tremont, Neb.
Tremont & Pine Grove Electric Light, Heat & Power Co., Tremont, Pa.
Trenton Gas Light & Power Co., Trenton, Ill.
Trenton Gas Light & Power Co., Trenton Mo.
Tri-County Light & Power Co., Alpha, Ill.
Truckee River General Electric Co., Truckee, Cal.
Tucson Gas, Electric Light & Power Co., Tucson, Ariz.
Tullahoma Municipal Electric Light & Water Works, Tullahoma, Tenn.
Tuolumne County Water & Power Co., Sonora, California.
Tuscola Water & Light Co., Tuscola, Ill.
Tuskaloosa Ice & Light Co., Tuscaloosa, Alabama.
Tuxedo Electric Light Co., Tuxedo, N.Y.
Twin City General Electric Co., Ironwood, Mich.
Two Rivers Water & Electric Plant, Two Rivers, Wis.
Tyler Electric Light & Power Co., Tyler, Texas.
U.S. Electric Lighting Co., Washington, D.C.
Ulster Electric Light, Heat & Power Co., Saugerties, N.Y.

Light, Power & Traction Companies—Electric—*continued.*

Umpqua Water, Light & Power Co., Roseburg, Ore.
Union City Lighting Co., Union City, Ind.
Union City Electric Light & Water Works, Union, S.C.
Union City Water & Electric Light Works, Union City, Tenn.
Union Electric Light Co., Franklin, Mass.
Union Electric Light & Power Co., St. Louis, Missouri.
Union Electric Light & Power Co., Unionville, Conn.
Union Gas & Electric Co., Waterville, Maine.
Union Illuminating Co., Bridgeport, Conn.
Union Light, Heat & Power Co., Fargo, North Dakota.
United Electric Co., Dennison, Ohio.
United Electric Light Co., Springfield, Mass.
United Electric Light & Power Co., 1170, Broadway, New York.
United Gas & Electric Co., Leavenworth, Kan.
United Gas & Electric Co., New Albany, Indiana.
United Gas & Electric Co., San José, Cal.
United Gas, Electric Light & Fuel Co., Fort Edward, N.Y.
United Hydro Electric Co., Georgetown, Col.
United Illuminating Co., 95, Milk-st., Boston, Mass.
United Illuminating Co., New Haven, Conn.
Urbana & Champaign Railway, Gas & Electric Co., Champaign, Ill.
Urbana Light Co., Urbana, Ohio.
Urbana Light, Heat & Power Co., Urbana, Ill.
Utica Gas & Electric Co., Utica, N.Y.
Valdosta Electric Light & Power Co., Valdosta, Georgia.
Valley Electric Co., New Brighton, Pa.
Valleya Electric Light & Power Co., Valleya, Cal.
Valparaiso Light & Fuel Co., Valparaiso, Indiana.
Vancouver Electric Light & Power Co., Vancouver, Wash.
Vandalia Light & Fuel Co., Vandalia, Illinois.
Vernon Light & Power Co., Tallapoosa, Georgia.
Victoria Manufacturing Co., Victoria, Texas.
Village Water Works & Electric Light Plant, Tippecanve City, Ohio.
Vincennes City Electric Lighting Co., Vincennes, Ind.
Vincennes Electric Light & Power Co., Vincennes, Indiana.
Virginia Electric Light Co., Virginia, Illinois.
Wabaska Electric Co., Wymore, Nebraska.
Waco Gas Co., Waco, Texas.
Wadsworth Light & Power Co., Wadsworth, Nev.
Wakefield Municipal Electric Light Plant, Wakefield, Mass.
Wallace Light & Water Co., Wallace, Idaho.
Wallingford Borough Electric Works, Wallingford, Conn.
Wallkill Valley Electric Light & Power Co., Walden, N.Y.

Light, Power & Traction Companies—Electric—*continued.*

Walnut Ridge & Hoxie Light & Power & Transit Co., Walnut Ridge, Ark.
Waltham Gas Light Co., Waltham, Massachusetts.
Walton Electric Light Co., Walton, N.Y.
Warren Electric Light & Water Works, Warren, Minn.
Warren Electrical Light Co., Warren, Pa.
Warren Water & Light Co., Warren, Ohio.
Warsaw Gas & Electric Co., Warsaw, New York,
Warwick Valley Light & Power Co., Warwick. N.Y.
Washburn Electric Light & Power Co., Washburn, Wis.
Washington, Arlington & Falls Church Railway Co., Washington, D.C.
Washington Electric Light & Power Co., Washington, Pa.
Washington Gas & Electric Co., Washington, C. H., Ohio.
Washington Railway & Electric Co., Washington, D.C.
Washtenaw Light & Power Co., Ann Arbor, Mich.
Watauga Electric Co., Johnson City, Tenn.
Water & Light Plant, Fitzgerald, Ga.
Water, Light & Transit Co., Carollton, Mo.
Waterbury Traction Co., Waterbury, Conn.
Watertown Electric Light Co., Watertown, N.Y.
Watertown Electric Light Co., Watertown, Wis.
Waterville & Fairfield Railway & Light Co., Waterville, Maine.
Watkins Electric Light & Power Co., Watkins, N.Y.
Watsontown Municipal Electric Light, Heat & Power Co., Watsontown, Pennsylvania.
Watsonville Water & Light Co., Watsonville, California.
Waukesha Electric Light Co., Waukesha, Wisconsin.
Wausau Electric Co., Wausau, Wisconsin.
Waverly Electric Light & Power Co., Waverly, N.Y.
Waxahachie Gas & Electric Co., Waxahachie, Tex.
Wayne County Electric Co., Lyons, New York.
Wayne Electric Light Co., Wayne, Pennsylvania.
Wayne & Wabash Valley Traction Co., Logansport, Ind.
Waynesboro Electric Light & Power Co., Waynesboro, Franklin Co., Pennsylvania.
Webster City Electric Light Plant, Webster City, Iowa.
Webster Electric Co., Webster, Massachusetts.
Wellington, City of, Electric Light Plant, Wellington, Kan.
Wells Water & Electric Light Works, Wells, Minn.
Wellsburg Electric Light, Heat & Power Co., Wellsburg, W. Va.
Wellston Municipal Electric Light Plant, Wellston, Ohio.

Light, Power & Traction Companies—Electric—*continued.*

Wellsville Electric Light Co., Wellsville, Ohio.
West Bend Roller Mills & Electric Light Plant, West Bend, Wis.
West Penn Electric Co., Dawson, Pa.
West Point Electric Light & Power Co., West Point, Neb.
West St. Louis Water & Light Co., West St. Louis, Missouri.
Westboro Gas & Electric Co., Westboro, Mass.
Westbrook Electric Light & Power Co., Westbrook, Maine.
Westchester Lighting Co., Mount Vernon, N.Y.
Westerly Gas & Electric Light Co., Westerly, Rhode Island.
Western Electric Co., Jamestown, N.D.
Westfield Municipal Gas & Electric Plant, Westfield, Mass.
Westmoreland Light, Heat & Power Co., Greensburg, Pa.
Weston Electric Light, Power & Water Co., Weston, West Virginia.
Westport Water Co., Westport, Conn.
Weymouth Light & Power Co., East Weymouth, Mass.
Wheeling Electric Co., Wheeling, West Virginia.
Wheeling Traction Co., Wheeling, West Va.
Whitewater Electric Light Co., Whitewater, Wisconsin.
Wichita Gas & Electric Light & Power Co., Wichita, Kan.
Wichita Railway & Light Co., Wichita, Kansas.
Wilkes Barre & Wyoming Valley Traction Co., Wilkes Barre, Pa.
Willapa Harbor Electric Co., South Bend, Wash.
Williams Valley Light, Heat & Power Co., Lykens, Pa.
Willimantic Gas & Electric Light Co., Willimantic, Connecticut.
Willmar Electric Light & Water Works, Willmar, Minn.
Willows Water & Light Co., Willows, Cal.
Wilton Junction City Electric Light & Water Plant, Wilton Junction, Iowa.
Winamic City Water & Electric Light Plant, Winamic, Ind.
Winchester Railway, Light & Ice Co., Winchester, Ky.
Winchester Town Electric Light Plant, Winchester, Tenn.
Windsor Locks Electric Lighting Co., Windsor Locks, Connecticut.
Winona Railway & Light Co., Winona, Minn.
Winterset City Electric Light Plant, Winterset, Iowa.
Woodbourne Electric Light, Heat & Power Co., Sussex, New Jersey.
Woonsocket Electric Machine & Power Co., Woonsocket, Rhode Island.
Wooster Electric Co., Wooster, Ohio.
Worcester Electric Light Co., Worcester, Mass.
Yankton General Electric Co., Yankton, South Dakota.

Light, Power & Traction Companies—Electric—*continued.*

Yates Electric Light & Power Co., Penn Yan, New York.
Yonkers Electric Light & Power Co., Yonkers, New York.
York Light & Heat Co., Biddeford, Maine.
York Light & Power Co., York, Nebraska.
Youngstown Sharon Railway & Light Co., Youngstown, Ohio.
Yuma Water & Light Co., Yuma, Ariz.
Zanesville Railway, Light & Power Co., Zanesville, Ohio.

Lightning Arresters—Makers of.

F.—Paratfondres—Fab. de.
G.—Blitzschutzvorrichtung von.

McIntosh, Jas. D., 141, Broadway, New York.

Lubricant Manufacturers.

F.—Huiles à lubrefier—Fab. de.
G.—Maschinen-Oele—Fabr. von.

Allen, L. B., Co., Inc., 1329, Columbia-ave., Chicago, Ill.

Lubricator Makers for Electric Machines & Engines.

F.—Graisseurs pour machines à vapeur élec.—Fab. de.
G.—Schmier Apparate für elektr. und andere Maschinen.

Michigan Lubricator Co., 661-669, Beaubien-st., Detroit, Mich.
Powell Co., Wm., 2525-2531, Spring Grove-ave., Cincinnati, Ohio.
"Swift" Lubricator Co., 730, West 1st-street, Elmira, N.Y.

Machine Belting Manufacturers.

See Driving Bands.

Machine Tool Makers.

F.—Machines Outils—Fab. de.
G.—Maschinen-Werkzeug.

Barr Pumping Engine Co., 55, North 7th-st., Philadelphia, Pa.
Billings & Spencer Co., Hartford, Conn.
Blake, George F., Manufacturing Co., 91 & 93, Liberty-street, New York.
Brown & Sharpe Manufacturing Co., Providence, R.I.
Bullard Machine Tool Co., Bridgeport, Conn.
Carpenter Electric Co., 604, 5th-st., N.W., Washington, D.C.
Chicago Pneumatic Tool Co., New York.
Cincinnati Tool Co., Norwood, Cincinnati, Ohio.
Cleveland Twist Drill Co., Cleveland, Ohio.
Conway & Co., 217, W. Second-st., Cincinnati, Ohio.

Machine Tool Makers—*continued.*

Dicke Tool Co., Downer's Grove, Ill.
Eickemeyer & Osterheld Manufacturing Co., Yonkers, N.Y.
Ferracute Machine Co., Bridgeton, N.J.
Gardam, Wm., & Son, 45, 47, 49 & 51, Rose-st., New York.
Garvin Machine Co., Spring & Varick-sts., New York, N.Y.
Gould & Eberhardt, 95 & 113, New Jersey Railroad-avenue, Newark, N.J.
Hampden Corundum Wheel Co., Brightwood, Springfield, Mass.
Jarecki Manufacturing Co., Ltd., Erie, Pa.
Jeffrey Manufacturing Co., Columbus, Ohio.
Johnson-Robinson Machinery Co., 715–717, North 2nd-st., St. Louis, Mo.
Lammart & Mann, 51, S. Jefferson-st., Chicago, Ill.
Lodge & Shipley Machine Tool Co., Cincinnati, Ohio.
Machinery & Electrical Co., Main-st., Los Angeles, Cal.
Mead, John A., Manufacturing Co., 11, Greenwich-st., New York.
New Process Rawhide Co., Syracuse, New York.
Norton & Jones, Machine Tool Works, Plainville, Conn.
Oshkosh Logging Tool Co., Oshkosh, Wis.
Patterson, Gattfried & Hunter, Ltd., 146–150, Centre-st., New York, N.Y.
Perrin, Seamans & Co., 57, Oliver-st., Boston, Mass.
Pratt & Whitney Co., 1, Flower-st., Hartford, Conn.
Sebastian Lathe Co., Culvert & Harrison-sts., Cincinnati, Ohio.
Shaw Electric Crane Co., Muskegon, Mich.
Sigourney Tool Co., 9, Sigourney-st., Hartford, Conn.
Smith Electric Works, Pompton, N.J.
Syracuse Twist Drill Co., 936, Grape-street, Syracuse, N.Y.
Ticonderoga Machine Works, Ticonderoga, New York.
Watson & McDaniel, 144, North 7th-street, Philadelphia, Pa.

Machinery Merchants & Agents.

F.—Machines—March. et represent. de.
G.—Maschinen Händler & Agenten.

Aiton Machine Co., 126, Liberty-st., New York City.
Briggs, M., 17, Battery-pl., New York.
Coho, H. B., 26, Cortland-st., New York.
Electrical Machinery & Commission Co., 712, North 2nd-st., St. Louis, Mo.
Engineering & Equipment Co., 407, 7th-ave., Pittsburg, Pa.
Enterprise Manufacturing Co., Philadelphia, Pa.
Gugler Electric Manufacturing Co., 223–225, 5th-st., Minneapolis, Minn.

Machinery Merchants & Agents—*contd.*

Illinois Electrical Manufacturing Co., Peoria, Ill.
Little, F. B., & Co., 119, North 11th-st., St. Louis, Mo.
Mead-Morrison Manufacturing Co., 11, Broadway, New York.
Patterson, Gottfried & Hunter, 146, Centre-st., New York.
Rossiter, MacGovern & Co., 17, Battery-pl., New York.
St. Louis Electrical Supply Co., 911, Market-street, St. Louis, Mo.
Sciple, H. M., & Co., 3rd & Arch-sts., Philadelphia, Pa.
Smith-Courtney Co., 1418 & 1424, E. Cary-st., Richmond, Va.
Steel Motor Co., Cleveland, Ohio.
Takata & Co., 60, Wall-st., New York.
Taylor, W. H., & Co., Allentown, Pa.
Thompson, Henry G., & Son, 6, Elm-st., corner of State-street, New Haven, Conn.
Whitehead Machinery Co., Davenport, Iowa.

Magnet Manufacturers.

F.—Aimants—Fab. d'.
G.—Magnete—Verfertiger.

Acme Wire Co., New Haven, Conn.
Varley Duplex Magnet Co., Philipsdale, R.I.

Manufacturers' Agents.

F.—Agents de Fabricants.
G.—Fabrik—Agenten.

Beatty, W. H., 15, N. 13th-st., Philadelphia, Pa.
Codman, J. S., & Co., 127, Federal-st., Boston, Mass.
Electrical Equipment Co., Suite 939, Monadnock-blk., Chicago, Ill.
Evans Electric Co., Park-bldg., Pittsburg.
Field, C. J., 78, Wall-st., New York.
Jones, R. R., Harrisburg, Pa.
Latham, E. B., & Co., 136, Liberty-st., New York.
McIntin, W. C., & Co., 506, Commerce-st., Philadelphia, Pa.
Monroe Brass & Wire Co., 811, Traction-bldg., Cincinnati, Ohio.
Porter, H. Hobart, jun., A.AM.I.E.E. (Westinghouse Elec. & Mfg. Co.), 120, Broadway, New York.
Taylor, Wm., 203, Broadway, New York.
Toppan, A. W., 65, Sudbury-st., Boston, Mass.
Varney Electrical Supply Co., 235, South Meridian-st., Indianapolis, Ind.
Watter Electric Co., Neave-bldg., Cincinnati, Ohio.

Manufacturing Cos.—Electric.

F.—Compagnies d'électricité.—Fab.
G.—Elek. Gesellschaften—Fab.

Measuring Instrument Manufacturers—Electric.

F.—Instruments de mesures électriques.
G.—Mess-Instrumente—Elektrische.

Cutter Co., 19th & Hamilton-sts., Philadelphia, Pa.
International Electric Meter Co., 330, West Randolph-st., Chicago, Ill.
PIGNOLET, L. M., 78, Cortlandt-st., New York. (Cables: "Pignolet, New York.")
S. E. I. Co., Syracuse, N.Y.
Sage, F. B., & Bro., successors to American Electric Specialty Co., 123, Liberty-st., New York.
Schaffer & Budenberg, Brooklyn, N.Y.
Simplex Co., 60, Nassau-st., Newark, N.J.
Weston Electrical Instrument Co., Waverley Park, Newark, N.J.

Metal Castings—Makers of.

F.—Fonte en Metal—Fab. de.
G.—Quecksilber—Fab.

Creamer, W. J., & Co., 96, John-st., New York.
Lewisohn Bros., 11, Broadway, New York.
Rowell, S. C., & Co., 139, Pearl-st., Boston, Mass.
Whitney, B. S., & Co., 113, North 4th-st., Troy, N.Y.

Metal Merchants.

F.—Marchands Métaux.
G.—Metall-Händler.

Munsell, Eugene, & Co., 218, Water-street, New York, N.Y.

Metallurgists—Electro.

F.—Électro-metallurgistes.
G.—Erzkündige—Elektro.

Keith, Dr. N. S., M.AM.I.E.E., 95, Liberty-st., New York.

Mica Merchants.

F.—Marchands—Mica.
G.—Glimmer Händler.

American Mica Co., Newton Lower Falls, Mass.
Asheville Mica Co., Asheville, N.C.
Cawood Mica Co., Inc., Buffalo, N.Y.
Chicago Mica Co., Valparaiso, Ind.
Mica Insulator Co., 218, Water-street, New York.
Mica Manufacturing Co., 307 & 309, West Broadway, New York.
Schoonmaker, A. O., 221, Fulton-st., New York.
U.S. Mica, Mining & Milling Co., Railway Exchange, Chicago, Ill.

Micrometers & Measuring Instruments—Makers of.

F.—Micrometres et instr. de mesure—Fab. de.
G.—Mikrometer & Mess Instrumente—Fab. von.

Microphone Makers.

F.—Microphones—Fab. de.
G.—Microphon-Fabrikanten.

Lamarche's Sons, H., 17, Platt-st., New York, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Milling Machines.

F.—Machines à cordonner.
G.—Rändelmaschinen.

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

Miniature Incandescent Lamps.

Howard Miniature Lamp Co., 58 & 60, Peade-st., New York.
Jaeger Miniature Incandescent Lamp Manufacturing Co., Bible House, New York City.

Mining Machinery (Electric)—Makers of.

F.—Machines électr. de Mines—Fab. de.
G.—Elektr. Gruben Maschinen—Fab. von.

Goodman Manufacturing Co., Chicago, Ill.
Hendy, Joshua, Machine Works, 38–44, Fremont-st., San Francisco, Cal.

Model Makers.

F.—Modèles—Fab. de.
G.—Modelle—Fabr.

Motor Carriages.

F.—Voitures automobiles.
G.—Motor Wagen.

Auto-Car Equipment Co., 1453, Niagara-st., Buffalo, N.Y.
Baker Motor Vehicle Co., Cleveland, Ohio.
Cantono Electric Tractor Co., 111, West 37th-st., New York.
Centaur Motor Co., 59, Franklin-st., Buffalo, N.Y.
Electric Vehicle Co., Hartford, Conn.
Holson Motor Patents Co., Grand Rapids, Mich.
National Motor Vehicle Co., 22nd-st. & L.E. & W.R.R., Indianapolis, Ind.
Olds Motor Works, Lansing, Mich.
Pope Motor Car Co., Indianapolis, Ind.
Saint Louis Motor Carriage Co., St. Louis, Mo.
Studebaker Automobile Co., South Bend, Ind.
Synnestredt Machine Co., 4117, Liberty-ave., Pittsburgh, Pa.
Woods Motor Vehicle Co., 110, East 20th-st., Chicago, Ill.

Motor Manufacturers—Electric.

F.—Moteurs—électriques—Fab. de.
G.—Motoren Fab.—Elek.

Bell Electric Motor Co., 140, Pine-st., New York.
Bilberg, C., M.AM.I.E.E., 17, Hill-st., Newark, N.J.
BOGUE, CHAS. J., ELECTRIC CO., 213–215, Centre-st., New York, N.Y.
Connecticut Dynamo & Motor Co., 526, West 25th-st., New York.
Crocker-Wheeler Co., Ampere, N.J.; New York; Chicago; Pittsburg; Boston; Philadelphia; Baltimore; New Orleans; Denver; & San Francisco.
Dallett, Thos. H., & Co., York-street & Sedgley-avenue, Philadelphia, Pa.
Dayton Fan & Motor Co., Dayton, Ohio.
Diehl Manufacturing Co., Elizabethport, N.J.
Elektron Manufacturing Co., Springfield, Mass.
Emerson Electric Manufacturer's Co., 1108–1110, St. Charles-st., St. Louis, Mo.
Erie Machinery Supply Co., Erie, Pa.
Fort Wayne Electric Works, Fort Wayne, Ind.
General Electric Co., Schenectady, N.Y.; & 44, Broad-st., New York City.
Ham Manufacturing Co., C. T., Rochester, N.Y.
Harding, Edwin R., 397, Dearborn-st., Chicago, Ill.
Healy Fan Co., 47, Fairfield-avenue, Bridgeport, Conn.
Heinel, Chas., & Co., Laurel-st., nr. Delaware-ave., Wilmington, Del.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")
Hunter Fan & Motor Co., Fulton, N.Y.
Huyett & Smith Manufacturing Co., Detroit, Mich.
Hyer-Sheehan Electric Motor Co., Newburg, N.Y.
Illinois Alloy Co., 1050, North 64th-ave., Chicago.
Independent Electric Co., 183, Lake-st., Chicago.
Lovell, F. S., 87, Boutelle-st., Fitchburg, Mass.
Nichols-Mather Motor Co., Penn-building, Pittsburgh, Pa.
Northern Electrical Mfg. Co., Madison, Wis.
Nowotny, John S., Co., Cincinnati, Ohio.
Owen, Fred. E., 950, Main-st., Brockton, Mass.
Pacific Electric Motor Co., San Francisco, Cal.
Patten Motor Manufacturing Co., Old Colony-building, Chicago, Ill.
Rockford Electric Manufacturing Co., Rockford, Ill.
Scott & Janney Manufacturing Co., 2138, Washington-ave., Philadelphia, Pa.
Shawhan-Thresher Electric Co., Dayton, Ohio.
Snyder Electric Co., 26, South Water-st., Cleveland, Ohio.
Sterling Electric Motor Co., State & Fremont-sts., Dayton, Ohio.
Swert, D. F., Grand Rapids, Mich.
Three Rivers Electric Manufacturing Co., Three Rivers, Mich.
Vance Electric Co., 136, Liberty-st., New York.

Motor Manufacturers—Electric—*continued.*

Western Electric Co., 259, South Clifton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Oil Filters—Makers of.

F.—Filtres à l'huile—Fab. de.
G.—Oelfilter—Fab. von.

Burt Manufacturing Co., Akron, Ohio.
Famous Filter Co., 316, North Main-st., St. Louis, Mo.
Purity Oil Filter Co., 211, Water-st., Pittsburg, Pa.

Oil Manufacturers & Refiners.

F.—Huile—Fab. et Raffineurs d'.
G.—Oel—Fabr. u. Läuterer.

Maloney Oil & Manufacturing Co., 141–149, Meridian-st., Scranton, Pa.
Standard Oil Co. of N.Y., Atlas Works, Buffalo, N.Y.
Stuart, D. A., & Co., 447, Illinois-ave., Chicago, Ill.
Vacuum Oil Co., 45, Purchase-st., Boston, Mass.

Oil Merchants.

F.—Huile—marchands d'.
G.—Oel-Händler.

Detroit Lubricator Co., Hodges-bldg., Detroit, Mich.
Olney Bros., 54, S. Water-st., Providence, Rhode Island.
Sherwood Manufacturing Co., 34, Washington-street, Buffalo, N.Y.

Omnibuses, Cabs, & Parcels Vans—Electrical.

F.—Voitures Omnibus et autres—élec.
G.—Omnibusse, Droschken & Packwagen—Elektr.

Buffalo Electric Carriage Co., Buffalo, N.Y.
Electric Vehicle Co., Hartford, Conn.
Vehicle Equipment Co., Borden & Review-aves., Long Island City, N.Y.

Ozone Apparatus—Makers of.

F.—Appareils d'Ozone—Fab. d'.
G.—Ozon-Apparate—Fabr. von.

Monrath, Gustave, 5–7, East 42nd-st., New York.

Paints—Makers of.

F.—Peinture—Fab. de.
G.—Malerfarben—Fab. von.

Devoe, F. W., & Co., 101, Fulton-st., New York.
Mitchell, W. E. G., 39, Cortlandt-st., New York.
Standard Paint Co., 100, William-st., New York.

Paraffin Wax Manufacturers.

F.—Bougies de Paraffine—Fab. de.
G.—Paraffin Wachs—Fab. von.

Smith & Nichols, 48, South-st., New York, N.Y.

Patent Solicitors & Experts.

F.—Avocats de brevets et experts.
G.—Patent Anwalte und Sachsverständige.

Bain, F., 947-949, Monadnock-blk., Chicago, Ill.
Barter, D. M., 1410, Marquette-bldg., Chicago.
Belfield, A. Miller, 1362, Monadnock-bldg., Chicago, Ill.
Benjamin, Park, M.AM.I.E.E., 203, Broadway, New York.
Bogart, A. L., 123, Liberty-st., New York.
Bourne, Theodore F., 220, Broadway, New York.
Bradford & Hood, Suite 1235, State Life-bldg., Indianapolis, Ind.
Brock, Fenelon B., Atlantic-bldg., Washington, D.C.
Browne & Woodworth, 31, State-st., Boston, Mass.
Buckingham, Charles L., 38, Park-row, New York.
Carter, D. M., 1410, Marquette-bldg., Chicago.
Catlin, C. M., 622, F-st., Washington, D.C.
Chadbourn, Henry, 22, Congress-st., Boston, Mass.
Clarke, Chas. L., 31, Nassau-st., New York, N.Y.
Clement, E. E., A.AM.I.E.E., McGill-bldg., 908, G-st., N.W., Washington, D.C.
Davidson, Edward C., 141, Broadway, New York.
Davis, A. G., Washington Loan Q Trust-bldg., Washington, D.C.
Decker, Delbert H., 141, Broadway, New York.
Dieterich, F. G., 602, F-st., Washington, D.C.
Duvall, E. S., Loan & Trust-bldg., Washington, D.C.
Dyer, R. N., 31, Nassau-st., New York.
Dyer & Dyer, 31, Nassau-st., New York.
Edwards, Clifton V., A.AM.I.E.E., 220, Broadway, New York.
Freedman, W. H., C.E., E.E., M.AM.I.E.E., University of Vermont, Burlington, Vt.
Goepel & Goepel, 290, Broadway, New York.
Hamilton, J., 31, Nassau-st., New York; & Loan Trust-bldg., Washington, D.C.
Hedrick, Chas. J., 606, F-st., Washington.
Howson, Hubert, A.AM.I.E.E., 38, Park-row, New York.
Jannus, Frankland, 141, Broadway, New York.
Livermore, J. P. & H. J., 110, State-st., Boston, Mass.
Lonergan, J. E., & Co., 211, Race-street, Philadelphia, Pa.
McMeen & Miller, 1442 & 1443, Monadnock-blk., Chicago, Ill.
Maver, Wm., jun., 136, Liberty-st., New York.
Munn & Co., 361, Broadway, New York.
Read, R. H., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Sabine, J. B., 181, Broadway, New York, N.Y.
Sachers, R. J., 26, Cortlandt-st., New York.

Patent Solicitors & Experts—*continued.*

Schreiter, Henry, C. & E.E., LL.B. (Schreiter & Mathews), 20, Nassau-st., New York.
Siggers & Siggers, National Union-bldg., Washington, D.C.
Spengel, Carl. Offices: 75, Atlas National Bank-bldg., Cincinnati, Ohio.
Stetson, T. Drew, 108, Fulton-st., New York.
Stockbridge, G. H., 111, Broadway, New York.
Sturtevant & Mason, Washington Loan & Trust-bldg., Washington, D.C.
Thompson, E. P., 81, Fulton-st., New York.
Townsend & Decker, 141, Broadway, New York, N.Y.
Tyndall, William D., 141, Broadway, New York.
Vansize, W. B., 253, Broadway, New York.

Patent & Trade Marks Registration Agents.

F.—Brevets et Marques de fabrique—agents de.
G.—Agenten für Registrirung der Patente Handelsmarken.

Cushing, A. P., 43, Tremont-st., Boston, Mass.
Guthrie, Edwin, 97, Corcoran-bldg., Washington, D.C.
Herzog, S., 26, Cortlandt-st., New York.

Permanent Way for Electric Wires.

See CONDUITS & CULVERTS.

Phonograph Makers.

F.—Phonographes—Fab. de.
G.—Phonographen—Fabr. von.

Columbia Phonograph Co., 90, West Broadway, New York City.
U.S. Phonograph Co., 82, Orange-st., Newark, N.J.

Phosphorized Bronze Manufacturers.

F.—Bronze phosphoreux—Fabr. de.
G.—Phosphorbronze—Fabr. von.

Messmer, Fred., Manufacturing Co., 10, S. Broadway, St. Louis, Mo.
Phosphor-Bronze Smelting Co., 2200, Washington-ave., Philadelphia, Pa.

Platinum Manufacturers & Refiners.

F.—Platine—Fab. et Raffineurs de.
G.—Platinum—Fabr. u. Läuterer.

American Platinum Works, 251, N. J. R. R.-ave., New York.
Baker & Co., Inc., 120, Liberty-st., New York.
Crosselmire & Ackar Co., 42, Walnut-st., Newark, N.J.
Sieman Hard Rubber Corp., Bridgeport, Conn.

Platinum Merchants.

F.—Platinum—Marchands.
G.—Platin—Händler.

Ellwood Ivins Tube Works, 487, Broadway, New York.
Platt, Chas. S., 29, Gold-street, New York, N.Y.
Schawel, Jas., & Co., Cockcroft-bldg., New York.

Poles (Iron)—Manufacturers of.

F.—Poteaux en fer—Fab. de.
G.—Pfosten (Eisen)—Fab. von.

Beidler, Francis, & Co., 519, West 22nd-st., Chicago, Ill.
Hallowell, Eli B., & Co., 910, Harrison-bldg., Philadelphia, Pa.
Huckins, P. S., & Co., 45, Kilby-st., Boston, Mass.
Lond's, H. M., Sons Co., Au Sable, Mich.
McNaughton Lumber Co. (trolley), 303, Bourse-bldg., Philadelphia.
Mott Iron Works, 84, Beekman-st., New York.
National Tube Co. (trolley), Pittsburg, Pa.
Randolph & Clowes, Waterbury, Conn.; & at New York; & Chicago, Ill.
Sterling, W. C., & Son Co., Monroe, Mich.
Stevens, W. F., Saginaw, Mich.

Porcelain & China Fittings Makers.

F.—Porcelaine—Fab. de Montage en.
G.—Porzellanteile—Fab. von.

Anderson Porcelain Co., East Liverpool, Ohio.
Electric Porcelain & Manufacturing Co., 309-315, Monmouth-st., Trenton, N.J.
Empire China Works, 156, Green-st., Brooklyn, N.Y.
Hartford-Faience Co., Hartford, Conn.
Imperial Porcelain Works, corner Mulberry & Clagg-avenues, Trenton, N.J.
Laclede Carbon & Electric Co., Peru, Ind.
Locke Insulator Mfg. Co. (pin), Victor, N.Y.
National Porcelain Co., Trenton, N.J.
Peru Electric Manufacturing Co., Peru, Ind.
Sears, H. D., 131, State-st., Boston, Mass.
Union Porcelain Works, 300, Eckford-street, Borough Brooklyn, N.Y.

Porous Cell Manufacturers.

F.—Vases poreux—Fab. de.
G.—Poröse Töpfe für Batterien.

Portable Electric Lamps.

F.—Lampes élec.—portatives.
G.—Tragbare elek. Lampen.

Professors & Teachers of Science—including Electricity.

F.—Professeurs et Précepteurs de Sciences l'électricité compris.
G.—Professoren und Lehrer der Elektricität.

Abbe, Cleveland, The Weather Bureau, Washington, D.C.
Ambler, Wm., Case School of Applied Science, Cleveland, Ohio.
Anderson, D. S., Tulane University, New Orleans, La.
Anthony, Wm. A., M.AM.I.E.E., Cooper Union, New York.
Arendt, Morton, M.AM.I.E.E., Columbia University, New York.
Bedell, Dr. Fred., M.AM.I.E.E., Cornell University, Ithaca, N.Y.
Blake, Prof. Lucien I., Kansas State University, Lawrence, Kan.
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Burgess, Chas. F., University of Wisconsin, Chemical Engineering-bldg., Madison, Wis.
Caldwell, F. C., M.AM.I.E.E., Ohio State University, Columbus, Ohio.
Carhart, Prof. H. S., M.I.E.E., Michigan University, Ann Arbor, Mich.
Carpenter, H. V., Washington State College, Pullman, Wash.
Chandler, Chas. F., M.AM.I.E.E., Columbia University, New York.
Compton, Alfred G., College of New York, 17, Lexington-ave., New York.
Cory, C. L., University of California, Berkeley, Cal.
Creighton, E. E. F., A.AM.I.E.E., Union University, Schenectady, N.Y.
Dates, H. B., S.B., A.AM.I.E.E., Case School of Applied Science, Cleveland, Ohio.
Dodge, Prof. Omenzo G., U.S. Naval Academy, Annapolis, Md.
Dow, H. W., Iowa State College, Ames, Iowa.
Esteline, J. W., A.AM.I.E.E., Purdue University, Lafayette, Ind.
Esty, Wm., A.AM.I.E.E., Lehigh University, South Bethlehem, Pa.
Fish, F. A., Ames, Iowa.
Fiske, J. Parker, 164, Devonshire-st., Boston.
Flather, John J., University of Minnesota, Minneapolis, Minn.
Ford, A. H., E.E., M.AM.I.E.E., University of Iowa, Iowa City.
Freeman, C. E., Armour Institute of Technology, Chicago, Ill.
French, Prof. Thomas, jun., PH.D., A.AM.I.E.E., Amherst College, Amherst, Mass.
Ganz, A. F., Stevens Institute of Technology, Hoboken, N.J.
Geyer, Prof. W. E., Stevens Institute of Technology, Hoboken, N.J.
Gladson, Wm. N., M.S.E.E., PH.D., M.AM.I.E.E., University of Arkansas, Fayetteville, Ark.
Graham, W. P., Syracuse University, Syracuse, N.Y.
Guthe, K. E., PH.D., State University of Iowa, Iowa City, Iowa.
Hall, C. M., A.AM.I.E.E., Central High School, Springfield, Mass.
Hallock, Wm., M.AM.I.E.E., Columbia University, New York.

Professors & Teachers of Science—including Electricity—*continued.*

Hartmann, F. M., M.AM.I.E.E., Cooper Union, New York.
Herdman, W. J., PH.B., Michigan University, Ann Arbor, Mich.
Hotchkiss, Homer J., Drexel Institute, Philadelphia, Pa.
Jackson, J. P., B.S.M.E., M.AM.I.E.E., Penn. State College, State College, Pa.
Jansky, C. M., University of Oklahoma, Norman, Okla.
Kennelly, A.E., M.A., D.SC., M.I.E.E., Harvard University, Cambridge, Mass.
Kent, J. M., A.AM.I.E.E., Kansas City, Mo.
Ker, W. W., Electrical Hebrew Technical Institute, 36, Stuyvesant-st., New York.
Lanphear, B. S., Iowa State College, Ames, Iowa.
Lardner, Henry A., A.AM.I.E.E., J. G. White & Co., 43, Exchange-pl., New York.
Macomber, G. S., M.AM.I.E.E., Ithaca, N.Y.
Matthews, Chas. P., Purdue University, Lafayette, Ind.
Mees, C. L., A.AM.I.E.E., Rose Polytechnic Institute, Terre Haute, Ind.
Norris, H. H., M.E., Cornell University, Ithaca, N.Y.
Osmond, I. Thornton, M.S., M.A., Pennsylvania State College, Pa.
Paine, E. B., A.AM.I.E.E., N.C. College of Agr. & Mech. Arts, Raleigh, N.C.
Partridge, Edwin, B.S., Central Manual Training School, N.E. cor. 17th & Wood-sts., Philadelphia, Pa.
Patterson, G. Washington, M.A., PH.D., University of Michigan, Ann Arbor, Mich.
Peckham, W.C., Adelphi College, Brooklyn, N.Y.
Phelon, J. O., Worcester Polytechnic Institute, Worcester, Mass.
Puffer, Wm. L., Massachusetts Institute of Technology, Boston, Mass.
Pupin, Michael I., Columbia College, New York.
Radtke, A. A., A.AM.I.E.E., 2450, South Park-ave., Chicago, Ill.
Rosa, Edward B., PH.D., SC.D., M.AM.I.E.E., National Bureau of Standards, Washington, D.C.
Ryan, Harris J., M.AM.I.E.E., Stanford University, Stanford, Cal.
Sever, Geo. F., Columbia University, New York.
Shaw, H. B., A.AM.I.E.E., Missouri State University, Columbia, Mo.
Shearer, J. S., B.S., PH.D., Cornell University, Ithaca, N.Y.
Sheldon, S. R., University of Idaho, Moscow, Idaho.
Shepardson, Geo. D., University of Minn., Minneapolis, Minn.
Shuster, J. W., A.AM.I.E.E., University of Wisconsin, Madison, Wis.
Smith, Harold B., M.AM.I.E.E., M.I.E.E., Worcester Polytechnic, Worcester, Mass.
Snow, J. E., M.SC., A.AM.I.E.E., Armour Institute, Chicago, Ill.
Springer, F. W., M.AM.I.E.E., University of Minn., Minneapolis, Minn.

Professors & Teachers of Science—including Electricity—*continued.*

Webb, H. S., University of Maine, Orono, Maine.
White, C. G., M.AM.I.E.E., Lake Linden, Mich.
Whiting, S. E., A.AM.I.E.E., Harvard University, Cambridge, Mass.
Wiener, A. E., M.AM.I.E.E., 209, Stratford-rd., Brooklyn, N.Y.
Williams, W. H., A.AM.I.E.E., University of Illinois, Urbana, Ill.
Woodworth, P. B., A.AM.I.E.E., Lewis Institute, Chicago, Ill.
Woodward, J. H., M.D., Cotner University, Seward, Neb.

Publications—Electrical & Scientific.

F.—Publications électr. et scientifiques.
G.—Veröffentlichungen—Elektr. u. wissenschaftliche.

American Engineer & Railroad Journal (monthly; price $2 per annum), 140, Nassau-st., New York.
American Journal of Progressive Therapeutics, Downers Grove, Ill.; & 55, State-st., Chicago, Ill.
American Journal of Science (monthly; ann. sub., $6.40 = 26*s.* 6*d.*), New Haven, Conn.
American Machinist (weekly; ann. sub., U.S., Canada & Mexico, $4; other countries, 25*s.*), 505, Pearl-st., New York.
American Street Railway Investments (annually, sub. $5), 114, Liberty-st., New York.
American Telephone Journal (weekly; ann. sub., U.S., $1; P.U., $3.00), 100, William-st., New York.
Cassier's Magazine (monthly; ann. sub. 12*s.*), 33, Bedford-st., Strand, London; & 3, West 29th-st., New York.
Central Station, The (monthly; sub., U.S., $1; foreign, $2), 220, Broadway, New York.
Domestic Engineering (weekly; ann. sub., $1.00), Chicago, Ill.
Electric Journal (ann. sub., U.S., Canada & Mexico, $1.50; foreign countries, $2.00, payable in advance), Box 911, Pittsburg, Pa.
Electric Railway Review (monthly; ann. sub., U.S., $1; foreign, $3), 1660, Monadnock-bldg., Chicago, Ill.
Electrical Age, The (monthly; foreign, P.U., $3.75 per annum; U.S., $2.50), 3, West 29th-st., New York.
Electrical Review (weekly; ann. sub., U.S. & Canada, $3; foreign, $5), 13, Park-row, New York.
Electrical World (weekly; ann. sub. U.S., $3; P.U., $6), 114, Liberty-st., New York, N.Y.
Electrochemical & Metallurgical Industry (monthly; ann. sub., P.U., 9*s.*), 114–118, Liberty-st., New York.
Electrocraft (ann. sub., $1.00), Electrocraft Publishing Co., Detroit, Mich.
Electro-Therapeutist (ann. sub., U.S., $1.00; foreign, $1.25), Lima, Ohio.
Engineer (semi-monthly; ann. sub., U.S. & Canada, $1; foreign, $2.50), 355, Dearborn-st., Chicago.

Publications—Electrical & Scientific—*continued.*

Engineering Magazine, 140, 142, Nassau-st., New York.

Engineering & Mining Journal (weekly; ann. sub., $5; P.U., $8.00), 505, Pearl-st., New York.

Engineering Record (weekly; ann. sub., $3.00; P.U., $6.00), 114, Liberty-st., New York.

Indiarubber World (monthly; ann. sub., U.S., $3; foreign, $3.50), 35, West 21st-st., New York.

Insurance Engineering (monthly; ann. sub., P.U., $4), 120, Liberty-st., New York.

Iron Age (weekly; ann. sub., $5), 14 & 16, Park-pl., New York.

Iron Trades Review (weekly; ann. sub. $3; P.U., $4), Cleveland, Ohio.

Journal of Electricity, Power & Gas (weekly), 119 & 121, New Montgomery-st., San Francisco, Cal.

Journal of the Franklin Institute (monthly; ann. sub., $5), 15, South 7th-st., Philadelphia, Pa.

Journal of the Telegraph (monthly; ann. sub., $1), 195, Broadway, New York.

Journal of the Western Society of Engineers (six times a year; ann. sub. $3), 1737, Monadnock-blk., Chicago, Ill.

Mining Magazine, 135, William-st., New York.

Modern Machinery (monthly; ann. sub., P.U., $1.50), 1306, Security-bldg., Chicago, Ill.

Physical Review (monthly; ann. sub., $5), Cornell University, Ithaca, N.Y.

Power (monthly; ann. sub., U.S., Canada & Mexico, $2; Great Britain, 10*s.*; all other countries, 12*s.*), 505, Pearl-st., New York.

Proceedings of the American Institute of Electrical Engineers (monthly; ann. sub., $6 = £1 1*s.*), 95, Liberty-st., New York.

Railroad Gazette (weekly; ann. sub., U.S., Canada & Mexico, $5.00), 83, Fulton-st., New York; & Queen Anne's-chbrs., London, S.W.

Railway Age (weekly; ann. sub. $4; P.U., $6), Monadnock-blk., Chicago, Ill.

Railway & Locomotive Engineering (monthly; ann. sub., $2; foreign, $2.50), 136, Liberty-st., New York.

School of Mines Quarterly, Columbia University, New York.

Scientific American (weekly; ann. sub., $3; Europe, $4) & *Scientific American Supplement* (weekly; ann. sub., $5; Europe, $6; combined rates, $7; Europe, $9), 361, Broadway, New York.

Scientific American Export Edition (monthly; ann. sub., $3), 361, Broadway, New York.

Street Railway Journal (weekly; ann. sub., North America, $3; other countries, $6), 114, Liberty-st., New York; & London.

Technology Quarterly, issued by the Society of Arts of the Massachusetts Institute of Technology (ann. sub., $3), Boston, Mass.

Telephony, Manhattan-bldg., Chicago, Ill. (monthly; ann. sub., U.S. & Canada, $1; foreign, $2.50).

Western Electrician (weekly; ann. sub. U.S. & Canada, $3; foreign, $5), 507, Marquette-bldg., Chicago, Ill.

Publishers of Electrical & Scientific Books, &c.

F.—Librairies et Editeurs de livres élec. et scientifiques.

G.—Verleger von elek. & Wissenschaftl. Büchern.

Audel, Theo., & Co., 63, Fifth-ave., New York.

Brown, E. C., editor & publisher *Progressive Age* (semi-monthly; ann. sub., P.U., 13*s.* 6*d.*), Stewart-building, 280, Broadway, New York.

Buyers' Reference Co., Inc., 123, Liberty-st., New York, N.Y.

Cassier Magazine Co., 3, West 29th-st., New York.

Central District & Printing Telegraph Co., Telephone-bldg., 7, Ave. & Montour Way, Pittsburgh, Pa.

Electrician Publishing Co., Suite 507, Marquette-bldg., Chicago, Ill.

Hunt, W. T., & Son, 150, Nassau-st., New York.

Low, Geo. P., 532, Rialto-bldg., San Francisco.

McGraw Publishing Co., 114, Liberty-st., New York.

Philadelphia Book Co., 15, South 9th-st., Philadelphia, Pa.

Spon & Chamberlain, 123, Liberty-st., New York.

Van Nostrand (D.) Co., publishers of electrical & scientific books, 23, Murray-street, & 27, Warren-street, New York.

Wiley, John, & Sons, 43, East 19th-st., New York.

Pulley Makers.

F.—Poulies—Fab. de.

G.—Riemscheiben—Fab.

Allentown Foundry & Machine Works, Allentown, Pa.

American Twist Drill Co., Laconia, N.H.

Curtis & Co. Manufacturing Co., 42, South Canal-st., Chicago, Ill.

Dodge Manufacturing Co., Mishawaka, Ind.

Hill Clutch Co., Cleveland, Ohio.

Menasha Wood Split Pulley Co., Menasha, Wis.

Moore & White Co., 15th-st. & Lehigh-ave., Philadelphia, Pa.

Rockwood Manufacturing Co., 1801–2001, English-ave., Indianapolis, Ind.

Taper Sleeve Pulley Works, Erie, Pa.

Pump Makers.

F.—Pompes—Fab. de.

G.—Pumpen Macher.

American Steam Pump Co., Battle Creek, Mich.

Cameron, A. S., Steam Pump Works, 433, E. 23rd-st., New York.

Davidson, M. T., 43–53, Keap-st., Brooklyn, N.Y.

Dean Bros., Indianapolis, Ind.

Deane Steam Pump Co., Holyoke, Mass.

Denning Co., Salem, Ohio (electric).

Dow, Geo. E., Pumping Engine Co., 179, 1st-st., San Francisco, Cal.

Goulds Manufacturing Co., 16, Murray-st., New York. Works: Seneca Falls, N.Y.

Laidlaw Dunn-Gordon Co., Cincinnati, Ohio.

Pump Makers—*continued.*

McGowan, John H., Co., 42, Central-avenue, Cincinnati, Ohio.
Roots, P. H. & F. M., Connersville, Ind.
Quinby, W. E., Inc., 49, East 23rd-st., New York.
Rumsey & Co., Ltd., 75, Warren-st., New York.

Pushes Makers (Electric Bell).

F.—Boutons pour sonneries.
G.—Druckknöpfe für Elektr. Glocken—Fab. von.

Union Hardware Co., Torrington, Conn.

Pyrometers—or Heat Gauges.

F.—Pyromètres.
G.—Pyrometer oder Hitzemesser.

Railway Signal Manufacturers.

F.—Signaux de Chemins de fer—Fab. de.
G.—Eisenbahnensignale.

Hall Signal Co., 25, Broad-st., New York.
Municipal Signal Co., 21, Pearl-st., Boston, Mass.
Parish Electric Track Signal Co., Detroit, Mich.
Union Switch & Signal Co., Swissvale, Pa.

Railway Supplies (Electric)—Makers of & Dealers in.

F.—Fournitures pour chemins de fer électr.—Fab. et march. de.
G.—Bedarfsartikel für elektr. Eisenbahnen—Fabr. & Händler.

American Rail Joint & Manufacturing Co., 219, Superior-st., Cleveland, Ohio.
American Railway Supply Co., 24, Park-pl., New York.
Central City Brass & Manufacturing Co., Syracuse, N.Y.
Chambers Bros. & Co., North 52nd-st., Philadelphia, Pa.
Columbia Machine Works, 269, Chestnut-st., Brooklyn, N.Y.
Electric Service Supplies Co., 1020, Filbert-st., Philadelphia, Pa.
Frischkorn, H. B., Richmond, Va.
Harrington, Robinson & Co., 276, Franklin-st., Boston, Mass.
Hartshorn Stewart Co., East Newark, N.J.; & at New York & Chicago, Ill.
Hicks, F. M., & Co., Chicago, Ill.
Lovell, F. H., & Co., 11, Pine-st., New York.
Mayer & Co., Norfolk, Va.
Motley, Green & Co., 68, Broad-st., New York.
Smith, R. W., 67, Milk-st., Boston, Mass.
Sterling-Meaker Co., 420, Ogden-st., Newark, N.J.
Stow Manufacturing Co., Binghamton, N.Y.
Strock, S. C., Bowling Green-bldg., Broadway, New York.

Railway Supplies (Electric)—Makers of & Dealers in—*continued.*

Trolley Supply Co., Canton, Ohio.
Weir Frog Co., Cincinnati, Ohio.
Wendell & MacDuffie, 26, Cortlandt-st., New York.

Railway & Tramway Engineers.

F.—Ingenieurs pour chemins de fer et tramways élec.
G.—Eisenbahnen und Strassenwagen elektr.—Ingenieure.

Sanderson & Porter, 52, William-st., New York.
Whitaker, S. E., A.AM.I.E.E., 43, Milk-st., Boston, Mass.

Railways, Street Cars, &c. — Manufacturers of Requisites & Appliances for.

F.—Chemins de fer et tramways électriques, &c.—Fabr. d'appareils pour.
G.—Eisenbahn. u. Strassenwagen Apparate, &c.—Fabr. von.

American Car & Foundry Co., Wilmington, Del.
American Machinery & Export Co., 114–118, Liberty-st., New York.
Barney & Smith Car Co., Dayton, Ohio.
Bemis Car Box Co., 119, Liberty-st., Springfield, Mass.
Cambria Iron Co., 800, Harrison-bldg., Philadelphia, Pa.
Columbia Machine Works, Brooklyn, N.Y.
Frost Veneer Seating Co., 208, Canal-street, New York, N.Y.
Fruin-Bambrick Construction Co., 905, Chemical-bldg., St. Louis, Mo.
Hale & Kilburn Manufacturing Co., 48–50, North 6th-street, Philadelphia, Pa.
Handlan-Buck Manufacturing Co., 210, 212 & 214, North 3rd-st., St. Louis, Mo.
Hathaway, A. G., & Co., 807, Cuyahoga-bldg., Cleveland, Ohio.
Humphreys & Sayce, 10, Wall-st., New York.
Kaufman, C. B., Railway Supply Co., San Francisco, Cal.
Klemm & Co. (holders), 132, North 5th-st., Philadelphia, Pa.
Laclede Car Co., 4500–4600, North 2nd-street, St. Louis, Mo.
Laconia Car Co., Laconia, N.H.
Lewis, C. F., Academy & Broad-sts., Newark, N.J.
McGuire Cummings Manufacturing Co., Chicago, Ill.
Meneely, Geo. R., & Son, 923, 1st-avenue, West Troy, N.Y.
New York Car & Truck Co., Kingston, N.Y.
New York Car Wheel Co., Buffalo, N.Y.
New York Electrical Works, 515–521, Kent-ave., Brooklyn, N.Y.
Ohio Brass Co., Mansfield, Ohio.
Philipson & Co., Holland-st., Astley Bridge, Bolton, Lancs.

Railways, Street Cars, &c. — Manufacturers of Requisites & Appliances for *—continued.*

Place, Geo., 120, Broadway, New York.
Pressed Steel Car Co., Farmers-Bank-bldg., Pittsburg, Pa.
Pullman Railroad Supply Co., Rochester, N.Y.
Rochester Car Wheel Works Co., Rochester, N.Y.
St. Louis Car Co., 8000, North Broadway, St. Louis, Mo.
St. Louis Register Co., 319, North 4th-st., St. Louis, Mo.
Simmons, John, Co., 110, Centre-st., New York.
Stephenson, John, Co., Elizabeth, N.J.
Taylor Electric Truck Co., Troy, N.Y.
Wharton, Wm., jun., & Co., Incorporated, 25th-st. & Washington-ave., Philadelphia, Pa.

Railways & Tramways—Electric.

F.—Chemins de fer et Tramways—Électriques.
G.—Elektr. Eisenbahnen & Strassenwagen.

Adrian Street Railway Co., Adrian, Mich.
Albany & Hudson Railway & Power Co., Hudson, N.Y.
Altoona & Logom Valley Electric Railway Co., Altoona, Pa.
American Railways Co., The, Philadelphia, Pa.
Amesbury & Hampton Street Railway Co., Amesbury, Mass.
Amherst & Sunderland Railway Co., Amherst, Mass.
Ashtabula Rapid Transit Co., Ashtabula, Ohio.
Athol & Orange Street Railway Co., Athol, Mass.
Atlantic City Electric Railway, Atlantic City, N.J.
Atlantic Coast Electric Railroad Co., Asbury Park, N.J.
Atlantic Shore Line Railway Co., Kennebunkport, Maine.
Auburn & Syracuse Electric Rail Road Co., Syracuse, N.Y.
Auburn & Turner Railroad, Lewiston, Maine.
Augusta, Winthrop & Gardiner Railroad, Augusta, Maine.
Baden & St. Louis Railroad Co., St. Louis, Mo.
Ballston Terminal Railroad, Ballston Spa, N.Y.
Baltimore City Pass. Railway Co., Baltimore, Md.
Baltimore & Ohio Railroad, Baltimore, Md.
Baltimore, Sparrows Point & Chesapeake Railway Co., Baltimore, Md.
Baltimore Traction Co., Baltimore, Md.
Baltimore & Washington Transit Co., Washington, D.C.
Bangor & Northern Railroad Co., Bangor, Maine.
Bay City Traction & Electic Co., Bay City, Mich.
Beaver Valley Traction Co., Beaver Falls, Pa.
Bennington & Hoosick Valley Railway Co., Hoosick Falls, N.Y.
Berkley Street Railway Co., Berkley, Va.
Berkshire Street Railway Co., Beard-st., Pittsfield, Mass.

Railways & Tramways—Electric—*contd.*

Biddeford & Saco R.R. Co., Biddeford, Maine.
Binghamton Railroad Co., Binghamton, N.Y.
Birmingham Railway, Light & Power Co., Birmingham, Ala.
Boston Elevated Railway Co., Boston, Mass.
Boston & Maine Railroad Co., Concord, N.H.
Bradford Electric Street Railway Co., Bradford, Pa.
Brockton Street Railway Co., Brockton, Mass.
Brooklyn Elevated R. R. Co., Brooklyn, N.Y.
Brooklyn Heights R. R. Co., Brooklyn, N.Y.
Brooklyn, Queen's Co. & Suburban R. R. Co., Brooklyn, N.Y.
Brooklyn Rapid Transit Co., Brooklyn, N.Y.
Buffalo Railway Co., Buffalo, N.Y.
Buffalo Southern Railway Co., Gardenville, N.Y.
Buffalo & Williamsville Electric Railway Co., Buffalo, N.Y.
Burlington County Railway Co., Hainesport, N.J.
Butler Passenger Railway Co., Butler, Pa.
Butte Electric Railway Co., Butte, Mont.
Calais Street Railway Co., Calais, Maine.
California Street Cable R.R. Co., Hyde & California-sts., San Francisco, Cal.
Calumet Electric Street Railway Co., Chicago, Ill.
Camden, Gloucester & Woodburg Railway, Gloucester City, N.J.
Camden Interstate Railway Co., Huntington, W. Va.
Camden & Suburban Railway Co., Camden, N.J.
Camden & Trenton Railway Co., Camden, N.J.
Canton Akron Electric Railway Co., Canton, Ohio.
Cape May, Delaware Bay & Sewell's Point R.R. Co., Cape May City, N.J.
Carbon Street Railway Co., Mauch Chunk, Pa.
Carlisle & Mechanicsburg Street Railway Co., Carlisle, Pa.
Carlisle & Mount Holly Railway Co., Carlisle, Pa.
Catskill Electric Railway Co., Catskill, N.Y.
Cedar Rapids & Marion City Railway Co., Cedar Rapids, Iowa.
Central Market Street Railway Co., 36, West Gray-st., Columbus, Ohio.
Central Ohio Electric Railway Co., Mount Vernon, Ohio.
Central Pennsylvania Traction Co., Harrisburg, Pa.
Central Railway Co., Peoria, Ill.
Centralia & Central City Street Railway Co., Centralia, Ill.
Centre & Clearfield Street Railway Co., Philipsburg, Pa.
Charlotte Electric Railway, Light & Power Co., Charlotte, N.C.
Charlottesville & Albemarle Railway Co., Charlottesville, Va.
Chattanooga Electric Railway Co., Chattanooga, Tenn.
Chester & Derry Railroad Association, Chester, N.H.
Chester Traction Co., Chester, Pa.

Railways & Tramways—Electric—*contd.*

Chicago City Railway Co., Chicago, Ill.
Chicago Electrical Traction Co., Chicago, Ill.
Chicago, Harvard & Geneva Lake Railway Co., Walworth, Wis.
Chicago & Joliet Electric Railway Co., Joliet, Ill.
Chicago & Milwaukee Electric Railroad Co., Chicago, Ill.
Chicago Union Traction Co., Chicago, Ill.
Cincinnati, Georgetown & Portsmouth Railroad, Cincinnati, Ohio.
Cincinnati Northern Traction Co., Cincinnati, O.
Cincinnati Traction Co., Cincinnati, Ohio.
Citizens' Electric Street Railway Co., Newburyport, Mass.
City Electric Railway Co., Port Huron, Mich.
City Electric Railway Co., Rome, Ga.
City Pass. Railway Co. of Altoona, Altoona, Pa.
City Railroad Co., Dayton, Ohio.
City Railway Co., Wheeling, W. Va.
Cleveland Electric Railway Co., Cleveland, Ohio.
Cleveland & Sharon Electric Railway, Cleveland, Ohio.
Cœur d'Alene & Spokane Railway Co., Cœur d'Alene, Idaho.
Colorado Springs & Cripple Creek District Railway Co., Colorado Springs, Col.
Colorado Springs Rapid & Interurban Railway Co., Colorado Springs, Cal.
Columbia Montour Electric Railway Co., Bloomsburg, Pa.
Columbus, Delaware & Marion Railway Co., Marion, Ohio.
Columbus, London & Springfield Railway Co., Columbus, Ohio.
Columbus, Marion & Bucyrus Railway, Delaware, Ohio.
Columbus, Newark & Zanesville Electric Railway Co., Newark, Ohio.
Columbus Railroad Co., Columbus, Ga.
Columbus Railway & Light Co., Columbus, Ohio.
Columbus Street Railway Co., Columbus, Miss.
Columbus, Urbana & Western Railway Co., Columbus, Ohio.
Concord, Maynard & Hudson Street Railway Co., Maynard, Mass.
Conestoga Traction Co., Lancaster, Pa.
Coney Island & Brooklyn Railroad Co., Brooklyn, N.Y.
Connecticut Railway & Lighting Co., Bridgeport, Conn.
Connecticut Valley Street Railway Co., Greenfield, Mass.
Connellsville & Uniontown Electric Railway Co., Uniontown, Pa.
Consolidated Railway Co., New Haven, Conn.
Consolidated Railway Co., New London, Conn.
Consolidated Railway Co., Norwich, Conn.
Consolidated Railway Co., Port Chester, N.Y.
Consolidated Railway Co., Putnam, Conn.
Consolidated Traction Co., Jersey City, N.J.
Corning & Painted Post Street Railway Co., Corning, N.Y.

Railways & Tramways—Electric—*contd.*

Coronado Railroad Co., Coronado, Cal.
Cumberland Electric Railway Co., Cumberland, Md.
Cumberland & Westernport Electric Railway Co., Cumberland, Md.
Dallas Consolidated Electric Street Railway Co., Dallas, Tex.
Danville Railway & Electric Co., Danville, Va.
Dartmouth & Westport Street Railway Co., New Bedford, Mass.
Davenport & Suburban Rly. Co., Davenport, Ia.
Dayton, Springfield & Urbana Electric Railway Co., Springfield, Ohio.
Dayton & Troy Electric Railway Co., Dayton, O.
Dayton & Western Traction Co., Dayton, Ohio.
Dayton & Xenia Transit Co., Dayton, Ohio.
Delaware County & Philadelphia Electric Railway Co., Clifton Heights, Pa.
Denison & Sherman Railway Co., Denison, Tex.
Des Moines City Railway Co., 607, Mulberry-st., Des Moines, La.
Detroit, Monroe & Toledo Short Line Railway Co., Monroe, Mich.
Detroit United Railway Co., Detroit, Mich.
Doylestown & Willow Grove Railway Co., Willow Grove, Pa.
Du Bois Electric Traction Co., Du Bois, Pa.
Duluth Street Railway Co., Duluth, Minn.
Dunkirk & Fredonia Railroad Co., Fredonia, N.Y.
Durham Traction Co., Durham, N.C.
East Jersey Street Railway Co., Perth Amboy, N.J.
East St. Louis Electrical Street Railroad Co., East St. Louis, Ill.
East Taunton Street Railway Co., Taunton, Mass.
Eastern Ohio Traction Co., Cleveland, Ohio.
Easton Transit Co., Easton, Pa.
Electric Street Railway Co., Clarksville, Tenn.
Elizabeth & Raritan River Street Railway Co., New Brunswick, N.J.
Elmira & Horseheads Railway Co., Elmira, N.Y.
Elmira Water, Lighting & Railroad Co., Elmira, N.Y.
El Paso Electric Railway Co., El Paso, Tex.
Erie, Cambridge Union & Corry Railway Co., Erie, Pa.
Erie Electric Motor Co., Erie, Pa.
Erie Rapid Transit Street Railway Co., Erie, Pa.
Escanaba Electric Street Railway Co., Escanaba, Mich.
Evansville Electric Railway Co., Evansville, Ind.
Evansville & Princeton Traction Co., 230, West Broadway, Princeton, Ind.
Everett Railway & Electric Co., Everett, Wash.
Exeter, Hampton & Amesbury Street Railway, Exeter, N.H.
Fairmont & Clarksburg Traction Co., Fairmont, W. Va.
Fairmount Park Transportation Co., Philadelphia, Pa.
Fargo & Moorhead Street Railway Co., Fargo, N.D.
Fishkill Electric Railway Co., Fishkill, N.Y.

Railways & Tramways—Electric—*contd.*

Fitchburgh & Leominster Street Railway Co., Fitchburgh, Mass.
Fonda, Johnstown, & Gloversville Rail Road Co., Gloversville, N.Y.
Fort Madison Street Railway Co., Fort Madison, Iowa.
Frederick & Middletown Railway Co., Frederick, Ind.
Galesburg, Monmouth & Rock Island Railway Co., Galesburg, Ill.
Galveston City Railway Co., Galveston, Texas.
Gardner, Westminster & Fitchburg Street Railroad Co., Gardner, Mass.
Geary, St. Paul & Ocean Railroad Co., Crocker-bldg., San Francisco, Cal.
Geneva, Waterloo Falls & Cayuga Lake Traction Co., Seneca Falls, N.Y.
Georgetown, Rowley & Iswich Railway Co., Byfield, Mass.
Georgia Railway & Electric Co., Atlanta, Ga.
Glen Falls, Sandy Hill & Ft. Edward Street R. R. Co., Glen Falls, N.Y.
Grand Rapids, Belding & Ionia Railway Co., Grand Rapids, Mich.
Grand Rapids, Holland & Chicago Railway, Holland, Mich.
Grand Rapids & Kalamazoo Valley Traction Co., Kalamazoo, Mich.
Grand Rapids Railway Co., Grand Rapids, Mich.
Greenville Traction Co., Greenville, S.C.
Hagerstown Railway Co., Hagerstown, Md.
Hamburg Railway Co., Buffalo, N.Y.
Hampshire & Worcester Street Railway Co., Ware, Mass.
Hampton Roads Railway & Electric Co., Newport News, Va.
Hannibal Railway & Electric Co., Hannibal, Mo.
Harrisburg Traction Co., Harrisburg, Pa.
Haverhill & Amesbury Street Railway Co., Haverhill, Mass.; & Merrimac, Mass.
Henderson City Railway, Henderson, Ky.
Holmesburg, Tacony & Frankford Electric Railway Co., Tacony, Pa.
Holyoke Street Railway Co., Holyoke, Mass.
Hoosac Valley Street Railway Co., North Adams, Mass.
Hoosick Railway Co., Hoosick Falls, N.Y.
Hornellsville Electric Railway Co., Hornellsville, N.Y.
Hot Springs Street Railroad Co., Hot Springs, Ark.
Houghton County Street Railway Co., Hancock, Mich.
Hutchinson Street Railway Co., Hutchinson, Kan.
Illinois Valley Railway Co., La Salle, Ill.
Indiana Central Traction Co., Wabash, Ind.
Indiana Union Traction Co., Anderson, Ind.
Indianapolis Eastern Railway Co., Indianapolis, Ind.
Interstate Railways Co., 515, Mariner & Merch.-bldg., Philadelphia, Pa.
Interurban Railway & Terminal Co., Cincinnati, Ohio.

Railways & Tramways—Electric—*contd.*

Iola Electric Railroad Co., Iola, Kan.
Ithaca Street Railway Co., Ithaca, N.Y.
Jackson & Battle Creek Traction Co., Jackson, Mich.
Jackson Consolidated Traction Co., 118, Main-st., Jackson, Mich.
Jackson & Suburban Street Railway Co., Jackson, Tenn.
Jacksonville Railway & Light Co., Jacksonville, Ill.
Jamestown Street Railway Co., Jamestown, N.Y.
Jersey City, Hoboken & Paterson Street Railway Co., Hoboken, N.J.
Johnstown Pass. Railway Co., Johnstown, Pa.
Kanawha Valley Traction Co., Charleston, W. Va.
Kankakee Electric Railway Co., Kankakee, Ill.
Kansas City Railway & Light Co., Kansas City, Mo.
Kansas City & St. Joseph Electric Railway Co., Kansas City, Mo.
Keene Electric Railway Co., Keene, N.H.
Kentucky & Indiana Bridge & R.R. Co., Louisville, Ky.
King's County Elevated Railway Co., Brooklyn, N.Y.
Kingston Consolidated Railroad Co., Kingston, N.Y.
Kittanning & Leechburg Railways Co., Kittanning, Pa.
Knoxville Railway & Light Co., Knoxville, Tenn.
Laconia Street Railway Co., Laconia, N.H.
La Crosse City Railway Co., La Crosse, Wis.
Lafayette Street Railway Co., Lafayette, Ind.
Lake Cities Electric Railway Co., Michigan City, Ind.
Lancaster Traction Co., Lancaster, Ohio.
Lansing & Suburban Traction Co., Lansing, Mich.
Lebanon Valley Street Railway Co., Lebanon, Pa.
Lehigh Traction Co., Hazleton, Pa.
Lewiston & Auburn Horse R. R. Co., Lewiston, Maine.
Lewistown & Reedsville Electric Railway Co., Lewistown, Pa.
Lexington Railway Co., Lexington, Ky.
Lima & Toledo Co., Lima, Ohio.
Lincoln Traction Co., Lincoln, Neb.
Little Rock Railway & Electric Co., Little Rock, Ark.
Long Island Electric Railway Co., Jamaica, N.Y.
Lorain Street Railway Co., Lorain, Ohio.
Los Angeles & Redondo Railway Co., Los Angeles, Cal.
Los Angeles Traction Co., Los Angeles, Cal.
Louisville & Eastern Railroad Co., 511, West Green-st., Louisville, Ky.
Louisville & Southern Indiana Traction Co., New Albany, Ind.
Lowell & Boston Street Railway Co., Lowell, Mass.
Lowell, Lawrence & Haverhill Street Railway Co., Lowell, Mass.

Railways & Tramways—Electric—*contd.*

Lynn & Boston R. R. Co., Lynn, Mass.
Macon Railway & Light Co., Macon, Ga.
Mansfield Railway, Light & Power Co., Mansfield, Ohio.
Marion-Bucyrus Railway & Light Co., Bucyrus, O.
Marion Electric Light & Street Railway Co., Marion, Ill.
Mason City & Clear Lake Railway Co., Mason City, Iowa.
Media, Middleton, Aston & Chester Electric Railway Co., Folsom, Pa.
Metropolitan West Side Elevated Railway Co., Chicago, Ill.
Middletown & Goshen Electric Railway Co., Middletown, N.Y.
Millville Traction Co., Millville, N.J.
Milwaukee Electric Railway & Light Co., Milwaukee, Wis.
Montgomery & Chester Electric Railway Co., Phœnixville, Pa.
Montgomery Street Railway Co., Montgomery, Ala.
Mount Vernon Electric Railway Co., Mount Vernon, Ohio.
Muncie, Hartford & Fort Wayne Railway Co., Muncie, Ind.
Nashville Railway & Light Co., Nashville, Tenn.
Nassau Electric R. R. Co., Brooklyn, N.Y.
Nebraska City Street Railway Co., Nebraska City, Neb.
Neversink Mountain Railway Co., Reading, Pa.
New Bedford & Onset Street Railway Co., New Bedford, Mass.
New Haven Street Railway Co., New Haven, Conn.
New Jersey & Hudson River Railway & Ferry Co., Edgewater, N.J.
New Orleans Railway & Light Co., New Orleans, La.
New Orleans Traction Co., Ltd., New Orleans, La.
New York City Railway Co., 621, Broadway, New York.
New York & Harlem R. R. Co., New York.
New York & Long Island Traction Co., Hempstead, N.Y.
New York & Stamford Railway Co., Port Chester, N.Y.
Newburyport & Amesbury H. Railway Co., Newburyport, Mass.
Newport & Fall River Street Railway, Newport, R.I.
Newport News & Old Point Railway & Electric Co., Hampton, Va.
Newport & Providence Railway Co., Newport, R.I.
Newton & Boston Street Railway Co., 797, Washington-st., Newton, Mass.
Newton Electric Street Railway Co., Newton, Pa.
Niagara Gorge Railroad Co., Niagara Falls, N.Y.
Norfolk & Bristol Street Railway Co., South Walpole, Mass.
Norfolk & Southern Railroad Co., Norfolk, Va.

Railways & Tramways—Electric—*contd.*

Norfolk Street Railway & Light Co., Norfolk, Va.
North Jersey Street Railway Co., Jersey City, N.J.
North Shore Railroad Co., Mutual Life-bldg., San Francisco, Cal.
Northampton Street Railway Co., Northampton, Mass.
Northampton Traction Co., Easton, Pa.
Northern Indiana Railway Co., South Bend, Ind.
Northern Michigan Traction Co., Manistee, Mich.
Northwestern Elevated Railroad Co., Chicago, Ill.
Norway & Paris Street Railway Co., Norway, Me.
Oakland Transit Co., Oakland, Cal.
Oakwood Street Railway Co., Dayton, Ohio.
Ogden Rapid Transit Co., Ogden, Utah.
Ogdensburg Street Railway Co., Ogdensburg, N.Y.
Ohio Central Traction Co., Cleveland, Ohio.
Ohio & Indiana Railway Co., Angola, Ind.
Ohio River Electric Railway & Power Co., Pomeroy, Ohio.
Old Colony Street Railway Co., 84, State-st., Boston, Mass.
Old Dominion Railway Co., Portsmouth, Va.
Olean Street Railway Co., Olean, N.Y.
Omaha & Council Bluffs Railway Bridge Co., Council Bluffs, Iowa.
Omaha & Council Bluffs Street Railway Co., Omaha, Neb.
Oregon Traction Co., Portland, Ore.
Oswego Traction Co., Oswego, N.Y.
Owensboro City Railroad Co., Owensboro, Ky.
Pacific Electric Railway Co., Los Angeles, Cal.
Parkersburg, Marietta & Interurban Railway Co., Parkersburg, W. Va.
Paweatuck Valley Street Railway Co., Westerly, R.I.
Penna & Mahoning Valley Railway Co., New Castle, Pa.
Pennsylvania Traction Co., Lancaster, Pa.
People Railway Co., Dayton, Ohio.
Petaluma & Santa Rosa Railway Co., 331, Pine-st., San Francisco, Cal.
Philadelphia & Easton Street Railway Co., Doylestown, Pa.
Philadelphia Rapid Transit Co., Philadelphia, Pa.
Philadelphia & Western Railroad Co., Philadelphia, Pa.
Phœnix Railway Co., Phœnix, Arizona.
Pittsburgh & Manchester Traction Co., Pittsburgh, Pa.
Pittsburg Railroad & Light Co., Pittsburg, Kan.
Pittsburgh & West End Pass. Railway Co., Pittsburgh, Pa.
Pittsfield Electric Street Railway Co., Pittsfield, Mass.
Portland R. R. Co., Portland, Maine.
Portsmouth, Dover & York Street Railway, Portsmouth, N.H.
Portsmouth Electric Railway, Portsmouth, N.H.
Portsmouth Street Railway Co., Portsmouth, Vt.

Railways & Tramways—Electric—*contd.*

Pottstown Passenger Railway Co., Pottstown, Pa.
Pottstown & Reading Street Railway Co., Pottstown, Pa.
Presidio & Ferries R. R. Co., 111, Union-st., San Francisco, Cal.
Providence & Danielson Railway Co., Providence, R.I.
Providence, Warren & Bristol R. R., Providence, R.I.
Rapid Railway Co., Union Trust-bldg., Cincinnati, Ohio.
Rapid Transit Co. of Chattanooga, Chattanooga, Tenn.
Rapid Transit Electric Railway Co., Detroit, Mich.
Rapid Transit Railway Co., Dallas, Tex.
Ringing Rocks Electric Railway Co., Pottsville, Pa.
Riverside & Arlington Railway Co., Riverside, Cal.
Roanoke Railway & Electric Co., Roanoke, Va.
Rochester & Eastern Rapid Railway Co., Rochester, N.Y.
Rochester & Irondequoit R. R. Co., Rochester, N.Y.
Rochester & Suburban Railway Co., Rochester, N.Y.
Rockford, Beloit & Janesville Railroad Co., Beloit, Wis.
Rockford & Interurban Railway Co., Rockford, Ill.
Rockland, Thomaston & Owl's Head Railway Co., Rockland, Maine.
Rome City Street Railway Co., Rome, N.Y.
Rutland Street Railway Co., Rutland, Vt.
Sacramento Electric, Gas & Railway Co., Sacramento, Cal.
Saginaw Valley Traction Co., Saginaw, Mich.
St. Francois County Electric Railway Co., Farmington, Mo.
St. Joseph Railway, Light, Heat & Power Co., St. Joseph, Mo.
St. Lawrence International Electric Rail Road & Land Co., Alexandria Bay, N.Y.
St. Louis & Suburban Railway Co., St. Louis, Mo.
Salisbury & Spencer Railway Co., Salisbury, N.C.
San Antonio Street Railway Co., San Antonio, Texas.
San Bernardino Valley Traction Co., San Bernardino, Cal.
San Diego Electric Railway Co., San Diego, Cal.
San Jose & Santa Clara County Railroad Co., San Jose, Cal.
Sandusky, Norwalk & Mansfield Electric Railway Co., Norwalk, Ohio.
Santa Barbara Cons. Railway Co., Santa Barbara, Cal.
Schenectady Railway Co., Schenectady, N.Y.
Schuylkill Valley Traction Co., Norristown, Pa.
Schuylsill Traction Co., Schuylsill, N.Y.
Scioto Valley Traction Co., 3rd & Rock-sts., Columbus, Ohio.

Railways & Tramways—Electric—*contd.*

Scranton Railway Co., Scranton, Pa.
Seattle, Renton & Southern Railway Co., Seattle, Wash.
Seaview Railroad Co., Narragansett Pier, R.I.
Sedalia Railway & Electric Co., Sedalia, Mo.
Selma Street & Suburban Rly. Co., Selma, Ala.
Shamokin & Edgewood Electric Railway Co., Shamokin, Pa.
Sharon & Wheatland Street Railway Co.
Shreveport Traction Co., 100, Market-st., Shreveport, La.
Sioux City Gas & Electric Co., Sioux City.
Somerset Traction Co., Skowhegan, Maine.
South Chicago City Railway Co., Chicago, Ill.
South Side Elevated Railroad Co., Chicago, Ill.
Southwestern Street Railway Co., Philadelphia, Pa.
Southern Boulevard Street Railroad Co., 128th-st., nr. 3rd-ave., New York.
Southern Ohio Traction Co., Hamilton, Ohio.
Springfield Consolidated Railway Co., Springfield, Ill.
Springfield & Easton Street Railway Co., Palmer, Mass.
Springfield Electric Railroad Co., Springfield, Vt.
Springfield Railway Co., Springfield, Ohio.
Springfield Street Railway Co., Springfield, Ill.
Springfield Street Railway Co., Springfield, Mass.
Springfield Traction Co., Springfield, Mo.
Springfield & Xenia Railway Co., Springfield, O.
Stark Electric Railroad Co., Alliance, N.D.
Sterling, Dixon & Eastern Electric Railway Co., Sterling, Ill.
Steubenville, Mingo & Ohio Valley Traction Co., Steubenville, Ohio.
Steubenville Traction Co., Steubenville, Ohio.
Stockton Electric Railroad Co., Stockton, Cal.
Suburban Railroad Co., Chicago, Ill.
Suburban Rapid Transit Street Railway Co., Pittsburg, Pa.
Sunbury & Northumberland Electric Railway Co., Sunbury, Pa.
Susquehanna Traction Co., Lock Haven, Pa.
Syracuse, Lakeside & Baldvinsville Railway, Syracuse, N.Y.
Syracuse & Suburban Railroad Co., Syracuse, N.Y.
Tama & Toledo Electric Railway Co., Toledo, Iowa.
Tarentum Traction Pass. Rly. Co., Tarentum, Pa.
Tarrytown, White Plains & Mamaroneck Railway Co., White Plains, N.Y.
Taunton & Pawtucket Street Railway Co., Taunton, Mass.
Terre Haute Traction & Light Co., Terre Haute, Ind.
Third Avenue R. R. Co., New York.
Tiffin, Fostoria & Eastern Railway Co., Tiffin, Ohio.
Titusville Electric Traction Co., Titusville, Pa.
Toledo & Chicago Interurban Railway Co., Toledo, Ohio.
Toledo, Fostoria & Findlay Railway Co., Fostoria, Ohio.

Railways & Tramways—Electric—*contd.*

Topeka Railway Co., Topeka, Kansas.
Trenton Street Railway Co., Trenton, N.J.
Trinidad Electric Railroad Co., Trinidad, Col.
Troy & New England Railway Co., Troy, N.Y.
Union Elevated Railroad, Chicago, Ill.
Union Street Railway Co., New Bedford, Mass.
Union Traction Co., Santa Cruz, Cal.
United Railroads of San Francisco, Rialto-bldg., San Francisco, Cal.
United Railways Co. of St. Louis, St. Louis, Mo.
United Traction Co., Albany, N.Y.
United Traction Co., Pittsburg, Pa.
United Traction Co., Reading, Pa.
Utah Light & Railway Co., Salt Lake City, Utah.
Utica Belt Line Street R. R. Co., Utica, N.Y.
Utica & Mohawk Valley Railroad Co., Utica, N.Y.
Vicksburg Railway & Light Co., Vicksburg, Miss.
Virginia Passenger & Power Co., Richmond, Va.
Wakefield & Stoneham Street Railway Co., Wakefield, Mass.
Wallkill Transit Co., Middletown, N.Y.
Warren Street Railway Co., Warren, Pa.
Washington, Alexandria & Mount Vernon Railway Co., Washington, D.C.
Washington & Canonsburg Railway Co., Washington, Pa.
Washington Water Power Co., Spokane, Wash.
Waterloo, Cedar Falls & Northern Railway Co., Waterloo, Iowa.
Waterville & Oakland Street Railway, Waterville, Maine.
Waupaca Electric Light & Railway Co., Waupaca, Wis.
Waverly, Sayre & Carthage Traction Co., Waverly, N.Y.
Wayne & Wabash Valley Traction Co., Logansport, Ind.
Wellston & Jackson Belt Railway Co., Wellston, Ohio.
West-Chester Street Railway Co., West Chester, Pa.
West Chicago Street R. R. Co., West Chicago, Ill.
West End Street Railway Co., Boston, Mass.
West Penn Railway Co., Pittsburg, Pa.
Westchester Electric Railroad Co., Mount Vernon, N.Y.
Westchester Traction Co., Croton-ave., Ossining, N.Y.
Western Ohio Railway Co., Lima, Ohio.
Wilkesbarre & Wyoming Valley Traction Co., Wilkesbarre, Pa.
Williamsport Pass. Railway Co., Williamsport, Pa.
Wilmington & Brandywine Springs Electric Railway Co., Wilmington, Del.
Wilmington, New Castle & Southern Railway Co., New Castle, Del.
Winnebago Traction Co., Oshkosh, Wis.
Woonsocket Street Railway Co., Woonsocket, Rhode Island.
Worcester & Blackstone Valley Street Railway Co., Worcester, Mass.

Railways & Tramways—Electric—*contd.*

Worcester Consolidated Street Railway Co., Worcester, Mass.
Worcester Railways & Investment Co., Worcester, Mass.
Worcester & Southbridge Street Railway Co., Worcester, Mass.
Yonkers R. R. Co., Yonkers, N.Y.
York County Traction Co., York, Pa.
Youngstown Park & Falls Street Railway Co., Youngstown, Ohio.
Zanesville Electric Railway Co., Zanesville, Ohio.

Railways & Tramways (Electric)—Makers of & Contractors for.

F.—Chemins de fer électr. et Tramways—Fab. & Constr. de.

G.—Elektr. Eisenbahnen & Strassenwagen—Fab. & Unternehmer von.

American Railway Construction Co., 42, Broadway, New York.
American Railway Co., Philadelphia, Pa.
Chicago Engineering & Constructing Co., 135, Adams-st., Chicago, Ill.
Cincinnati, Milford & Loveland Traction Co., Cincinnati, Ohio.
Curtiss, C. C., 20, Broad-st., New York.
Duluth Superior Traction Co., Duluth, Minn.
Gore, H., & Co., 54, Kilby-st., Boston, Mass.
Love Electric Traction Co., 955, Old Colony-bldg., Chicago, Ill.
Marquette City & Presque Isle Railway, Marquette, Mich.
Myers, L. E., Co., Monadnock-bldg., Chicago, Ill.
Naugle, Holcomb & Co., 355, Dearborn-st., Chicago, Ill.
New England Electrical Railway Construction Co., Worcester, Mass.
New York Electrical Engineering Co., 206, Broadway, New York.
New York Standard Construction Co., 97, Nassau-st., New York.
North American Railway Construction Co., 1320, Monadnock-bldg., Chicago, Ill.
Nuttall, R. D., Co., 179, Grant-ave., Allegheny, Pa.
Pepper & Register, 112, North Broad-st., Philadelphia, Pa.
Ries & Henderson, 408, Drexel-bldg., Philadelphia, Pa.
Saxton, E., 123, G-st. N.E., Washington, D.C.
Smethurst & Allen, North American-bldg., Philadelphia, Pa.
United Electric Telephone Co., 1225, Masonic Temple, Chicago, Ill.

Reflector & Shade Manufacturers.

F.—Reflecteurs et abatjours.

G.—Reflectoren & Schirme—Fab. von.

Bailey Reflector Co., 547, 4th-ave., Pittsburg, Pa.
Bauer Lamp & Reflector Co., 529, Mission-st., San Francisco, Cal.

Reflector & Shade Manufacturers—*continued.*

Frink, I. P., 55, Pearl-street, New York.
Klemm & Co., N.W. cor. 5th & Cherry-sts., Philadelphia, Pa.
McCreary, A. A., 136, Liberty-st., New York.
National X-Ray Reflector Co., 26, Cortlandt-st., New York.
Phœnix Glass Co., Pittsburgh, Pa.; & 729, Broadway, New York, N.Y.
Pittsburg Glass Co., Allegheny, Pa.
Smith of New York Co., 352, Pearl-st., New York.
Sunlight Window Reflector Co., 141, Court-st., Brooklyn, N.Y.
Wheeler Reflector Co., 156, Pearl-st., Boston.

Regulators—Makers of.

F.—Régulateurs—Fab. de.
G.—Regulatoren—Fab. von.

Electric Heat Regulator Co., Minneapolis, Minn.
Johnson Temperature Controlling Co., 152, Lake-st., Chicago, Ill.
Pusey Voltage Regulator Co., 618, Fidelity-bldg., Philadelphia, Pa.

Rheostats—Makers of.

F.—Bobines de resistence—Fabr. de.
G.—Rheostate.

Cutler-Hammer Manufacturing Co., Milwaukee, Wis.
Cutter Electrical & Manufacturing Co., 19th & Hamilton-sts., Philadelphia, Pa.
Mason Regulator Co., Boston, Mass.

Röntgen Apparatus—Makers of & Dealers in.

F.—Appareils Röntgen—Fabr. et Marchands d'.
G.—Röntgen Apparat—Fabr. von & Händler in.

B. & B. Apparatus Co., Inc., 27, Central-st., Salem, Mass.
Campbell Electric Co., Lynn, Mass.
Edison Decorative & Miniature Lamp Dept., Harrison, N.J.
Friedlander Co., 41, State-st., Chicago, Ill.
Green & Bauer, 33, Wells-st., Hartford, Conn.
Kny-Scheerer Co., 225–233, 4th-ave., New York.
Lamb Electric Co., Grand Rapids, Mich.
Meyrowitz, E. B., 104, East 23rd-st., New York.
Nelson Scientific Instrument Co., 18, West Randolph-st., Chicago, Ill.
Splitdorf, C. F., 17, Vandewater-st., New York.
Swett & Lewis Co., 79, Franklin-st., Boston, Mass.
Waite & Bartlett Manufacturing Co., 217, East 23rd-st., New York, N.Y.

Schools of Electrical Engineering.

F.—Écoles électriques.
G.—Elektr. Schulen.

American School of Correspondence, Chicago, Ill.
Armour Institute of Technology, Chicago, Ill.
Bliss Electrical School, 614, 12th-st., Washington, D.C. L. D. Bliss, president.
Clarkson Memorial School of Technology, Potsdam, N.Y.
Columbia University (Schools of Mines, Chemistry & Engineering), West 116th-st., New York. N. M. Butler, PH.D., president; H. S. Munroe, PH.D., & R. Peele, E.M., professors of mining; W. H. Burr, C.E., professor of civil engineering; C. F. Chandler, PH.D., professor of chemistry; F. B. Crocker, PH.D., professor of electrical engineering; G. F. Sever, professor of electrical engineering; M. I. Pupin, PH.D., professor of electro-mechanics; F. R. Hutton, C.E., PH.D., professor of mechanical engineering; W. Hallock, professor of physics; E. F. Nichols, SC.D., professor of experimental physics; J. H. Van Amringe, PH.D., professor of mathematics.
Columbian University, Washington, D.C.
Cornell University (Edward L. Nichols, PH.D., professor of physics; H. H. Norris, M.E., professor of electrical engineering), Ithaca, N.Y.
Electrical Engineer Institute of Correspondence Instruction, 240–242, West 23rd-st., New York. J. Wetzler, M.E., E.E., president.
George Washington University Electrical Engineering Dept., Morningside Heights, New York.
Highland Park College, Des Moines, Iowa.
Johns Hopkins University, Baltimore, Md.
Institute for Home Study of Engineering, Cleveland, Ohio.
Lafayette College, Easton, Pa.
Massachusetts Institute of Technology (H. W. Tyler, secretary; Prof. H. E. Clifford, professor of electrical engineering), Boston.
Michigan College of Mines, Houghton, Mich. F. W. McNair, B.S., president; G. A. Koenig, M.E., PH.D., professor of chemistry; F. W. Sperr, E.M., professor of civil & mining engineering; Ozni P. Hood, M.E., professor of mechanical & electrical engineering; A. E. Seaman, professor of mineralogy & geology; J. Fisher, professor of physics & mathematics; L. D. Austin, professor of metallurgy & ore dressing; F. H. Scott, librarian & secretary.
National Correspondence Institute, Washington, D.C.
Ohio State University (F. C. Caldwell, professor of electrical engineering; W. T. Magruder, professor of mechanical engineering; E. A. Hitchcock, experimental engineering; N. W. Lord, metallurgy & mineralogy; F. A. Ray, mining engineering; C. E. Sherman, civil engineering), Columbus, Ohio.

Schools of Electrical Engineering—*contd.*

Pennsylvania State College, Centre County, Pa. J. Price Jackson, B.S.M.E., M.AM.I.E.E., professor electrical engineering; I. Thornton Osmond, M.S., M.A., professor of physics; Louis E. Reber, M.S., professor of mechanical engineering; Madison M. Garver, B.S., assistant professor of physics; H. P. Wood, B.S., instructor in electrical engineering; W. M. Towle, B.S., assistant professor of practical mechanics; M. E. Wadsworth, PH.D., professor of mining & geology; F. J. Pond, B.S., PH.D., instructor in assaying & metallurgy; N. W. Shed, assistant professor of geology; F. E. Foss, C.E., professor of civil engineering; Elton D. Walker, B.S., assistant professor of civil engineering.

Philadelphia Central Manual Training School (William L. Sayre, principal), N.E. corner 17th & Wood-streets, Philadelphia, Pa.

Polytechnic Institute of Brooklyn, Brooklyn, N.Y.

Pratt Institute School of Electricity, Brooklyn, N.Y.

Rose Polytechnic Institute (John White, PH.D., professor of chemistry; M. A. Howe, C.E., professor of civil engineering; Thomas Gray, PH.D., professor of dynamic engineering; C. L. Mees, PH.D., professor of physics; E. S. Johonnott, PH.D., associate professor of physics; F. C. Wagner, professor of steam & electrical engineering; J. B. Peddle, M.E., professor of machine design), Terre Haute, Ind.

Union College, Schenectady, N.Y.

University of Arkansas, Fayatteville, Ark. Wm. N. Gladson, M.S.E.E., PH.D., M.AM.I.E.E., professor of electrical engineering & physics.

University of Chicago, Chicago, Ill.

University of Illinois, Urbana, Ill. Prof. Morgan Brooks, professor of electrical engineering.

University of Michigan (Henry S. Carhart, LL.D., professor of physics & director of physical laboratory; G. W. Patterson, PH.D., professor of electrical engineering; Gardner S. Williams, C.E., professor of civil engineering; Mortimer E. Cooley, M.E., professor of mechanical engineering & dean of department of engineering; A. Ziwet, C.E., professor of mathematics; E. D. Campbell, B.S., director of the chemical laboratory & professor of chemical engineering & analytical chemistry), Ann Arbor, Mich.

University of Minnesota (G. D. Shepardson, professor of electrical engineering; F. W. Springer, assistant professor of electrical engineering), Minneapolis, Minn.

University of Oklahoma, Norman, Okla. C. M. Jansky, professor of electrical engineering.

Wisconsin University (professor of electrical engineering, Dugald C. Jackson, C.E.; assistant professors of electrical engineering, Bernard V. Swenson, B.S., & C. F. Burgess, E.E.), Madison, Wis.

Scientific Apparatus Makers.

F.—Appareils scientifiques—Fab. d'.

G.—Wissenschaftliche Instrumente.

Gurley, W. & L. E., Troy, N.Y.

International Brass & Electric Co., Incorporated, 76, Beekman-st., New York.

Taylor, Taylor & Hobson, Ltd., St. James-bldg., 1135, Broadway, New York.

Ziegler Electric Co., Franklin-st., Boston, Mass.

Screw Plate, Stocks & Dies Makers.

F.—Vis, écrous et autres accessoires—Fab.

G.—Schrauben & Stempel Zapfen—Fabr.

Carpenter, J. M., Tap & Die Co., Pawtucket, R.I.

Screw, Terminal, & Small Detached Accessories Manufacturers.

F.—Vis, Bornes, et Petits accessoirs detachés—Fab. de.

G.—Schrauben und sonstige Artikel für Elektriker—Fabr. von.

Hill, Geo. O., Boston, Mass.

McIntire Co., C., 13 & 15, Franklin-st., Newark.

National Acme Manufacturing Co., Cleveland, O.

Philadelphia Machine Screw Works, 624, Race-st., Philadelphia, Pa.

Search Lights (Projectors).

F.—Projecteurs (lumière electr.).

G.—Scheinwerfer—Elektr.

BOGUE, CHAS. J., ELECTRIC CO., 213-215, Centre-st., New York, N.Y.

Rushmore Dynamo Works, Plainfield, N.J.

Second-hand Electrical Plant—Buyers of & Dealers in.

F.—Appareils électriques et d'occasion—Acheteurs & vendeurs.

G.—Zweiter Hand Elektrische Anlagen—Kaufer von & Handler in.

Gregory Elec. Co., 16th- & Lincoln-sts., Chicago.

Wicks Bros., 157, Liberty-st., New York.

Slate Turners for Electrical Purposes.

F.—Ardoise—Tourneurs d'—pour l'électr.

G.—Schiefer drechsler für Electr. Zwecke.

Evans Marble Co., Baltimore, Md.

Fleming Slate Co., Poultney, Vt.

Young, H. B., Fair Haven, Vt.

Smelters & Refiners.

F.—Fondeurs et Raffineurs.

G.—Schmelzereien & Läuterer.

Cowles Electric Smelting & Aluminium Co., Lockport, N.Y.

Societies—Learned & Scientific.

F.—Sociétés Savantes Scientifiques et tech.

G.—Vereine—Gelehrte, Wissenschaftl. u. Tech.

American Electrochemical Society, Philadelphia, Pa.

American Electro-Therapeutic Association, New Haven, Conn.

American Institute of the City of New York (Electrical Section), 19, West 44th-st., New York.

American Institute of Electrical Engineers, 7th-Floor, White-bldg., 95, Liberty-st., New York.

American Institute of Mining Engineers, 99, John-st., & P.O. Box 223, New York.

American Railway, Mechanical & Electrical Association, 12, Woodward-ave., Detroit, Mich.

American Roentgen Ray Society, Louisville, Ky.

Association of Engineering Societies, 257, S. 4th-st., Philadelphia, Pa.

Association of Railway Telegraph Superintendents, c/o Wisconsin Central Railway, Milwaukee, Wis.

Electric Club of Cleveland, Arcade-bldg., Cleveland, Ohio.

Electrical Contractors' Association of Rochester, N.Y., 416, Wilder-bldg., Rochester, N.Y.

Electrical Trades Association, 804, Drexel-bldg., Philadelphia, Pa.

Engineers' Club of Philadelphia, 1122, Girard-st., Philadelphia, Pa.

Franklin Institute of the State of Pennsylvania for the Promotion of Mechanical Arts (T. Spencer, president of Electrical Section; R. L. Binder, secretary), 15, South 7th-st., Philadelphia, Pa.

Independent Telephone Association of the U.S.A. Secretary, J. B. Ware, Detroit, Mich.

Institute for Home Study of Engineering, 29, Blackstone-bldg., Cleveland, Ohio.

Mechanical & Electrical Engineers' Society, Champaign, Ill.

National Electric Light Association (W. C. L. Eglin, secretary), 136, Liberty-st., New York.

Rogers Laboratory of Physics, Massachusetts Institute of Technology, Boston, Mass.

Stevens Institute of Technology, Hoboken, New Jersey.

Western Society of Engineers, Electrical Section, 1737, Monadnock-blk., Chicago, Ill.

Solder Manufacturers & Merchants.

F.—Soudure—Fab. et March. de.

G.—Löth-blei—Fab. u. Händler von.

Western Electric Co., 250, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York. Special Cored Solder for electrical work.

Specialities Makers—Electrical.

F.—Spécialités électriques—fab. de.

G.—Elektrische Specialitäten.

American Endoscopic Co., 212, Union-st., Providence, R.I.

Bauer & Black, Incorp., Chicago, Ill.

Bradley, E. C., & Co., 15 & 17, Stone-st., Rochester, N.Y.

Canton Glass Co., Marion, Ind.

Churcher Electric & Manufacturing Co., 132, Opera-pl., Cincinnati, Ohio.

Cutter, Henry B., 27, South 11th-street, Philadelphia, Pa.

Cutter, Geo., Co., South Bend, Ind.

Dale Co., 22, Thames-st., cor. Greenwich-st., New York.

Dayton Auto-Electric Co., Dayton, Ohio.

Eldred Manufacturing Co., Chicago, Ill.

Eldredge Electric Manufacturing Co., Springfield, Mass.

Electric Controller & Supply Co., Cleveland, Ohio.

Electric Novelty Co., 43, Monroe-st., Memphis, Tenn.

Electrical Appliance Manufacturing Co., 21, Buckingham-avenue, Waterbury, Conn.

Fletcher Manufacturing Co., Dayton, Ohio.

Hewitt, E. A., & Co., 49, Wood-st., Cleveland, O.

Hibbard, W. H., 79, Washington-st., Brooklyn, N.Y.

Hill Electric Co., 133, Oliver-st., Boston, Mass.

Holmes Electric Protective Co., 26, Cortlandt-st., New York.

Illinois Electric Specialty Co., Tacoma-bldg., Chicago, Ill.

Judd Electric Co., Detroit, Mich.

Knapp Electric & Novelty Co., 511-513, West 51st-st., New York.

Marshall, Wm., 709, Lexington-ave., New York.

Marshall Electric Manufacturing Co., 301, Congress-st., Boston, Mass.

Mayer Engineering Co., Monadnock-blk., Chicago, Ill.

National Electric Co., 10th & Sansom-sts., Philadelphia, Pa.

New York Electrical Society (Geo. H. Guy, secretary), 114, Liberty-st., New York.

North-Western Electric Repair Co., 412, Selby-st., St. Paul, Minn.

Packard Electric Co., Warren, Ohio.

Palmer Electrical Co., 103, Bedford-st., Boston, Mass.

Pass & Seymour, Incorp., Solway, N.Y.

Pignolet, Louis M., 78, Cortlandt-st., New York.

Pittsfield Trolley Manufacturing Co., 82, West-st., Pittsfield, Mass.

Power Specialty Co., 111, Broadway, New York.

Pringle Electrical Manufacturing Co., 1906-1908, North 6th-st., Philadelphia, Pa.

Rushmore Dynamo Works, 24, Morris-st., Jersey City, N.J.

Sperry, B. N., Syracuse, N.Y.

Star Electric Co., Binghamton, N.Y.

Sun Porcelain Co., Trenton, N.J.

Specialities Makers—Electrical—*continued.*

Tuerk, Albert, & Co., 39, West Randolph-st., Chicago.
Ward-Leonard Electric Co., Bronxville, N.Y.
White Star Appliance Co., 1330–1332, Kenmore-ave., Buffalo, N.Y.

Speed Indicator Makers.

F.—Indicateurs à Vitesse—fab. de.
G.—Tachometer.

Spring Makers for Pushes.

F.—Ressorts pour bouton sonneries—fab. de.
G.—Federn für Druckknöpfe—Fab. von.

Cary Spring Works, 240, West 29th-st., New York, N.Y.

Steam Packing Manufacturers.

F.—Garnitures de joints de machines à vapeur—fab. de.
G.—Liederungsdeckel-Fabrikanten.

Garlock Packing Co., Palmyra, N.Y.
Gould Packing Co., East Cambridge, Mass.
Jenkins Bros., 71, John-st., New York.

Submarine Cables—Makers of.

F.—Cables sousmarins—fab. de.
G.—Unterseeische Kabel—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Sundriesmen—Electrical.

F.—Appareils divers elec.—Fab. de.
G.—Sortiments Geschäfte—Elec.

Cook, F. B., 250, West Lake-st., Chicago, Ill.

Supplies (Electrical)—Dealers in.

F.—Fournitures électr.—March. de.
G.—Electr. Bedarfsartikel—Händler.

Abbott Electric Co., 100, High-st., Boston, Mass.
Ackerman-Boland Telephone Co., Chicago, Ill.
Acme Electrical Supply Co., Ottumwa, Iowa.
Allen & Co., Atlantic City, N.J.
Allen Electric Co., Danville, Ill.
Alline Electrical Co., Inc., Fort Dodge, Iowa.
Almstead Electric Co., Rochester, N.Y.
American Electrical Supply Co., 211, East Lake-st., Chicago, Ill.
Anderson, Homer, 353–355, South-st., Peekskill, N.Y.
Anderson, Albert & J. M., Manufacturing Co., Boston, Mass.
Andrae, J., Sons Co., 225, West Water-street, Milwaukee, Wis.

Supplies (Electrical)—Dealers in—*contd.*

Arnold, E. D., 909, E. Howard-st., Creston, Iowa.
Atkinson, John E., 311, St. Louis-st., Springfield, Mo.
Austin, M. B., & Co., 56 & 68, West Van Buren-st., Chicago, Ill.
Axthelm Elec. Co., 314, 4th-ave., Pittsburgh, Pa.
B. & R. Electric & Telephone Manufacturing Co., cor. 5th & Delaware-sts., Kansas City, Mo.
Baggot, E., 902, Olive-st., St. Louis, Mo.
Bailey, J. A., & Co., Memphis, Tenn.
Bainbridge-Durban Electric Co., 26, North 7th-st., Philadelphia, Pa.
Ball, H. D., 14, James-st., Albany, N.Y.
Balsley, R. O., 471, S. Pine-st., Indianapolis, Ind.
Baltimore Electrical Supply Co., 215, North Calvert-st., Baltimore, Md.
Bancroft, R. H., & Co., 14, Alder-st., Lowell, Mass.
Banton, A. N., 49, Hudson-ave., Newark, Ohio.
Barbour, B. F., 2119, 3rd-ave., Birmingham, Ala.
Barnes & Payton, 273, River-st., Troy, N.Y.
Barrett, J., Co., 6th & Alder-sts., Portland, Ore.
Barron, J. S., & Co., 339, Greenwich, New York.
Baugher, A. L., 553, West 10th-st., Erie, Pa.
Beckford, E. S., Quincy, Mass.
Beidleman, H. S., 2382, Broadway, New York.
Belcher & Loomis Hardware Co., 89–91, Weybosset-st., Providence, R.I.
Bender, J. C., Allegheny, Pa.
Bennett, A. J., 102, S. Clinton-ave., Trenton, N.J.
Bergren Electric Co., 414, Jackson-st., St. Paul, Minn.
Berry, C. W., 296, Brackett-st., Portland, Maine.
Berry, D. E., & Co., 30, Main-st., Evansville, Ind.
Berry Electric & Manufacturing Co., St. Joseph, Mo.
Billings & Drew, 264, Woodward-ave., Detroit, Mich.
Bingham, W., Co., 146, Water-street, & 97, Superior-st., Cleveland, Ohio.
Bissell, F., Co., Toledo, Ohio.
Blumenthal Sons & Co., 172, Washington-st., Chicago, Ill.
Blundin, L. C., & Co., 1414, South Penn-sq., Philadelphia, Pa.
Bohn, C. C., Electric Co., 780, 6th-ave., New York, N.Y.
Bonning, Albert, 9, Monroe-st., Monroe, Mich.
Boorman Electrical Co., 218, D-st., Marysville, Cal.
Boston Electric Co., 29, Harrison-ave., Boston.
Bowen Electric Co., Providence, R.I.
Bowie & Love, Tacoma, Wash.
Boyce, Geo. R., 295, Main-st., Orange, N.J.
Braden Plumbing & Electric Co., San Antonio, Tex.
Brady, F. J., 5934, Broad-st., Pittsburg, Pa.
Braid Electrical Co., Nashville, Tenn.
Brayton & Hooks, Utica, N.Y.
Breedon, J., 41, West Maumee-st., Adrian, Mich.
Brewer, H., Fishkill Landing, N.Y.
Briggs, W. P., New Bedford, Mass.
Brode Electric Co., Inc., Los Angeles, Cal.

Supplies (Electrical)—Dealers in—*contd.*

Broiles Electric Co., Fort Worth, Tex.
Brooklyn Electric Supply Co., 6, Court-sq., Brooklyn, N.Y.
Brooks, F. R., Brookline, Mass.
Brooks, E. F., & Co., 531, 15th-st., Washington, D.C.
Brown, C. F., 319, East 23rd-st., New York.
Brown, E. N., Troy, N.Y.
Brown, G. M., Woonsocket, R.I.
Brown, W. S., 3, West 29th-st., New York.
Brown Electrical Construction Co., 355, Dearborn-st., Chicago, Ill.
Browne, W. L., 545, Main-st., Worcester, Mass.
Bruce-Meriam-Abbott Co., 1692, Columbus-rd., N.W., Cleveland, Ohio.
Bryant, E. M., 28, Hanover-st., Manchester, N.H.
Bryant Electric Co., Bridgeport, Conn.
Buehler, J., 571–573, 5th-ave., New York.
Bundy, R. D., Binghamton, N.Y.
Bunting, H. C., & Co., 227, Federal-st., Portland, Maine.
Burke, John P., 213, South 13th-st., Omaha, Neb.
Burnet Co., 121, Maiden-lane, New York.
Burns, D. J., 46, Genesee-st., Auburn, N.Y.
Burns, J. F., 442, State-st., Schenectady, N.Y.
Burr, C. B., 100, Main-st., Ansonia, Conn.
Burr, Garrett S., & Co., Hackensack, N.J.
Bush, Charles S., Co., Providence, R.I.; & Boston, Mass.
California Electric Co., 119, East 7th-st., Los Angeles, Cal.
Cann, G. W., 324, Broadway, Logansport, Ind.
Capital Electric Co., Salt Lake City, Utah.
Carman & Fryer, Indianapolis, Ind.
Carr, T. F., 232, Columbus-ave., New York, N.Y.
Cataract Electric Supply Co., 11, West Swan-st., Buffalo, N.Y.
Central Electric Co., 37 & 38, Thomas-bldg., 5th & Main-sts., Cincinnati, Ohio.
Chandler & Farquhar Co., 36, Federal-st.; & 131, Congress-st., Boston, Mass.
Chanely & Christie, Grand Rapids, Mich.
Channell, C. E., 115, Maple-st., Rutland, Vt.
Chapin, J. L., 50, East 20th-st., New York.
Chase, Jefferson, 319, Cumberland-st., Portland, Maine.
Chever Bros., South Manchester, Conn.
Chicago General Fixture Co., 169, Adams-st., Chicago, Ill.
Churchill, J. C., Meriden, Conn.
Clark & Mills Electric Co., 1440, Mass-ave., Cambridge, Mass.
Clark, J., jun., & Co., Louisville, Ky.
Clarke Electric Co., Detroit, Mich.
Cleary, E. M., Oakland, Cal.
Cleveland Electrical Supply Co., 726, Prospect-ave., Cleveland, Ohio.
Cleveland Engineering & Electric Co., 225, The Arcade, Cleveland, Ohio.
Cleveland, L. W., Co., 414–416, Congress-st., Portland, Maine.
Clough, Dr., Wolfboro, N.H.

Supplies (Electrical)—Dealers in—*contd.*

Clute Bros., 49 & 51, Mohawk-st., Cohoes, N.Y.
Cochrane, W., & Son, Oswego, N.Y.
Coffin, H. A., 627, Washington-st. (Dorchester), Boston, Mass.
Cohen Mfg. Co., 228, Palisade-ave., Jersey City, N.J.
Colby, A. O., La Crosse, Wis.
Cole, Chas. E., & Son, Whitman, Mass.
Cole Rex, I., Port Huron, Mich.
Columbia Electric Supply Co., 329, 4th-ave., New York.
Columbian Electric Co., Kalamazoo, Mich.
Columbian Electrical Co., 820, Frederick-ave., St. Joseph, Mo.
Commercial Electrical Supply Co., 15th & Pine-sts., St. Louis, Mo.
Commercial Supply Co., Detroit, Mich.
Connelly, J. D., San Antonio, Tex.
Conover, F. B., Allenhurst, N.J.
Conroy, P. F., 181, Thames-st., Newport, R.I.
Consumers' Supply Co., Los Angeles, Cal.
Cooke Electric Co., Edward T., 1408, Chestnut-st., St. Louis, Mo.
Cooper, A. J., 305, Chelsea-st., East Boston, Mass.
Cooper, C., Canon City, Col.
Cooper, J. W., Medina, N.Y.
Correll Electric Co., 72, Eberly-blk., Columbus, O
Craig, W. P., East Orange, N.J.
Craven Supply Co., 26, Cortlandt-st., New York.
Crawford Bros., 321, Warren-st., Boston, Mass.
Crawley Electric Co., Peoria, Ill.
Crescent Electric Co., Oakland, Cal.
Crescent Iron Works, Springfield, Mo.
Cronen, J. J., 538, 3rd-st., Louisville, Ky.
Crouse-Hinds Electric Co., 23, Dey-st., New York.
Curlett, L. K., 67, S. Canal-st., Chicago, Ill.
Cuthbert & Black, Central Union-blk., Chicago, Ill.
Dale, John F., Elmira, N.Y.
Darling, E. R., 138, Main-st., Woonsocket, R.I.
Davis, Fred. R., 805, West 4th-st., Sterling, Ill.
Dawson, Eugene C., Denver, Col.
Day, Henry H., & Co., 146, Franklin-st., Boston, Mass.
Dayton Hardware Co., 194, 1st-st., cor. Taylor-st., Portland, Ore.
D'Aubrateuil, A. J., 138, Chartres-st., New Orleans, La.
Derby & Morse, 72, Middle-st., Lowell, Mass.
Deterich, Warwich & Co., 167, Erie-st., Cleveland, Ohio.
Devere Electric Co., 234, West 4th-st., Cincinnati, Ohio.
Dewson, John A., Easton, Pa.
Dillon, T. L., 344, 4th-ave., New York.
Dodson, U. G., 53rd-st. & Haverford-ave., Philadelphia, Pa.
Doerr, Mitchell & Co., Spokane, Wash.
Doncourt, A., Flushing, N.Y.
Dotzert, Jas. H., Newburg, N.Y.
Doubleday, C. D., Thames-bldg., 136, Liberty-st., New York.

Supplies (Electrical)—Dealers in—*contd.*

Doxsee Barrere Electric Co., 1414, Chestnut-st., St. Louis, Mo.
Draper, Geo., Hutchinson, Kan.
Dravo Contracting Co., Lewis-blk., Pittsburg, Pa.
Dubinski Electric Co., San Antonio, Tex.
Duffy Bros., Pawtucket, R.I.
Duncan Hobson Electric Co., Dallas, Tex.
Dunham, Carrigan & Hayden Co., 100, Kansas-st., San Francisco.
Duval, I. J., 234, La Salle-st., Chicago, Ill.
Dwelling Electric Co., 960, Woodland-ave., Cleveland, Ohio.
Eastern Electrical Supply Co., 42, Vesey-st., New York.
Eaton, Chase & Co., 3, Commerce-st., Norwich, Conn.
Egan Electric Co., Inc., Dallas, Tex.
Eldridge, A. E., 136, 9th-st., Pittsburg, Pa.
Electric Appliance Co., 111–121, Townsend-st., San Francisco, Cal.
Electric Construction Co., Seattle, Wash.
Electric Manufacturing Co., 149, Manhattan-avenue, Brooklyn, N.Y.
Electric Power Transmission Co., 1722, Lawrence-street, Denver, Col.
Electric Railway Equipment Co., 431, East Front-st., Cincinnati, Ohio.
Electric Railway & Manufacturers' Supply Co., Inc., San Francisco, Cal.
Electric Supply Co., Charleston, S.C.
Electric Supply Co., Memphis, Tenn.
Electric Supply Co., 533, Water-street, Port Huron, Mich.
Electric Supply & Fixture Co., Pasadena, Cal.
Electrical Maintenance & Repair Co., 200–202, Market-st., Newark, N.J.
Electrical Manufacturing Co., 2, Court-pl., Cleveland, Ohio.
Electrical Material Co., 221, North Calvert-st., Baltimore, Md.
Electrical Supply Co., 102–104, Michigan-avenue, Chicago, Ill.
Electrical Supply Co., 131, Francis-st., Madison, Wis.
Electrical Supply Co., Saginaw, Mich.
Eline, J. Frank, & Co., 110, East Baltimore-st., Baltimore, Md.
Elm City Engineering Co., New Haven, Conn.
Enos Co., 5, West 39th-st., New York, N.Y.
Entrekin, S. W., 1226, Oxford-st., Philadelphia, Pa.
Erdman, H. H., Ridgway, Pa.
Ernst, Chas. F., 865, Chaplain-st., Detroit, Mich.
Euclid Avenue Electrical Co., 1213, Euclid-avenue, Cleveland, Ohio.
Everett, C. H., Gould-bldg., Atlanta, Ga.
Ewing-Merkle Electric Co., 1106, Pine-st., St. Louis, Mo.
Fague, H. C., Hughesville, Pa.
Fastnacht, W. E., 276, W. Market-st., York, Pa.
Favor & Cameron, 181, Main-st., Gloucester, Mass.
Feger Electric Co., Peoria, Ill.

Supplies (Electrical)—Dealers in—*contd.*

Fergus Electric Co., Zanesville, Ohio.
Ferris, S. R., 102, West 106th-st., New York, N.Y.
Finch, G. W., Escanaba, Mich.
Finch & Hahn, 504, State-st., Schenectady, N.Y.
Finkelstein, M. F., 153, Canal-st., New York, N.Y.
Fisher, J. A., & Sons, 1046, Madison-ave., Covington, Ky.
Fitts, Frank E., Manufacturing & Supply Co., 88, Purchase-st., Boston, Mass.
Fitzpatrick, P. C., 137, Bridge-st., Springfield, Mass.
Flach Electrical Co., 583, Breckenbridge-st., Buffalo, N.Y.
Flagg, C. W., Putnam, Conn.
Fleming, J. F., Brookline, Mass.
Fletcher, P. M., Co., 32, Frankfort-st., New York.
Florida Electric Co., Jacksonville, Fla.
Fobes Supply Co., Seattle, Wash.
Fox, John M., & Co., 66, Union-st., Portland, Maine.
Franks, A. L., & Co., Manchester, N.H.
Freeman-Sweet Co., 356, Dearborn-st., Chicago, Ill.
Freitag, Weinhardt & Co., 646, Wabash-ave., Terre Haute, Ind.
Frierson, Norton, 131, Broughton-st. East, Savannah, Ga.
Fries, W. H., 213, Lackawanna-ave., Scranton, Pa.
Funk, W., 4415, Dexter-st., Philadelphia, Pa.
Furbeck, G. W., Oak Park, Ill.
Furbeck, Geo. Warren, Bank of Commerce-bldg., St. Louis, Mo.
Galloway, John R., 529, 10th-st., N.W., Washington, D.C.
Garrett, Miller & Co., S.E. cor. 4th & Orange-st., Wilmington, Del.
Garton, W. R., Co., Chicago, Ill.
Georgia, C. A., 117, Balwin-pl., Elmira, N.Y.
Gilson, Hatch & Wood, 146, Munroe-st., Lynn, Mass.
Glenn, F. H., & Co., Ridge-ave. & Hamilton-st., Philadelphia, Pa.
Gliddon, B., 168, East 94th-st., New York.
Globe Electric Construction Co., 163, West 23rd-st., New York, N.Y.
Goettmann, O. J., Allegheny, Pa.
Goodhue, Wells, 1564, Monadnock-bldg., Chicago.
Gorke, H. J., 216, West Washington-st., Syracuse, N.Y.
Gorman Electric Co., 313–315, Minnesota-st., St. Paul, Minn.
Goudey-McLean Co., 120, Liberty-st., New York.
Grand Rapids Electric Co., Grand Rapids, Mich.
Grauch, J. F., 1105, Walnut-st., Philadelphia, Pa.
Greene & Dikeman, 14, Cortlandt-st., New York, N.Y.
Griffin & Co., 150, Nassau-st., New York.
Guarantee Electric Co., Chicago, Ill.
Gustafson, W. A., Joliet, Ill.
Guyton, C., Electric Co., 125, East 4th-st., Dayton, Ohio.

Supplies (Electrical)—Dealers in—*contd.*

Haines, Jones & Cadbury, 1136, Ridge-avenue, Philadelphia, Pa.
Hall, J. P., 73, Warren-st., New York.
Hamilton Supply Co., Hamilton, Ohio.
Hanes, Exley & Co., Martins Ferry, Ohio.
Harbert, Edw. E., & Co., 132, W. Van Buren-st., Chicago, Ill.
Hardie & Hartmeyer, Wilkinsburg, Pa.
Hart & Co., Monadnock-blk., Chicago, Ill.
Hart & Hegeman Manufacturing Co., 342, Capitol-ave., Hartford, Conn.
Harter & Co., 145, La Salle-st., Chicago, Ill.
Hartmann, H. C., 2801, South 18th-st., St. Louis, Mo.
Hartwig, Wm., jun., Co., 30, Larned E.-st., Detroit, Mich.
Hatch, S. R., Brockton, Mass.
Hawkins, R. A., 527, Main-st., Lafayette, Ind.
Hayes, C. E., Springfield, Mass.
Hays, J. W., 341, 5th-ave., Pittsburg, Pa.
Hazleton Machinery & Supply Co., Hazleton, Pa.
Hecla Electrical Co., 5, E. Court-st., Springfield, Mass.
Heiss, H. L., Lancaster, Pa.
Henzel, G. L., San Francisco, Cal.
Herbert, G. W., & Co., 75, Westminster-st., Providence, R.I.
Hetty Bros., 322–326, Ellis-st., San Francisco, Cal.
Hetzel, W. H., 314, 6th-st., Racine, Wis.
Heyman, Charles, 423, Broadway, New York.
Hickey, W. H., 215, Hampden-st., Boston, Mass.
Hill, A. F., 6658, Wabash-ave., Chicago, Ill.
Hill, G. E., Post Office-bldg., Bethlehem, Pa.
Hill, C. K., Electric Co., 2315, Penn-ave., Pittsburg, Pa.
Hinkle, H. C., 896, West Baltimore-st., Baltimore, Md.
Hite, J. F., 103, Main-st., Owensboro, Ky.
Hobson Electric Co., Dallas, Tex.
Hodson, Geo. W., 2463, 8th-ave., New York, N.Y.
Holbrook, W. S., South Weymouth, Mass.
Holcombe & Co., 42, Vesey-st., New York.
Holding, E. G., P.O. Box 1218, 53, West First South-st., Salt Lake City, Utah.
Holland, C. C., 225, 5th-ave., McKeesport, Pa.
Holloway, Bentz & Co., 80, Cortlandt-st., New York.
Hough, H. L., Phœnix-bldg., Minneapolis, Minn.
How, John K., Co., 306, St. Paul-st., Baltimore, Md.
Hubbard & Henderson, Flint, Mich.
Huff, E. W., Fillmore, N.Y.
Hunger, C. F., Co., 1, Water-st., Cleveland, Ohio.
Hunter, J. Peyton, 173, Main-st., Dallas, Tex.
Huron Automobile & Electrical Co., Port Huron, Mich.
Illinois Electric Co., Chicago, Ill.
Imperial Electric Lamp Co., 39, Vesey-st., New York.
Inglis Electric Co., Providence, R.I.
Inter-Mountain Electric Co., 45, East First South-st., Salt Lake City, Utah.

Supplies (Electrical)—Dealers in—*contd.*

Interstate Electric Co., New Orleans, La.
Interstate Supply Co., Sioux City, Iowa.
Iowa Electric Co., 209, Valley-st., Burlington, Iowa.
Ireland, R. D., & Co., 246, Boylston-st., Boston, Mass.
Jamaica Plain Electric Co., 290, South-st., Jamaica Plain, Mass.
Jennings, W. H., 509, North Water-st., Decatur, Ill.
Johnson & Morton, Utica, N.Y.
Jones, C. L., 368, Cambridge-st., Allston, Mass.
Jones, H. K., 18, Fletcher-st., New York.
Jones, J., & Son, 62, Vesey-st., New York.
Jones, W. C., Electrical Supply Co., Geneva, N.Y.
Joy, E., Syracuse, N.Y.
Junker & Meister, 86, 5th-ave., New York.
Kalbach Bros., Wildwood, N.J.
Kane, J. D., Fort Worth, Tex.
Kansas City Electrical & Telephone Supply Co., 919, Grand-ave., Kansas City, Mo.
Kates, L. S., 1314, Arch-st., Philadelphia, Pa.
Katzenbach, F. S., & Co., 35, E. State-st., Trenton, N.J.
Keeble, S. M., 226, Turk-st., San Francisco, Cal.
Keiser-Van Leer & Co., Bloomington, Ill.
Keller, J., Canton, Ohio.
Kennedy, T., Rochester, Minn.
Kern, W. J., 107, St. Ann-st., Owensboro, Ky.
Kidd, F. L., Lawrence, Mass.
Kilbourne & Clark Co., Seattle, Wash.
Killion, W. F., & Co., 1213, Filbert-st., Philadelphia, Pa.
Kimball, H. P., Haverhill, Mass.
Kimball, Herbert W., Haverhill, Mass.
King, Warren D., Peabody, Mass.
Kitredge, C. H., Ann Arbor, Mich.
Knapp-Sellner Chandelier Co., 703, Locust-st., Maine.
Knoblock, F., 146, Warren-st., Boston, Mass.
Krabbe, C., 166 & 168, Broadway, Brooklyn, N.Y.
Kries, P., 525, North Eutaw-st., Baltimore, Md.
Kurz & Root, Appleton, Wis.
Kutsch, L. W., 310, Dearborn-st., Chicago, Ill.
Lake, E. N., 528, La Salle-st., Chicago, Ill.
Lambert Bros., 916–918, Camp-st., New Orleans, La.
Landon, F. W., & Co., Concord, N.H.
Landus Electric Co., Wichita, Kansas.
Lane, J. N. V., 54, State-st., Bangor, Maine.
Langstroth Sons, Thos. W., 14, Mechanic-st., Newark, N.J.
Langworthy, L. O., Bradford, Pa.
Latham, E. B., & Co., 4, Murray-st., New York.
Lawrence, F. D., Electric Co., 219, West 4th-st., Cincinnati, Ohio.
Lawton, Samuel, Oakland, Md.
Lawton, W., 611, Market-st., Wilmington, Del.
Lee, Arthur, Topeka, Kan.
Lee, J. D., Niagara Falls, N.Y.
Lee & Porter, Dowagiac, Mich.
Lee, W. S., & Co., 241, Essex-st., Salem, Mass.

Supplies (Electrical)—Dealers in—*contd.*

Lemmey, R., Ossining, N.Y.
Leveridge, Chas. W., 183, Greenwich-st., New York.
Levine, H. S., 5, Maverick-sq., E. Boston, Mass.
Levy, M., 2320, Market-st., Galveston, Tex.
Lewis, J. J., 123, Liberty-st., New York.
Libbey, M. F., Whitefield, N.H.
Lieb Machine Works, 23, Vandewater-street, New York.
Lincoln, G. W., Hillsboro Bridge, N.H.
Linze Electric Supply Co., 1141, Olive-st., St. Louis, Mo.
Little, F. P., Electrical Construction & Supply Co., 200, Main-st., Buffalo, N.Y.
Loeffler, L. J., 20, Fulton-st., New York.
Loomis, C., 109, Viaduct-st., Akron, Ohio.
Longee, C. P., Laconia, N.H.
Louis, C. E., Ogdensburg, N.Y.
Louisville Electrical Supply Co., Louisville, Ky.
McBride Electrical Co., 346 & 348, Minnesota-st., St. Paul, Minn.
McCleary Electric Co., Detroit, Mich.
McCullock-White Electrical Supply Co., Witchita, Kan.
MacGrath, G. D., Chambersburg, Pa.
MacHugh, J. D., Wolfboro, N.H.
McKay Electric Co., Asheville, N.C.
MacKellar, H., 2099, North 63rd-st., Philadelphia, Pa.
McLaughlin, J., & Co., 20, 3rd-ave., Duluth, Minn.
MacMillan, R. S., 40, Dearborn-st., Chicago, Ill.
McReed, Albert E., Athol, Mass.
Manhattan Electrical Supply Co., 17, Park-pl., New York, N.Y.; & 188, 5th-ave., Chicago.
Manning, Maxwell & Moore, 85, Liberty-st., New York.
Mantz, M., 713, 14th-st., N.W., Washington, D.C.
Marsten, Cr. L., & Co., 84, Exchange, Portland, Maine.
Maryland Electrical Supply Co., 328, Eutaw-st., Baltimore, Md.
Mason Electric Equipment Co., 307, Dearborn-st., Chicago, Ill.
Masson, J., 2941, Easton-ave., St. Louis, Mo.
Matthews, W. N., & Bro., St. Louis, Mo.
Mays, Grant, Lebanon, Pa.
Mechanical Appliance Co., 138, Stewart-st., Milwaukee, Wis.
Merrill, T. L., Co., 228, Middle-st., Portland, Maine.
Metzel, R. F., 910, E.-st., N.W., Washington, D.C.
Metropolitan Electric Equipment Co., 600, Lexington-ave., New York.
Mezger & Co., 12, Clinton-st., Brooklyn, N.Y.
Miller, C. E., 97, Reade-st., New York.
Miller, F. A., 108, West 2nd-st., Portsmouth, O.
Miller, J. H., 56, N. 7th-st., Philadelphia, Pa.
Miller, Louis J., 1005, Central-ave., Burlington, Iowa.
Miller, R. R., Toledo, Ohio.
Miller Electric Co., Newark, N.J.

Supplies (Electrical)—Dealers in—*contd.*

Milliken, C. S., Saco, Maine.
Minneapolis Electric & Construction Co., 17, South 4th-street, Minneapolis, Minn.
Minneapolis General Electric Co., Minneapolis.
Monarch Electric & Wire Co., 125, South Clinton-st., Chicago, Ill.
Monitor Electric Co., 149, Wabash - avenue, Chicago, Ill.
Moore, J. S., & Co., 312, Norcross-st., Atlanta, Ga.
Morgan, W. J., 289, Centre-st., Boston, Mass.
Morganstern-Ochiltree Co., 325, 2nd-ave., Pittsburg, Pa.
Moriarty, J. L., 120, West 61st-st., New York.
Morin, T. H., 23, Taylor-st., Springfield, Mass.
Morris Electric Co., Inc., 315, Shipley-st., Wilmington, Del.
Morrison Southern Electric Co., Hoen-bldg., Baltimore, Md.
Morton, E. C., Foxboro, Mass.
Moss, E. M., Hopkinsville, Ky.
Moulton, L. E., Sanford, Maine.
Muddiman, C. A., & Co., 616, 12th-st., Washington, D.C.
Muecke & Roren, 11, E. Houston-st., New York.
Murphy, W. J., 124, North Court-st., Montgomery, Ala.
Murphy, E. Vernon, Baltimore, Md.
Nagel, W. G., Electrical Co., Toledo, Ohio.
Neily, M. R., 64, Shawmut-ave., Boston, Mass.
New England Electric Co., Denver, Col.
New England Engineering Co., Waterbury, Conn.
New York Electric Equipment Co., 572, 1st-ave., New York, N.Y.
Newark Electric Supply Co., Newark, N.J.
Newman, Chas. R., Passaic, N.J.
Newman, L. A., Belmar, N.J.
Nims, E. L., 156, Wabash-ave., Chicago, Ill.
Nixon, W., Newburgh, N.Y.
Noble, W. H. N., Los Angeles, Cal.
North American Electric Co., 181, William-st., New York, N.Y.
Northern Iowa Telephone Co., Cresco, Iowa.
Novelty Electric Co., 50–54, North 4th-street Philadelphia, Pa.
Nugent, A. W., Yonkers, N.Y.
Oakes, T., & Son, Hartford, Conn.
Oakland Electrical Supply Co., Oakland, Cal.
Ockershausen, H. A., 65, Madison-ave., Jersey City, N.J.
Odell Hardware Co., Greensboro, N.C.
Ogden Electrical Supply Co., Ogden, Utah.
Oldman, Dent, & Co., 610, 13th-st., Washington, D.C.
Olds, Chas. L., Construction Co., Fort Wayne, Ind.
Oliver, F. W., Co., Niagara Falls, N.Y.
O'Neill Bros. & Co., Port Huron, Mich.
Orcutt, J. N., Lynn, Mass.
Orr & Roller, Palo Alto, Cal.
Osborn, W. T., & Co., Kansas City, Mo.
Oswego Machine Works, Oswego, Kan.
Ott, C. J., & Co., Beaumont, Tex.
Owen, R. T., Springfield, Ill.

Supplies (Electrical)—Dealers in—*contd.*

P. & W. Electric & Bicycle Co., Lafayette, Ind.
Pacific Chemical Electric Co., 53, Chronicle-bldg., San Francisco, Cal.
Pacific Coast Fixture & Electric Co., Seattle, Wash.
Pacific Electric Co., Portland, Ore.
Pacific Electrical Works, 326–330, South Los Angeles-st., Los Angeles, Cal.
Page Electric Co., 24, Pearl-st., Worcester, Mass.
Palmer, R. M., 143, High-st., Boston, Mass.
Palmer, Wm. D., 49, Main-st., Lockport, N.Y.
Palmer, A. N., & Co., 85, Commerce-st., Norfolk, Va.
Parcell, C. A., Co., 136, Liberty-st., New York.
Parker Electric Co., New Orleans, La.
Parker, J. B., Electric Co., 9th-st., St. Louis, Mo.
Paterson Electrical Supply Co., 117, Ellison-st., Paterson, N.J.
Patrick, John T., Pinebluff, N.C.
Paulin & Mitchell, 1826, Ridge-ave., Philadelphia.
Pearl, P. R., & Co., 15, West Garden-st., Pensacola, Fla.
Pease, E. R., Poughkeepsie, N.Y.
Pentwater Beadstead Co., Pentwater, Mich.
Peterman, A., Milwaukee, Wis.
Peters, H. L., 260, Pear-st., Buffalo, N.Y.
Pettes & Randall Co., 150, Nassau-st., New York.
Pettet, E., Farmer City, Ill.
Pettingell-Andrews Co., 156–160, Pearl-st., & 491–511, Atlantic-ave., Boston, Mass.
Pettman, O. E., & Co., Chelsea, Mass.
Petty, Chas. M., Greensboro, N.C.
Phillips, Edward, & Co., 344, Broad-st., Newark, N.J.
Pickering, H. C., 104, N. 6th-st., Philadelphia.
Pickering, H. H., & Co., 23, North Juniper-st., Philadelphia, Pa.
Pierce, E. F., Milwaukee, Wis.
Pierce Bros., Tampa, Fla.
Pierce, C., & Co., 42, Charles-st., Boston, Mass.
Pierce Electric Co., Denver, Col.
Pierce Hardware Co., 1108, Broadway, Oakland, Cal.
Pike, W. E., Newton, Mass.
Pittsburgh Electrical & Railway Supply Co., Pittsburgh, Pa.
Ployd, F.W., 122, East Cheeten-av., Philadelphia.
Porter, S. S., 185, Franklin-st., Boston, Mass.
Portsmouth Electric Supply Co., Portsmouth, Ohio.
Post-Glover Electric Co., 314 & 316, West 4th-st., Cincinnati, Ohio.
Potter & Earle, Fall River, Mass.
Pressey, S., Camden, N.J.
Preston Bros., Norwich, Conn.
Price, G. L. W., Electric Co., Allegheny City, Pa.
Pueblo Electric Co., 117, West 4th-st., Pueblo, Col.
Rachford Bros., Springfield, Ill.
Radack & Robison, Titusville, Pa.
Rapke, Victor H., 1676, Second-ave., New York.

Supplies (Electrical)—Dealers in—*contd.*

Rawlings, A. P., Helena, Ark.
Reading Electrical Supply Co., Reading, Pa.
Reading Electrical Supply & Construction Co., 651, Penn-st., Reading, Pa.
Reed, H. W., Middleton, N.Y.
Reuter, Wm. G., 25, East 6th-st., Cincinnati, Ohio.
Revere Rubber Co., Chelsea; & 77, Bedford-st., Boston, Mass.
Rhode Island Telephone & Electric Co., 25, Callender-st., Providence, R.I.
Rice, Seymour A., Lansing, Mich.
Rice & Lefebvre, 1213, Filbert-st., Philadelphia, Pa.
Richardson, J. W. A., New Orleans, La.
Richmond Electric Co., 1034, Main-st., Richmond, Ind.
Richter, Eugene L., 1914, Columbia-ave., Philadelphia, Pa.
Rieman, A., & Co., 824, Market-st., St. Louis, Mo.
Riggs, A. A., Flint, Mich.
Ripley, E., Tacoma, Wash.
Risley, J. W., Lancaster, Pa.
Robbins Electric Co., 830, Liberty-ave., Pittsburgh, Pa.
Robertson Electric Co., 21, Terrace-st., Buffalo, N.Y.
Rogers, C. B., Seattle, Wash.
Roosa, E. D., & Co., 100–110, East Washington-ave., Springfield, Ill.
Roover Bros., 170, Dean-st., Brooklyn, N.Y.
Rosedory & Obrest, 2132, Post-st., San Francisco, Cal.
Ross-Hull Electric Co., 114–116, North 3rd-st., Columbus, Ohio.
Rosseter Electrical Works, 247, Market-st., Newark, N.J.
Rossman, G. M., Keene, N.H.
Rothfus & Powers, Grand Rapids, Mich.
Rowell & Blackwall, Joliet, Ill.
Rowley, M. N., 52, Woodward-av., Detroit, Mich.
Royal Electrical Supply Co., 48, West 27th-st., New York.
Royse Electric Co., 125, South Meridian-st., Indianapolis, Ind.
Ruiz, T., Ventura, Cal.
Rumsey Electric Co., Detroit, Mich.
Rumsey Electrical Manufacturers Co., 1211, Filbert-st., Philadelphia, Pa.
Rumsey & Sikemeier Co., 19th & Pine-sts., St. Louis, Mo.
Runyan, C. C., & Son, Mansfield, Ohio.
Sachsenmaier, G., 1220, Filbert-st., Philadelphia.
St. Paul Electric Co., 316, Robert-st., St. Paul, Minn.
Salt Lake Electric Supply Co., Salt Lake City, Utah.
Sanford Electrical Co., Sanford, Maine.
Sanitary & Electric Supply Co., Battle Creek, Mich.
Scannevin & Potter, Newport, R.I.
Scheffeld, F. K., 31, Oakdale-st., Boston, Mass.

Supplies (Electrical)—Dealers in—*contd.*

Schmelz, R. W., 1247, Hubbard-st., Jacksonville, Fla.
Schmidt, A. R., 137, Oneida-st., Milwaukee, Wis.
Schmidt, H. T., 318, West 3rd-st., Davenport, Iowa.
Schmidt, Rudolph & Co., 51, Main-st., East, Rochester, N.Y.
Schneider, Christian G., 1207, F.-st., N.W., Washington, D.C.
Schneider, Fred. W., & Co., Evansville, Ind.
Schollenberger Bros., Wichita, Kan.
Schuwirth, W. G., & Co., San Antonio, Tex.
Schwarz, B., Philadelphia, Pa.
Schwartz & Stewart, Natchez, Miss.
Scott, C. B., 119, Franklin-ave., Scranton, Pa.
Scott Bros., Troy, N.Y.
Scranton Supply Co., Scranton, Pa.
Seiler's Electrical Works, 845, Octavia-st., San Francisco, Cal.
Shand Engineering Co., Columbia, S.C.
Shapter, W. P., Summit, N.J.
Sharp, Chas. E., St. Louis, Mo.
Shea, D. W., Tampa, Fla.
Sheehan, W. M., & Co., 136, Liberty-st., New York.
Shepherd & Rust, Wilkes Barre, Pa.
Sherwin, G. D., Burlington, Vt.
Shoemaker, W. M., & Co., Louisville, Ky.
Shrewsbury & Smith, San Mateo, Cal.
Siebert, A. E., & Co., Norfolk, Va.
Siegel, Cooper, & Co., State & Congress-sts., Chicago, Ill.
Slater, Wm., Memphis, Tenn.
Smith, A. C., New Bedford, Mass.
Smith, H. H., Paterson, N.J.
Smith, J. W., Norfolk, Va.
Smith Electric Construction Co., 169, West Water-st., Milwaukee, Wis.
Smith, E. P., Electric Contract Co., Dubuque, Iowa.
Smith & Wallace, Woburn, Mass.
Southgate, F. J., Worcester, Mass.
Spencer, L. D., 1128, 15th-ave., Seattle, Wash.
Spencer's Sons, I. S., Guilford, Conn.
Sprague, B. S., Marietta, Ohio.
Spranley & Reed, Ltd., 601-611, Baronne-st., New Orleans, La.
Standard Electric Co., 10, 12 & 14, East 2nd-st., Charlotte, N.C.
Station Equipment Co., Marquette-bldg., Chicago, Ill.
Steen & Burford, Cripple Creek, Col.
Stephenson, D. J., Co., Port Huron, Mich.
Stevens, Geo. M., Co., Inc., 15, Chardon-st., Boston, Mass.
Stewart, Frank H , Electric Co., 35, North 7th-st., Philadelphia, Pa.
Stewart & Spangler, Waynesboro, Pa.
Stickney & Holmes, Jersey City, N.J.
Strom, V. A., Alameda, Cal.
Strutt, Wm., Paterson, N.J.
Stuart-Howland Co., 4–5, Winthrop-sq., 261–281, Devonshire-st., Boston, Mass.

Supplies (Electrical)—Dealers in—*contd.*

Supplee, H. S., 1033, Market-st., Philadelphia, Pa.
Swanson, A. L., 316, 2nd-st., Evansville, Ind.
Swartz, E. C., 602, 3rd-ave., New York, N.Y.
Sykes, E. C., 16, Front-st., Rochester, N.Y.
Tacoma Electric Co., 761, C-st., Tacoma, Wash.
Talcott, J. C., San Antonio, Tex.
Taylor, G. J., Jersey City, N.J.
Taylor, H. B., & Co., Tacoma, Wash.
Teal, F. C., 75, Bates-st., Detroit, Mich.
Templeton, J. E., & Son, Staunton, Va.
Tenk Hardware Co., Quincy, Ill.
Thompson-Bonney Co., 45 & 47, York-st., Brooklyn, N.Y.
Thompson-Starrett Co., 51, Wall-st., New York.
Thye, M. P., & Co., Los Angeles, Cal.
Time Electric Co., 141, White-ave., Cleveland, Ohio.
Tompkins, D. A., & Co., Charlotte, N.C.
Tri-City Electric Co., Moline, Ill.
Turner Bros., 25, Marietta-st., Atlanta, Ga.
Turnquist, C. M., 442, West Van Buren-st., Chicago, Ill.
Tyler, Wm., Flushing, N.Y.
Union Hardware & Electric Supply Co., Providence, R.I.
United Electric Co., Birmingham, Ala.
Utah Electrical & Supply Co., Salt Lake City, Utah.
Viaduct Manufacturing Co., Baltimore, Md.
Virginia Electric Co., Norfolk, Va.
Vogel, J. C., 714, North 24th-st., Philadelphia, Pa.
Waldron, H. A., Ithaca, N.Y.
Walker, H. L., Co., Detroit, Mich.
Wallace Bros. Co., North 4th & Feny-st., Lafayette, Ind.
Walsh, Owen, Manufacturing Co., 78–82, Barclay-st., New York, N.Y.
Walther, G. W., & Co., 208, West Fayette-st., Baltimore, Md.
Ward, F. H., 391, Myrtle-ave., Brooklyn, N.Y.
Warner, C. F., Brown-bldg., Rockford, Ill.
Warner Electric Construction Co., 68, Frankfort-st., Cleveland, Ohio.
Warren, C. L., & Co., 136, Liberty-st., New York, N.Y.
Washington Fixture & Mantel Co., Inc., 116, 3rd-ave, Seattle, Wash.
Wass, D. D., 36, East-st., San Francisco, Cal.
Waterloo Electric Supply Co., Waterloo, Iowa.
Western Electrical Co., Omaha, Neb.
Western Electrical Supply, St. Louis, Mo.
Wilkenning, Wm., 171, East 86th-st., New York.
Wilkinson, A. J., & Co., 180, Washington, & 19–25, Devonshire-streets, Boston, Mass.
Williams & Couch, 53, State-st., Boston, Massachusetts.
Williams, E. A., & Son, 105, Plymouth-st., Jersey City, N.J.
Williams, E. G , Electric Works, Cleveland, O.
Williamsport Electric Co., Williamsport, Pa.
Wilson, A. R., 30, Arsenal-st., Watertown, N.Y.

Supplies (Electrical)—Dealers in—*contd.*

Wingard, C. L., Walla Walla, Wash.
Wingrave & McNaughton, 180, Wabash-ave., Chicago, Ill.
Wolfe Lovett Electrical Co., Omaha, Neb.
Wood, H. I., 518-520, West Main-st., Louisville, Ky.
Wood, H. U., 304, Kinsey-st., Richmond, Ind.
Woodill & Hulse Electric Co., Los Angeles, Cal.
Woods Electric Co., Houston, Tex.
Woolley, Jos. C., & Co., 44, Asylum-street, Hartford, Conn.
Worthington, Geo., Co., 814-832, St. Clair-ave., Cleveland, Ohio.
Wright, M. L., 614, 2nd-ave., Seattle, Wash.
Yaryan Construction Co., 204, Dearborn-st., Chicago, Ill.
Ziegler, Marx Co., New Orleans, La.
Zimmerly, F. J., & Co., 1025, Calhoun-st., Fort Wayne, Ind.
oller & Craighead, Richmond, Ind.

Supplies (Electrical)—Makers of.

F.—Fournitures électriques—Fab. de.
G.—Electrische Bedarfsartikel—Fabr.

Acorn Electric & Manufacturing Co., 27, Thames-st., New York.
Ansonia Electrical Co., Ansonia, Conn.
Brodie Electric Co., Manchester, N.H.
Bunnell, J. H., & Co., 20, Park-pl., New York.
Burns Electric & Fixture Co., 933, Broadway, Kansas City, Mo.
Columbus Electric Supply & Construction Co., 1113, Broad-st., Columbus, Ga.
Corn Palace Electric Construction Co., 414, Jackson-st., Sioux City, Iowa.
Crescent Electric & Manufacturing Co., 24th & Liberty-sts., Pittsburgh, Pa.
Crescent Iron Works, Springfield, Mo.
Crook Electric Co., 60, State-st., Detroit, Mich.
Davis, M., & Sons, Salem, Ohio.
Electric Goods Manufacturing Co., 115, Purchase-st., Boston, Mass.
Electric Supply Co., Marietta, Ohio.
Electric Supply Co., Sioux City, Iowa.
Electrical Engineering Co., Minneapolis, Minn.
Electrical Supply & Construction Co., Denver, Col.
Flint Lomax, Electric & Manufacturing Co., 1400-1412, Delgany-st., Denver, Col.
Fox-Callahan Phone Alarm & Electrical Supply Co., 538, National-ave., Milwaukee, Wis.
Hendrie & Bolthoff Manufacturing & Supply Co., Denver, Col.
Lawrence, F. D., Electric Co., 213, West 4th-st., Cincinnati, Ohio.
Mianus Electric Co., Mianus, Conn.
Mueller Electric Co., 715, Burling-st., Chicago, Ill.
Ohio Electric Works, 6304, Ellen-ave., N.W., Cleveland, Ohio.
Ostrander, W. R., & Co., 22, Dey-st., New York.

Supplies (Electrical)—Makers of—*contd.*

Partrick, Carter & Wilkins Co., 22nd & Wood-sts., Philadelphia, Pa.
Peirce Specialty Co., 105-107, South Jefferson-st., Chicago, Ill.
Roberts, H. C., Electric Supply Co., 905, Arch-st., Philadelphia, Pa.
Rocky Mountain Electric Equipment, Salt Lake City, Utah.
S. B. Construction Co., 1205, Grandview-ave., Pittsburg, Pa.
Standard Electrical Works, 604, Mission-st., San Francisco, Cal.
Stanley & Patterson, Incorp., 23, Murray-st.-27, Warren-st., New York. Store: 329, 4th-ave.; factory: 35 & 37, Vesey-st.
Steffens Electrical Supply & Construction Co., Coffeyville, Kan.
Sweeten-Crossan Electric Co., 816, Arch-st., Philadelphia, Pa.
Teleseme Electric Manufacturing Co., 51, West 24th-st., New York.
Thomas, R., & Sons Co., 39, Cortlandt-st., New York.
West Electric Co., 117, Commerce-st., Montgomery, Ala.

Switch Manufacturers—Electric.

F.—Commutateurs élec.—fab. de.
G.—Schalter—Elektrische.

Abbott Manufacturing Co., 2912-14, Central-ave., Cleveland, Ohio.
Automatic Switch Co., 131, Liberty-st., New York.
Baird Manufacturing Co., Chicago, Ill.
Ballou-Hutchins Electric Co., Providence, R.I.
Clark, L. P., & Co., 510, Arch-st., Philadelphia.
Condit, S. B., jun., & Co., 63, Oliver-st., Boston.
Crouse-Hinds Co., Syracuse, N.Y.
Cutler-Hammer Manufacturing Co., 76-82, W. Jackson-st., Chicago, Ill.
Davis, M., & Sons, Salem, Ohio.
Electric Switch Manfg. Co., Hartford, Conn.
Eyanson, G. T., & Co., Inc., Commerce-st., cor. of 7th-st., Philadelphia, Pa.
Hart Manufacturing Co., Hartford, Conn.
Hartford Time Switch Co., 437, Asylum-st., Hartford, Conn.
High Tension Electrical Specialty Co., Newton, Mass.
Krantz, H., Manufacturing Co., 160-166, 7th-st., Brooklyn, N.Y.
Newton Appliance Co., 134, W. Broadway, New York.
Proctor - Raymond Manufacturing Co., 444, Niagara-st., Buffalo, N.Y.
Safety Electric Switch Co., 144, Pine-st., Providence, R.I.
Wagner Electric Mfg. Co., St. Louis, Mo.
White, H. P., Co., Ltd., Wayne Junction, Philadelphia, Pa.

Switchboards—Makers of.

F.—Socles—Fabr. de.
G.—Schalttafeln—Fabr.

Drendell Electrical & Manufacturing Co., Mission & Erie-sts., San Francisco, Cal.
Heineman, G., & Co., 737, Girard-ave., Philadelphia, Pa.
Lang, J., Electric Co., 178, East Indiana-st., Chicago, Ill.
Metropolitan Switchboard Co., 532, West 22nd-st., New York.
Switchboard Equipment Co., Bethlehem, Pa.

Switchboards, Bases, & Covers Manufacturers.

F.—Socles, Couvertures, &c.—Fabr. de.
G.—Schalttafeln Brette & Deckel—Fabr. von.

Bonville, Edward, Fair Haven, Vt.
Duranoid Manufacturing Co., 213–241, Chestnut-st., Newark, N.J.
Electrical Specialty Co., 1629, Seventeenth-st., Denver, Col.
Fisk, H. M., 643, Rialto-bldg., Chicago, Ill.
Perkins Electric Switch Manufacturing Co., 1421, State-st., Bridgeport, Conn.

Taping Machine Manufacturers.

F.—Machines à envelopper le fil par des rubans—Fab. de.
G.—Ueberspinnung—Maschinen.

Telegraph Apparatus Makers.

F.—Appareils télégraphiques—fabr. d'.
G.—Telegr. Apparate—Fabr.

Foote, Pierson & Co., 82, Fulton-st., New York.
Gamewell Fire Alarm Telegraph Co., 19, Barclay-street, New York, N.Y.
Sanger, M. E., 62, Cortlandt-st., New York.
United States Electrical Supply Co., 141, East 25th-st., New York.

Telegraph & Cable Companies.

F.—Télégraphes—Compagnies de.
G.—Teleg. u. Kabel Gesellschaften.

American District Telegraph Co., Troy, N.Y.
Anglo-American Telegraph Co., Ltd., 68, Broad-st.; 8, Bridge-st.; 445, Broome-st.; & Stock Exchange, New York.
Central & South American Telegraph Co., 66, Broadway, New York.
City & Suburban Telegraph Association, Cincinnati, Ohio.
Commercial Cable Co. (Mackay-Bennett System), Postal Telegraph-bldg., 253, Broadway, New York.
Commercial Pacific Cable Co., Postal Telegraph-bldg, 253, Broadway, New York.

Telegraph & Cable Companies—*continued.*

Compagnie Française des Câbles Telegraphiques, 44, Broad-st., New York.
Delaware & Atlantic Telegraph & Telephone Co., Philadelphia, Pa.
Direct U.S. Cable Co., 61, New-st.; 444, Broome-st.; & 21½, Spruce-st., New York.
French Telegraph Cable Co., 44, Broad-st., New York.
Gold & Stock Telegraph Co., 195, Broadway, New York, N.Y.
Hudson River Telephone Co., Albany, N.Y.
Newburgh Dis. Telegraph Co., Newburgh, N.Y.
Paterson District Telegraph Co., Paterson, N.J.
Postal-Telegraph Cable Co., 253, Broadway, New York.
Trenton District Telegraph & Electric Co., Trenton, N.J.
Western Union Telegraph Co. General office: 195, Broadway, New York.

Telegraph Cables—Makers of.

F.—Cables télégraphiques.
G.—Telegr. Kabel—Fabr.

Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Telegraph Instrument Manufacturers.

F.—Instrumentes télégraphiques—fab. de.
G.—Telegraphische Instrumente—Fabr.

Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57–67, Bethune-st., cor. West-st., New York.

Telegraph Paper Makers.

F.—Papier télégraphique—fab. de.
G.—Papier für Télégraphie.

McCollin, Thos. H., & Co., S.W. cor. 9th & Arch-sts., Philadelphia, Pa.
Pittsburgh Insulating Co., Pittsburgh, Pa.

Telegraph & Telephone Pole Manufacturers—Iron.

F.—Poteaux télégraphiques et téléphoniques en fer.
G.—Eisene Telegr. u. Telephon Pfosten.

Bushnell, A., S.E. corner 9th & Broadway, Kansas City, Mo.
Valentine-Clark Co., 234, La Salle-st., Chicago, Ill.
Whitmore, A. C., 230, Lumber Exchange, Minneapolis, Minn.

Telegraph & Telephone Supplies.

F.—Télégraphes et Téléphones—Fournitures pour.
G.—Telegr. & Teleph. Materialien.

Anderson & Sons Co., 21, Aubin-ave., Detroit, Mich.
Conover, G. W., Suite 1112, 135, Adams-st., Chicago, Ill.
Crawfordsville Wire & Nail Co. (wire), Monadnock-bldg., Chicago, Ill.
Dearborn Electric Co., 122, West Jackson-boul., Chicago, Ill.
Farr Telephone & Construction Supply Co., 118-120, West Jackson-blk., Chicago, Ill.
Illinois Telephone Supply Co., 356, Dearborn-st., Chicago, Ill.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Telegraph Works & Stores.

F.—Usines télégraphiques.
G.—Telegraphen-Fabriken und Laden.

Homann Model Works, 173, Main-street, Cincinnati, Ohio.

Telephone Apparatus Makers.

F.—Appareils téléphoniques—fab. d'.
G.—Telephon-Apparate—Fab.

American Electric Telephone Co., Chicago, Ill.
Automatic Electric Co., Chicago, Ill.
Barr, W. J., Manufacturing Co., Cleveland, Ohio.
Bevins, H. A., Corning, Iowa.
Bruckner Telephone & Electric Co., 150, Nassau-st., New York, N.Y.
Cameron Appliance Co., 89, State-st., Boston, Mass.
Columbia Telephone Manufacturing Co., 298, Broadway, New York.
Connecticut Telephone & Electric Co., Meriden, Conn.
Couch, S. H., Co., 156, Pearl-st., Boston, Mass.
Current Electric Co., 52, State-st., Chicago, Ill.
Faller Automatic Telephone Exchange Co. of New York, 48, Exchange-st., New York.
Greer Electric Co., 1421, Michigan-ave., Chicago, Ill.
Griggs Manufacturing Co., 81, 5th-ave., Chicago, Ill.
Guarantee Electric Co., Chicago, Ill.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")
International Telephone Manufacturing Co., Harrison & Clinton-sts., Chicago, Ill.
North Electric Co., Cleveland, Ohio.
Pennsylvania Electric Co., Marietta, Pa.
Sandwich Pole Changer Co., 200, Eddy-st., Sandwich, Ill.

Telephone Apparatus Makers—*continued.*

Spies Electric Co., 81, West Van Buren-st., Chicago, Ill.
Sumter-Telephone Manufacturing Co., Sumter, S.C.
Tucker, Frank S., & Co., 1, Hartford-st., Boston, Mass.
Tucker Manufacturing Co., York, Pa.
United Electric Telephone Co. (switching apparatus), 1125, Masonic Temple, Chicago, Ill.
Vought-Berger Co., La Crosse, Wis.
Waverly Telephone Co., Waverly, Ill.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.
Western Telephone Manufacturing Co., 50, West Jackson-boul., Chicago, Ill.
Wheeler, M. B., Electric Co., 101, North Ottawa-st., Grand Rapids, Mich.
Williams Telephone & Supply Co., Cleveland, Ohio.
Williams-Abbott Electric Co., 1800, East Madison-ave., Cleveland, Ohio.
Yonkers Specialty Co., Yonkers, N.Y.

Telephone Cables—Makers of.

F.—Cables téléphoniques—Fab. de.
G.—Telephon-Kabel—Fabr. von.

Waterbury & Co., 69, South-st., New York.

Telephone Companies.

F.—Compagnies de Téléphones.
G.—Telephon-Gesellschaften.

Bell Telephone Co. of Buffalo, 14, West Seneca-st., Buffalo, N.Y.
Berliner Telephone Co., Lincoln, Ill.
Blackduck Electric & Telephone Co., Blackduck, Minn.
Chesapeake & Potomac Telephone Co., 722, 12th-st., Washington, D.C.
Chicago Telephone Co., Telephone-building, 203, Washington-street, Chicago, Ill.
Cleveland Telephone Co., 185, Seneca-street, Cleveland, Ohio.
Duluth Telephone Co., Duluth, Minn.
Empire State Telephone & Telegraph Co., Auburn, N.Y.
Interior Telephone Co., 203, Broadway, New York.
Kansas Long-Distance Telephone & Telegraph Co., Topeka, Kan.
New England Telephone & Telegraph Co., Boston, Mass.
New York & New Jersey Telephone Co., 81, Willoughby-st., Brooklyn, N.Y. John C. Reilly, general superintendent.

Telephone Companies—*continued.*

New York & Pennsylvania Telephone & Telegraph Co., Elmira, N.Y.; & 15, Dey-st., New York, N.Y.
Poole, J. W., & Co., 37, Pearl-st., Boston.
Providence Telephone Co., 112, Union-st., Providence, R.I.
Simplex Interior Telephone Co., 431, Main-st., Cincinnati, Ohio.
Southern Bell Telephone & Telegraph Co., 78, South Pryor-st., Atlanta, Ga.
Southern New England Telephone Co., New Haven, Conn.
United States Automatic Telephone Co., 116, Nassau-st., New York.
Wisconsin Telephone Co., Milwaukee, Wis.

Telephone Exchanges—Equippers of.

F.—Téléphones—Constr. de Bureaux de.
G.—Teleph. Aémter-Einrichtungen von.

Century Telephone Construction Co., 332, Ellicott-st., New York.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Telephones—Makers of.

F.—Téléphones—fab. de.
G.—Teleph. Fab.

Atwater Kent Manufacturing Works, 46, North 6th-st., Philadelphia, Pa.
De Vean Telephone Manufacturing Co., 27, Rose-st., New York.
Dean Electric Co., Elyria, Ohio.
Elliott Telephone & Electric Co., 518-520, Mass.-ave., Indianapolis, Ind.
Electric Utilities Co., 310, Mott-ave., New York.
Globe Automatic Telephone Co., 59, Dearborn-st., Chicago, Ill.
Hipwell Manufacturing Co., Allegheny, Pennsylvania.
Independent Telephone Manufacturing Co., 131-141, Francis-st., Madison, Wis.
Kellogg Switchboard & Supply Co., Green & Congress-sts., Chicago, Ill.
Kokomo Telephone & Electric Manufacturing Co., Kokomo, Ind.
Kusel, D. A., Telephone & Electric Manufacturing Co., 1119, Pine-st., St. Louis, Mo.
Monarch Telephone Manufacturing Co., 12, South Clinton-st., Chicago, Ill.
Rawson Electric Co., Elyria, Ohio.
Russell-Tomlinson Electric Co., Milford, Connecticut.
Stromberg-Carlson Telephone Manufacturing Co., 76, West Jackson-boul., Chicago, Ill.
Swedish American Telephone Co., Chicago, Ill.

Telephones—Makers of—*continued.*

Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.
Western Telephone & Telegraph Co., 243, Washington-st., Jersey City, N.J.
Wilhelm Telephone Manufacturing Co., 116, Franklin-st., Buffalo, N.Y.

Testing Instrument Makers—Electrical.

F.—Instruments électriques d'essai.
G.—Probirinstrumente für Elektricität.

Palmer Electric Co., Philadelphia, Pa.
Queen & Co., Incorporated, 1010, Chestnut-st., Philadelphia, Pa.
Sterling Electric Co., 71-73, West Adams-st., Chicago, Ill.

Thermostats (Electric) & Gas Regulators —Makers of.

F.—Thermostats et Régulateurs électr. de gaz—fab. de.
G.—Wärme & Gas Regulatoren—Electr.

Beers Bros. Thermostat Co., Rochester, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-57, Bethune-st., cor. West-st., New York.
White Thermostat Co., Providence, R.I.

Traction Engineers—Electric.

F.—Traction électr.—Ingenieurs de.
G.—Electr. Zugapparate—Ingenieure für.

Allentown & Reading Traction Co., Allentown, Pa.
Chicago Consolidated Traction Co., Chicago, Ill.
Electrical Conduit Traction Equipment Co., 94, Wall-st., New York.
San Antonio Traction Co., San Antonio, Tex.
Waterbury Traction Co., 57, Bank-st., Waterbury, Conn.

Tramcar Engines (Electric)—Makers of.

F.—Tramways—fab. de machines élect. pour.
G.—Strassenwagen Maschinen (Electr.) Fab. von.

Brill, J. G., Co., 62nd-st. & Woodland-ave., Philadelphia, Pa.

Tramcars.

F.—Voitures de tramways.
G.—Strassenbahn Wagen.

Middletown Car Works, Middletown, Pa.
Southern Car Co., High Point, N.C.

Tramways (Electric)—Makers of & Contractors for.

F.—Tramways élec.—Entrepreneurs et constructeurs.
G.—Strassenbahnen elek.—Fabr. und Unternehmen.

Transformers—Makers of.

F.—Transformeurs—fabr. de.
G.—Transformatoren—Fabr. von.

American Transformer Co., Newark, N.J.
C. & C. Electric Co., 143, Liberty-st., New York
Crawfordsville Electric Co., Crawfordsville, Ind.
Eddy Electric Mfg. Co., Windsor, Conn.
Kuhlman Electric Co., Elkhart, Ind.
Lafayette Electrical Mfg. Co., Lafayette, Ind.
Moloney Electric Co., 7th & Hickory-st., St. Louis. Mo.
Pittsburg Transformer Co., Pittsburg, Pa.
Standard Electric Manufacturing Co., Niles, Ohio.
Thermo-Electric Co., 102, Times-bldg., Park-row, New York.
Wagner Electric Mfg. Co., St. Louis, Mo.
Warren Electric & Specialty Co., Warren, Ohio.
Wells Goodhue Co., 1564, Monadnock-bldg., Chicago, Ill.

Transmission of Power—Electric.

F.—Transmission électrique de force.
G.—Uebertragung der Kraft—Elektrische.

Ventura Water, Light & Power Co., Ventura, Cal.

Tube Makers—Ebonite, Vulcanite & Vulcanized Fibre.

F.—Tubes—Ebonite & Vulcanite et fibre vulcanisé.
G.—Röhren—Ebonite, Vulcanite u. Vulcanfiber.

Tube Makers—Iron.

F.—Tubes—Fer.
G.—Röhren—Eisen.

Turbine Water Wheel Makers.

F.—Turbines Roues hydrauliques.
G.—Turbinen Wasserräder.

Abner Doble Co., San Francisco, Cal.
Allentown Foundry & Machine Works, Allentown, Pa.
American Turbine Engine Co., Washington, D.C.
Camden Water Wheel Works, Camden, N.Y.
Chase Turbine Manufacturing Co., Orange, Mass.
Christiana Machine Co., Christiana, Pa.
Dayton Globe Iron Works Co., Dayton, Ohio.
De Laval Steam Turbine Co., Trenton, N.J.
Dowling, Wm., & Co., Logansport, Ind.
Dubuque Turbine & Roller Mill Co., Dubuque, Iowa.
Holyoke Machine Co., Main-street, Holyoke; & 95, Thomas-street, Worcester, Mass.

Turbine Water Wheel Makers—*continued.*

Hunt, Rodney, Machine Co., Orange, Mass.
Kerr Turbine Co., Wellsville, N.Y.
Risdon-Alcott Turbine Co., Mount Holly, N.J.
Smith, S. Morgan, Co., York, Pa.
Trump Manufacturing Co., Springfield, Ohio.
York Electric & Machine Co., York, Pa.

Underground Cable Systems.

F.—Cables souterrains—Systèmes de.
G.—Unterirdische Kabel Systeme.

National Conduit Manufacturing Co., Times-bldg., New York, N.Y.

Vacuum Pumps.

F.—Pompes à vide.
G.—Vakuumpumpen.

Valve Manufacturers.

F.—Valves—Fab. de.
G.—Klappe—Fab. von.

Ashton Valve Co., 271, Franklin-st., Boston, Mass.
Crane Co., Chicago, Ill.
Crosby Steam Gauge & Valve Co., 95, Oliver-street, Boston, Mass.
Howard & Morse, 45, Fulton-st., New York, N.Y.
Ludlow Valve Manufacturing Co., Troy, New York.
Lunkenheimer Co., Cincinnati, Ohio.

Voltmeters—Makers of.

F.—Voltmetres—Fab. de.
G.—Voltmesser—Fab. von.

Jewell Electrical Instrument Co., Chicago, Ill.
Keystone Electrical Instrument Co., 9th-st. & Montgomery-ave., Philadelphia, Pa.
Western Electric Co., 259, South Clinton-st., Chicago (Telegrams: "Electric"); 933, Market-st., Philadelphia, Pa.; 810, Spruce-st., St. Louis, Mo.; & 57-67, Bethune-st., cor. West-st., New York.

Vulcanite Manufacturers.

F.—Vulcanite—Fab.
G.—Vulcanit—Fab.

Auburn Button Works, Auburn, N.Y.

Vulcanized Fibre Manufacturers.

F.—Fibre vulcanisé—Fab. de.
G.—Vulcanfiber—Fab.

American Hard Fibre Co., Newark, Del.
American Vulcanized Fibre Co., Wilmington, Del.
Compressed Fibre Co., 113, Devonshire-st., Boston, Mass.
Diamond State Fibre Co., Elsmere, Del.
Kartavert Manufacturing Co., Wilmington, Del.
Laminar Fibre Co., North Cambridge, Mass.
Morris Electric Co., Wilmington, Del.

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G.—Steckkontakte u. Anschlussdosen.

Paiste, H. T., 32nd & Arch-sts., Philadelphia.

Watch & Clock Makers—Non-magnetizable.

F.—Montres et pendules non-magnétisables.
G.—Nichtmagnetisirbare Uhren—Fab. von.

Welding—Electric.

F.—Soudure—électr.
G.—Schweissen—Electr.

Conduit Wiring Co., 14, West 29th-st., New York.
Lehman & Co., J. H., 1222, Ranstead-st., Philadelphia, Pa.
Standard Welding Co., Cleveland, Ohio.
Thomson Electric Welding Co., Lynn, Mass.

Wire Cord Manufacturers.

F.—Cordes de Fil électr.—Fab. de.
G.—Drahtschnur—Fab. von.

Clinton Wire Cloth Co., Clinton, Mass.
Samson Cordage Works, 115, Congress-st., Boston.

Wire Coverers—Cotton.

F.—Fil recouvert—Coton.
G.—Drahtspinner—Baumwolle.

American Electric Works, Phillipsdale, R.I.
Atlantic Insulated Wire & Cable Co., 120, Liberty-st., New York.
Boston Insulated Wire & Cable Co., 182, Freeport-st., Boston, Mass.
Cobb, H. E., 1501, Monadnock-bldg., Chicago, Ill.
Crescent Insulated Wire & Cable Co., Trenton, N.J.
Waclark Wire Co., New York.

Wire Coverers—Indiarubber & Gutta-Percha.

F.—Fil recouvert—Caoutchouc.
G.—Drahtspinner—Gummi.

Collyer Insulated Wire Co., Pawtucket, R.I.
United States Mineral Wool Co., 2, Cortlandt-street, New York, N.Y.

Wire Coverers—Silk.

F.—Fil recouvert—Soie.
G.—Drahtspinner—Seide.

American Silk Manufacturing Co., 311, Walnut-st., Philadelphia; & Eden Bucks Co., Pa.

Wire Covering Machine Manufacturers.

F.—Machines à recouvrir les fils.
G.—Maschinen zum Drahtumspinnen—Fabr.

American Insulating Machinery Co., 940, North 3rd-st., Philadelphia, Pa.
Rhode Island Braiding Machine Co., 228-232, Aborn-st., Providence, R.I.
Turner, Vaughan & Taylor Co., Cuyahoga Falls, Ohio.

Wire Manufacturers—Brass.

F.—Fil—Laiton—Fab. de.
G.—Draht fabr.—Messing.

Bridgeport Brass Co., Bridgeport, Conn.
Scovill Manufacturing Co., 35, Mill-street, Waterbury, Conn.
United States Wire & Cable Co., Schenectady, N.Y.; & 44, Broad-st., New York.

Wire Manufacturers—Copper.

F.—Fil—Cuivre—Fab. de.
G.—Draht fabr.—Kupfer.

Ansonia Brass & Copper Co., 99, John-st., New York, N.Y.
Benedict & Burnham Manufacturing Co., Waterbury, Conn.
Bradford, Kyle & Co., Plymouth, Mass.
Bridgeport De-Oxidized Bronze & Metal Co., cor. Railroad & West-aves., Bridgeport, Conn.
Brixey, W. R., 203, Broadway, New York. Factory: Seymour, Conn.
Chicago Insulated Wire Co., 152 & 154, Lake-st., Chicago, Ill.
Columbus Insulated Wire & Brass Co., Columbus, Ohio.
Dickerson, Van Dusen, & Co., 32, Cliff-st., New York.
Eastern Electric Cable & Wire Co., 61-63, Hampshire-st., Boston, Mass.
Garrison, C. M., 100, William-st., New York.
Harris, F. R., 35, Benedict-st., Waterbury, Conn.
Holmes, Booth & Haydens Co., 99, John-st., New York, N.Y. Factories: Waterbury, Conn.
India Rubber & Gutta-Percha Insulating Co., Yonkers, N.Y.
Magnet Wire Co., 17, Battery-pl., New York.
Moore, Alfred F., 200-218, North 3rd-st., Philadelphia, Pa.
National Cable & Wire Co., Shousetown, Pa.
New England Electrical Works, Lisbon, N.H.
New York Insulated Wire Co., 114, Liberty-st., New York, N.Y.

Wire Manufacturers—Copper—*continued.*

Phillips Insulated Wire Co., Pawtucket, Rhode Island.
Plume & Atwood Manufacturing Co., 29, Murray-st., New York; Boston, Mass.; & Chicago. Ill. Factory: Waterbury, Conn.
Roebling's, John A., Sons Co., Trenton, New Jersey.
Safety Insulated Wire & Cable Co., 114, Liberty-st., New York, N.Y.
Simplex Electrical Co., 110, State-st., Boston, Mass.
Wire & Telephone Co. of America, Rome, N.Y.

Wire Manufacturers—Iron.

F.—Fil—Fer—Fab.
G.—Draht fabr.—Eisen.

Upson-Walton Co., Toledo, Ohio.
Waclark Wire Co., 49, Wall-st., New York.

Wire Manufacturers—Steel.

F.—Fil d'acier—Fab. de.
G.—Draht-Fabr.—Stahl.

American Steel & Wire Co., Empire-bldg., 21, State-st., New York, N.Y.
Hazard Manufacturing Co., Wilkesbarre, Pa.; & 87, Liberty-st., New York.
New Jersey Steel & Iron Co., Trenton, N.J.

Wire Manufacturers—Telephone.

F.—Fil teleph.—Fab.
G.—Draht-Fabr.—Telephon.

Indiana Steel Wire Co., Muncie, Ind.
Macomber & Whyte Co., 19, South Canal-st., Chicago, Ill.

Wire Gauge Manufacturers.

F.—Fil—Fab. de calibre de.
G.—Draht-Messer—Fabr.

Wire Rope Manufacturers.

F.—Corde—Fab. de.
G.—Drahtseile—Fabr.

Hazard Manufacturing Co., 87, Liberty-street, New York, N.Y.

Wireless Telegraph Apparatus.

F.—Appareils pour télégraphie sans fil.
G.—Drahtlose Telegraphie—Apparate für.

Clark Electrical Engineering Co., Cass-ave. & State-st., Detroit, Mich.
Clark, T. E., Wireless Telegraph & Telephone Co., Detroit, Mich.
Marconi Wireless Telegraph Co. of America, 27, William-st., New York.

Wood Casing & Cleats for Wires.

F.—Fil—Boites en bois et galoches pour.
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Lever, C. H., Manufacturing Co., 19 & 21, North Jefferson-st., Chicago.

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Novelty Turning Co., Fitchburg, Mass.

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